

Introduction

Thank you for purchasing this mower. Read the user's manual carefully before operating this mower. This user's manual includes warning information based on certain regulations regarding the use of this mower. Be sure to understand these regulations before operating this mower.

Warning Information

There are three types of warnings used in this manual.

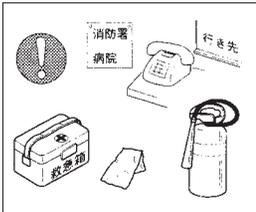
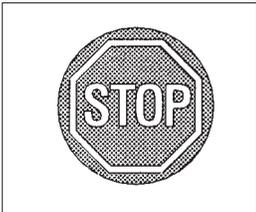
Warning: This information calls the user's attention to the risk of **injury** if operations are not performed as indicated.

Prohibited: This information indicates actions and work that are prohibited not only for the worker but also for **all other people as well**.

Required: This information indicates **actions that must be taken** by the worker while performing the work.

These three types of warnings are described in more detail below.

Warning Information	
	DANGER Failure to observe the information indicated will result in serious injury or death.
	WARNING Failure to observe the information indicated could result in serious injury or death.
IMPORTANT	Failure to observe the information indicated could result in damage to the mower.
NOTE	<ul style="list-style-type: none"> Failure to observe the information indicated could result in injury. Failure to observe the information indicated could result in criminal punishment or repair costs.

Prohibited	Required
<p>Operations and actions that must not be performed when using the mower are indicated along with the "⊘" Prohibited symbol. When appearing together with an illustration, a drawing of this symbol might be used.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>When appearing with an illustration:</p> </div> <div style="text-align: center;">  <p>When appearing as a drawing of the symbol:</p> </div> </div>	<p>Operations and actions that must be performed when using the mower are indicated along with the "Ⓢ" Required symbol. When appearing together with an illustration, a drawing of this symbol might be used.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>When appearing with an illustration:</p> </div> <div style="text-align: center;">  <p>When appearing as a drawing of the symbol:</p> </div> </div>

When using this equipment

WARNING

The G—EXE22/26 mower (hereinafter "equipment") described in this operator's manual (hereinafter "manual") is designed for mowing golf courses. Do not use this equipment for any other purpose that exceeds its performance, such as mowing embankments or the steep slopes of mountainous areas.

Do not disassemble any part of this equipment other than for inspection, maintenance, or repair, and do not make modifications without approval from Shibaura.

When leasing this equipment, provide thorough guidance and training to the operator, and include this manual along with the equipment.

If you are operating a leasing business, request additional copies of this manual from the business or sales office indicated under "For Additional Manuals" on the back cover, in case the original manual becomes lost or damaged. You may not make photocopies of this manual. The content of this manual is subject to revision.

Therefore, you should keep a spare copy of the manual you received at the time of purchase.

If ownership of this equipment is transferred to another party, be sure to include this manual along with the equipment.

If the warning labels affixed to this equipment become damaged or soiled to the point they are no longer legible, request new labels from the business or sales office indicated on the back cover. Affix the new labels according to the instructions under "Locations of Labels" on page 2 of this manual, and make sure they are always legible.

Be sure to make a note of the information under "For Additional Manuals", and store this manual in a location where it is safe from loss and can be easily referenced.

IMPORTANT

Be sure to perform the "Daily" inspections indicated in this manual, to prevent breakdown. Shibaura shall not be responsible for any breakdown that occurs as a result of failure to perform these "Daily inspections".

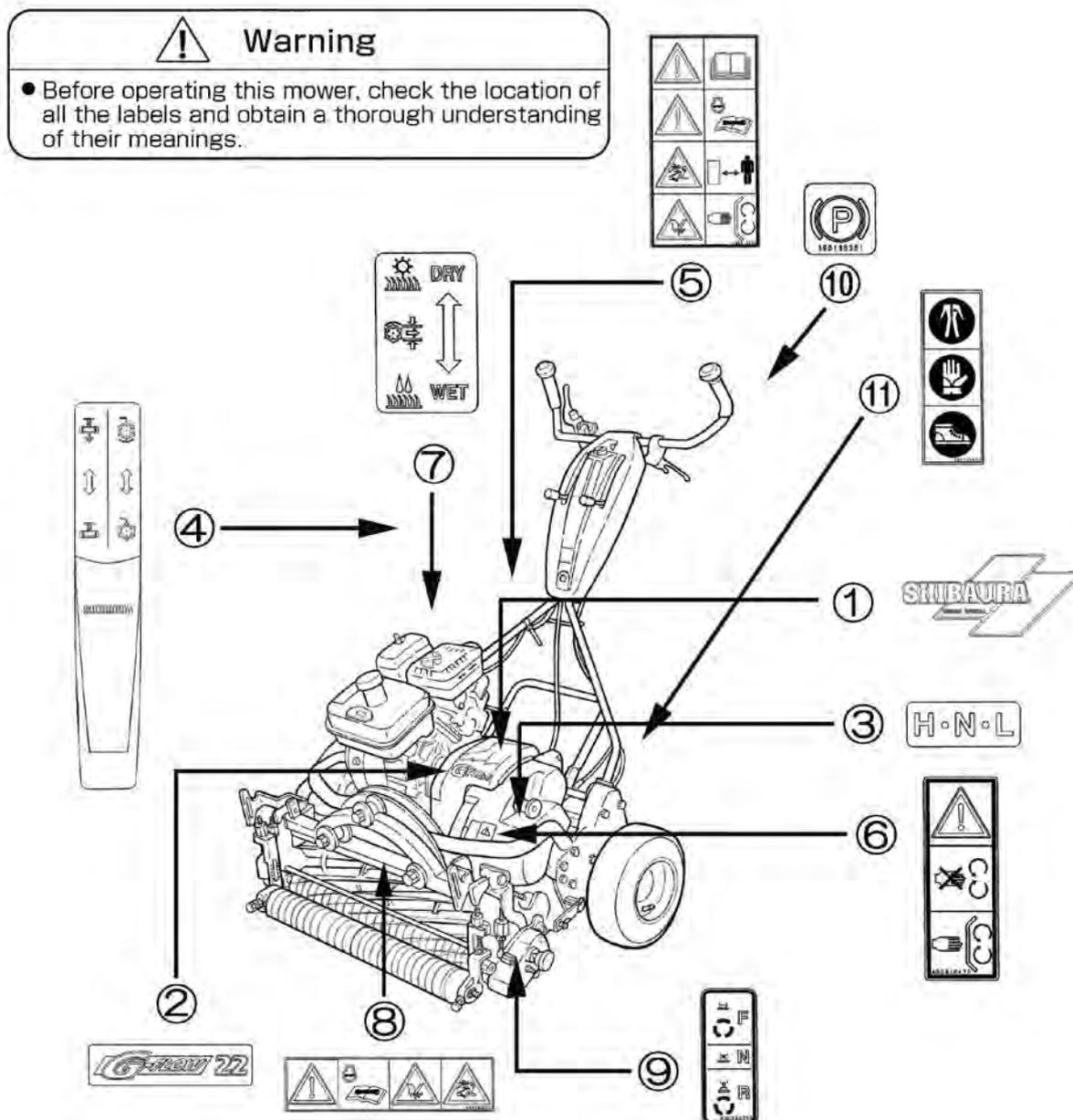
NOTE

Do not dispose of waste oil in rivers or sewerages. Perform appropriate disposal methods, such as requesting the services of a specialized vendor.

Contents

1. Labels and Warning Labels	3
■ Descriptions of the warning labels	3
2. Names of Parts	4
■ Names and Functions of Parts	5
3. Cautions before Operation	6
■ In Case of Injury	6
■ Be sure to stop the engine before performing inspection, maintenance, or repair.	6
■ Allow the engine to cool before performing inspection, maintenance, or repair.	6
■ Be sure to install the basket before operating the mower.	7
■ Do not operate the mower on inclines of 10 degrees or greater.	7
■ Do not allow children to operate the mower.	7
■ If the mower does not match your height, contact Shibaura.	7
■ Handle fuel with care.	8
■ Start the engine when outdoors only.	8
■ Stop the engine if there are abnormal vibrations.	9
■ Stop the engine before loading the mower onto a vehicle.	9
■ Perform a preliminary inspection of the area to be mowed.	9
■ Maintain correct posture when operating the mower and/or running the engine.	10
■ Wear appropriate clothing.	10
■ Regarding chills and vibration	11
■ Do not operate the mower while taking medication or under the influence of alcohol.	11
4. Preparations before Operation	12
■ Installing the basket	12
■ Engaging the stand and removing/installing the tires	12
■ Adding fuel	14
■ Inspecting/replacing engine oil	15
■ Checking the operation of the brakes, main clutch, and blade clutch	17
5. Operation	19
■ Starting and stopping the engine	19
■ Operating the mower	21
■ Transporting the mower by truck	22
■ Operation prior to mowing	23
■ Grass clipping work	25
6. Adjustments	26
■ Adjusting cutting sharpness	26
■ Adjusting grass clipping height	28
■ Adjusting cutting sharpness with lapping (polishing the blades)	30
■ Adjusting various parts	32
7. Maintenance	37
■ Inspecting and replacing spark plugs	37
■ Maintenance of the main clutch	38
■ Cleaning the mower	38
■ Cleaning the air cleaner	38
■ Cleaning the strainer	39
■ Cleaning the fuel filter	39
■ Removing/installing the reel unit	40
■ Removing/installing the bedknife support	41
■ Removing/installing the blades	42
■ Removing/installing the engine	43
■ Long-term storage	44
■ Adding grease	45
8. Troubleshooting	46
9. Features/Specifications/Models/Accessories/Options	47
■ Features	47
■ Effects of blade position on grass	48
■ Specifications	49
■ Models	49
■ Accessories	49
■ Options	50
■ Consumable parts	50
■ About refueling, oil, and grease	50

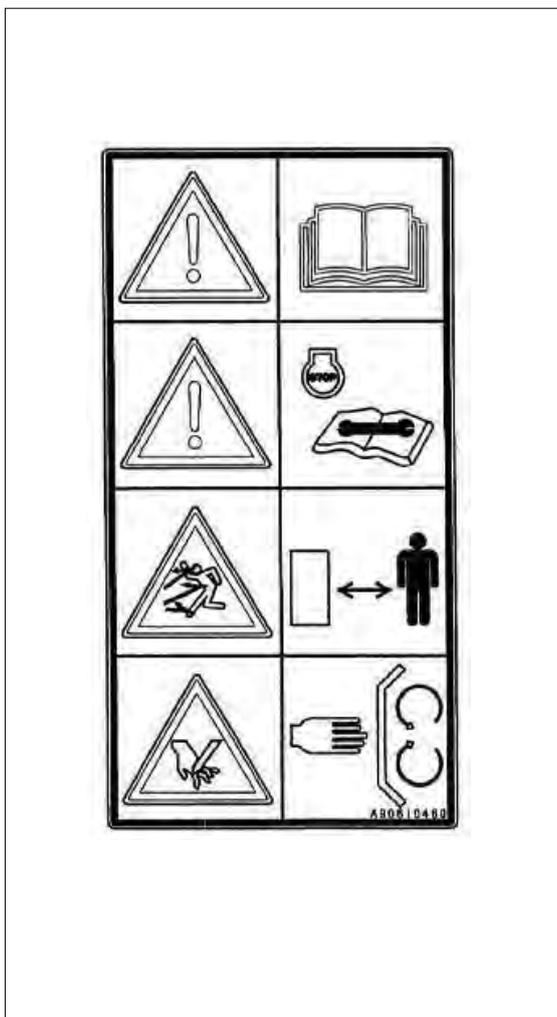
1. Labels and Warning Labels



No.	Parts No	Name	Q'ty	Meaning
①	A90110190	Label: Shibauro logo	1	Company name
②	A90110220	Label: G-FLOW22	1	Model name
③	A90360290	Label: Mower speed	1	Mower speed (L=low, N=neutral, H=high)
④	A90360300	Label: Clutch	1	Clutch lever position (up=engaged, down=disengaged)
⑤	A90610460	Warning label: general	1	Refer to next page.
⑥	A90610470	Warning label: belt	2	Refer to next page.
⑦	A90360310	Label: instructions related to the baffle plate	1	Baffle plate position according to the grass condition (DRY=dry grass, WET=wet grass)
⑧	A90630080	Warning label: reel	1	Refer to next page.
⑨	A90360350	Label: work attachment clutch	1	Direction of the work attachment rotation (Forward, Stop, and Reverse)
⑩	390198361	Label: parking	1	Parking brake position
⑪	390199530	Label: clothing	1	Clothing for operating the mower

■ Descriptions of the warning labels

- The warning labels are affixed near the dangerous areas. Before operating this mower, be sure to obtain a thorough understanding of their meanings.



 **Warning**

- Before operating this mower, be sure to read this operator's manual and understand its contents.

 **Warning**

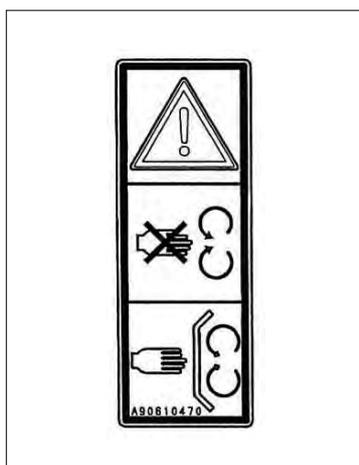
- Before performing any maintenance work, be sure to understand the contents of the operator's manual and stop the engine.

 **Danger**

- Personnel other than operators should keep enough distance from the mower. An accident may occur due to scattering of hazardous materials.

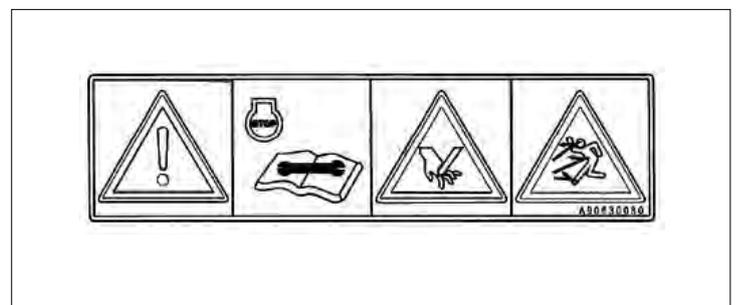
 **Danger**

- Be sure to mount all the covers. There is a risk of getting hands or legs caught in the mower.



 **Danger**

- Be sure to mount all the covers. There is a risk of getting hands or legs caught in the mower.

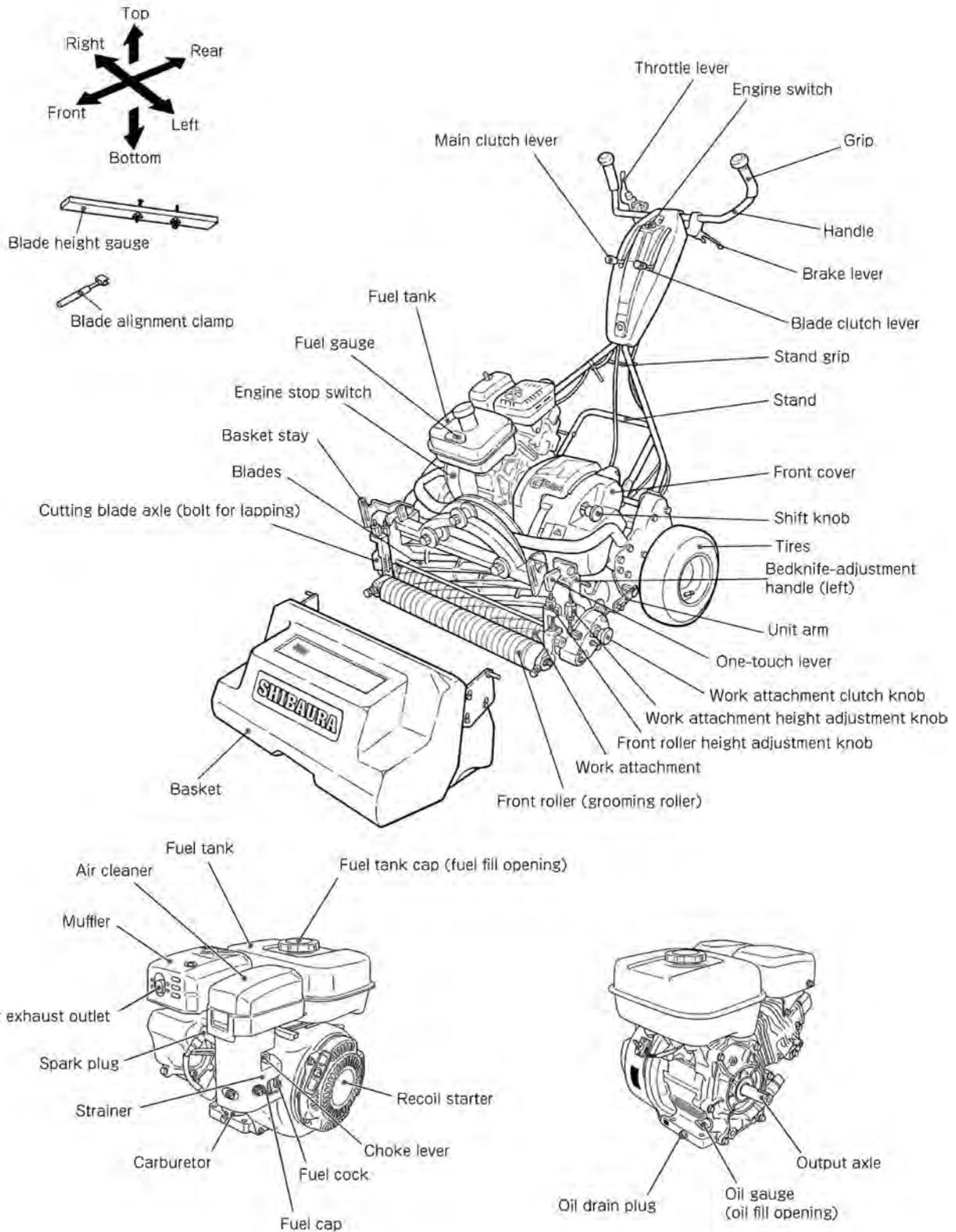


 **Danger**

- Be sure to stop the engine before performing any maintenance work. Failure to do so, there is a risk of accident due to scattering of hazardous materials or getting hands or legs caught in the mower.

2. Names of Parts

- In this manual, the front, back, top, bottom, left, and right sides of the mower are referred to as represented by the arrows shown in the top left corner of the figure below.
- Explanations in this manual are based upon the grooming specifications shown in the figure below. Names shown in parentheses indicate parts that are not shown in figures.



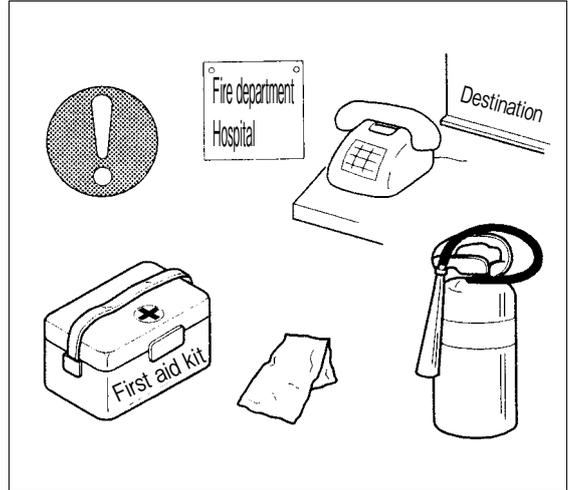
■ Names and Functions of Parts

Name	Function
Handle	<ul style="list-style-type: none"> ● Hold the grips to maintain the position and change the direction of the mower during operation.
Grip	<ul style="list-style-type: none"> ● Hold the grips when operating the mower.
Brake lever	<ul style="list-style-type: none"> ● This lever is used to engage the brakes and stop the progress of the mower.
Stand grip	<ul style="list-style-type: none"> ● These grips are used when engaging/releasing the stand.
Stand	<ul style="list-style-type: none"> ● This stand is used to support the front roller and the mower when removing/installing the tires.
Front cover	<ul style="list-style-type: none"> ● The front cover prevents the operator from becoming caught in and injured by the clutch and transmission, which transmit the power from the engine. Do not remove the cover while operating the mower.
Blade clutch lever	<ul style="list-style-type: none"> ● This lever is used to "Start" and "Stop" the blades.
Rear roller	<ul style="list-style-type: none"> ● This roller is used to move the mower after removing the tires.
Bedknife adjustment handles (left), (right)	<ul style="list-style-type: none"> ● These handles are used to adjust the gap between the blades. One handle is on the left side and one is on the right side.
Tires	<ul style="list-style-type: none"> ● These tires are used when transporting the mower to a workplace.
Blade alignment clamp	<ul style="list-style-type: none"> ● This clamp is used to manually rotate the blades.
Blade axis	<ul style="list-style-type: none"> ● This bolt is used during lapping work.
Work attachment height adjustment knobs (left), (right)	<ul style="list-style-type: none"> ● These knobs are used to adjust the height of the work attachment from the ground. One knob is on the left side and one is on the right side.
Front roller height adjustment knobs (left), (right)	<ul style="list-style-type: none"> ● These knobs are used to raise/lower the front roller to adjust blade height.
Front roller	<ul style="list-style-type: none"> ● This roller is used to maintain the blades at a given height above the ground to cut the grass at the determined height.
Work attachment	<ul style="list-style-type: none"> ● This roller is used to remove dead grass, and align grass grain and feed it to the blades. There are two types of rollers : a grooming cutter and brush reel.
Blades	<ul style="list-style-type: none"> ● These blades are used to cut grass.
Work attachment clutch knob	<ul style="list-style-type: none"> ● This knob is used to switch between "Forward", "Stop", and "Reverse" for the work attachment.
Engine switch	<ul style="list-style-type: none"> ● This switch is used to start and stop the engine. To start the engine, move the switch to "ON". To stop the engine, move the switch to "OFF".
Fuel gauge	<ul style="list-style-type: none"> ● This gauge is used to indicate the amount of fuel remaining in the fuel tank.
Fuel tank	<ul style="list-style-type: none"> ● This tank holds the fuel.
Main clutch lever	<ul style="list-style-type: none"> ● This lever is used to transmit power from the engine to the various parts, and switch between "Start" and "Stop". The blades and work attachment will rotate only when this lever is in the "Start" position.
Throttle lever	<ul style="list-style-type: none"> ● This lever is used to adjust the speed of the engine.
Basket	<ul style="list-style-type: none"> ● The basket is used to collect grass cuttings, and to prevent the operator from coming into contact with the blades and/or the mower.
One-touch lever	<ul style="list-style-type: none"> ● The one-touch lever is used to install or remove the reel unit.
Basket stay	<ul style="list-style-type: none"> ● The basket stay supports the basket. Also, it is used to install or remove the reel unit.
Fuel cock	<ul style="list-style-type: none"> ● This knob is used to supply fuel.
Recoil starter	<ul style="list-style-type: none"> ● The starter is used to start the engine when the handle is pulled.
Strainer	<ul style="list-style-type: none"> ● The strainer removes air and contaminants from the fuel.
Air cleaner	<ul style="list-style-type: none"> ● The air cleaner prevents dust and contaminants from entering the air sucked into the engine.
Muffler	<ul style="list-style-type: none"> ● The muffler is used to reduce the noise of the engine.
Choke lever	<ul style="list-style-type: none"> ● The choke lever is used to increase the fuel mix when starting a cold engine.
Oil gauge	<ul style="list-style-type: none"> ● The oil gauge is used to check the remaining volume and contamination level of engine oil.
Blade height gauge	<ul style="list-style-type: none"> ● The blade height gauge is used to fix the front roller and work attachment at a specified height, by using screws in two locations to set blade height and bring the front and rear rollers into contact.

3. Cautions before Operation

■ In Case of Injury

- Keep a list of phone numbers for medical facilities, fire departments, and ambulance services in an easily visible location near a telephone.
- A list of landmarks (addresses, buildings, etc.) near locations where you often work can be helpful for providing precise information in an emergency when contacting a fire department.
- When working alone, make a habit of noting information about the workplace on a blackboard, etc. so that the workplace can be clearly recognized by anyone. Such a sign can be useful in case an accident occurs and you are unable to return.
- Keep a first aid kit and extra cloths and towels at the workplace. Cloths and towels are useful to stop bleeding in an emergency.
- Local fire departments are trained in emergency response procedures, and work to promote related techniques and knowledge. Do not miss any opportunity to receive such training, in order to learn the techniques and knowledge for responding to emergencies.



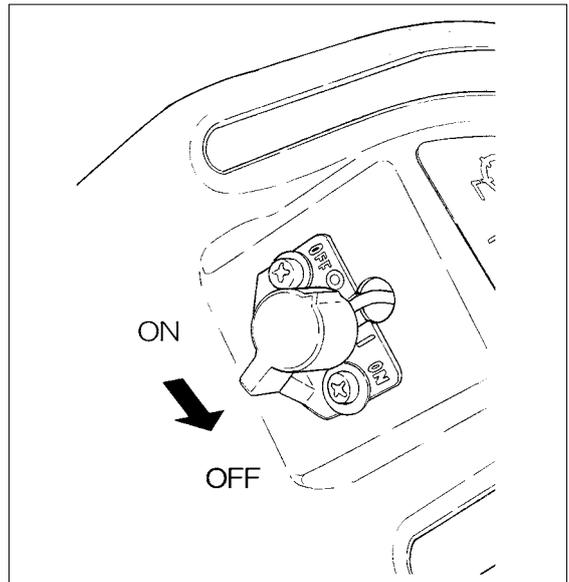
■ Be sure to stop the engine before performing inspection, maintenance, or repair.



Warning

- When performing inspection, maintenance, or repair, be sure to turn off the engine and make sure rotation of the blades has stopped.
- Do not perform inspection, maintenance, or repair while the mower is operating. If an object becomes trapped in the blades while the engine is running and causes the blades to stop, removal of that object could cause the blades to begin moving again instantly, resulting in a serious accident.

- Do not perform inspection, maintenance, or repair while the mower is operating.
- Prepare the necessary tools and equipment to perform this work after the engine has completely cooled.



■ Allow the engine to cool before performing inspection, maintenance, or repair.



Warning

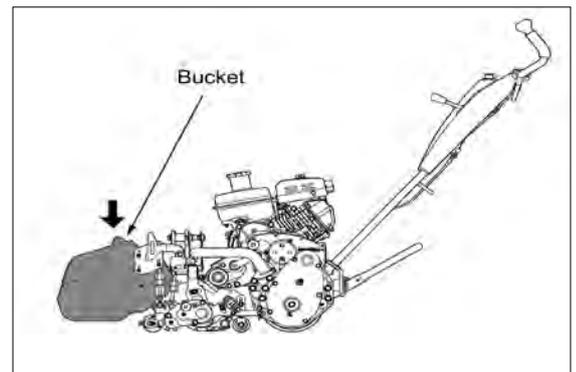
Do not touch extremely hot areas such as the engine or muffler immediately after the engine is stopped. Doing so could result in serious burns.

■ Be sure to install the basket before operating the mower.



Warning

- Be sure to keep the basket installed whenever the engine is running. The basket is used to prevent the operator from coming into contact with the blades and/or the mower.



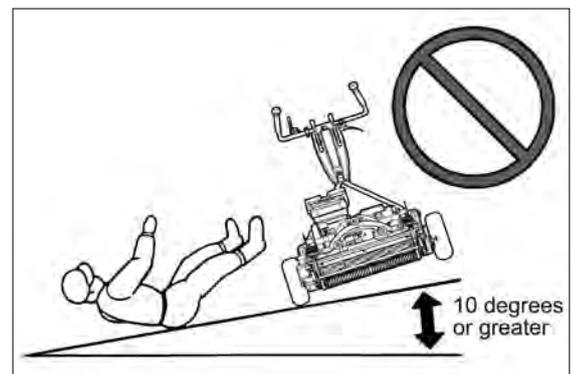
- In addition to collecting grass clippings, the basket is also similar to the bumpers on a car.
- Be sure to keep the basket installed whenever the engine is running, to prevent accidents.

■ Do not operate the mower on inclines of 10 degrees or greater.



Warning

- Do not use the mower to perform mowing work in areas where the ground has an incline of 10 degrees or greater. Doing so could result in accidents such as falling and slipping.

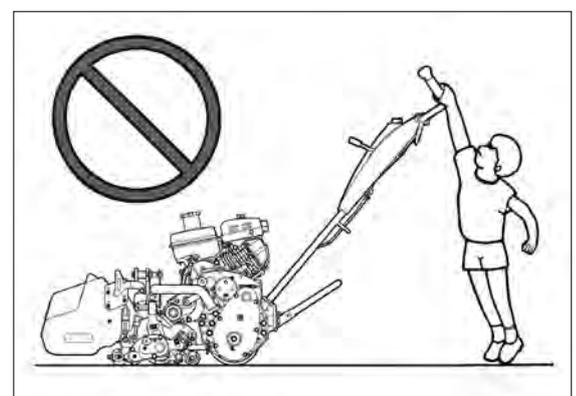


■ Do not allow children to operate the mower.



Warning

- Do not allow children to operate the mower.
- Do not allow operators with no capability to operate the mower even after training.



■ If the mower does not match your height, contact Shibaura Dealer.

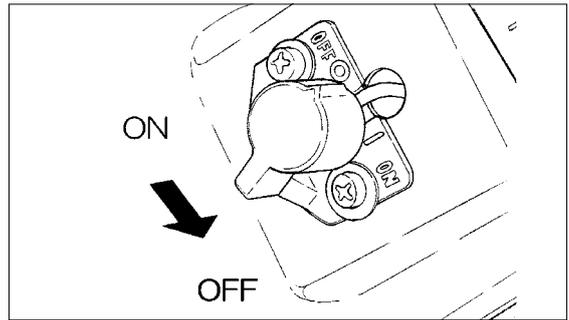
- The height of the handle can be adjusted to match your height, so that the mower is easy to operate. (See "Adjusting handle height" on page 34.) However, if you find the mower difficult to operate even after making such adjustments, contact a Shibaura business or sales office for assistance.

■ Handle fuel with care.



Danger

- Be sure to stop the engine before adding fuel.
- Do not smoke or use open flames while handling fuel.
Doing so could cause ignition or explosion, resulting in death.
- Fuel should be added and/or stored in a facility that conforms with the ordinances of the Fire Service Act.
- Do not store fuel in small quantities such as in plastic containers, or add fuel to the mower from such containers.
Doing so could result in ignition or fire due to static electricity.
- Be sure to wipe away any fuel that is spilled.
- Keep fuel storage areas separate from workplaces. Do not perform work that could cause ignition near fuel, such as starting an engine.
- Keep an oil fire extinguisher in areas where fuel is stored.



- The fuel used for the mower is highly volatile, and might cause fire or burns if ignited. Be sure to observe the information listed above when handling fuel.

■ Start the engine when outdoors only.



Danger

- Start the engine when outdoors, where there is good ventilation.
- The exhaust gas from the engine is toxic to humans, and might cause death.

- The exhaust gas from the engine includes toxic substances such as carbon monoxide.
- Pay careful attention to ventilation when starting the engine. Do not start the engine in enclosed indoor areas, or areas with poor ventilation.

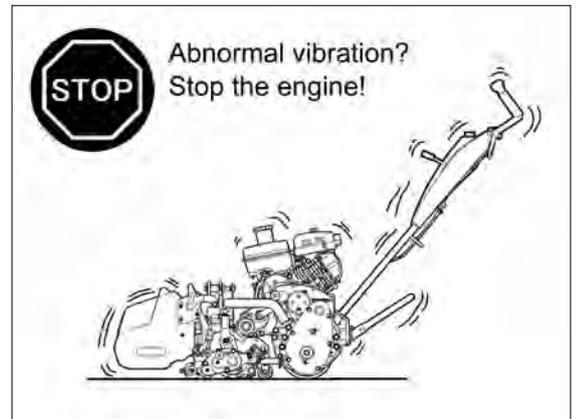


■ Stop the engine if there are abnormal vibrations.



Warning

- If vibrations of unknown origin occur while performing work, immediately turn the engine switch to "OFF". Failure to do so could damage the engine or blades, or cause personal injury due to the scattering of hazardous material, hot oil, or gas.



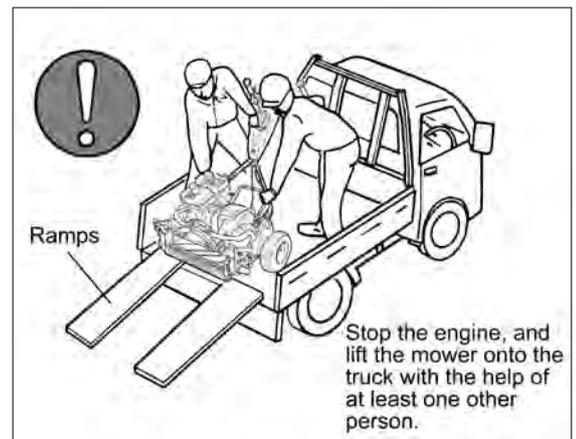
■ Stop the engine before loading the mower onto a vehicle.



Warning

- When loading the mower onto a truck for transport, do not drive the mower by running the engine. Otherwise, mistaken operation could cause a serious accident.

- When loading the mower onto a truck for transport, be sure to engage the brake and perform loading/unloading together with at least one other person. See "Transporting the mower by vehicle" on page 22.)



■ Perform a preliminary inspection of the area to be mowed.



Warning

- Before performing work, inspect the workplace and remove any objects that could become caught in the blades, such as small rocks and hard debris. If objects become caught in the blades, they could be scattered throughout the nearby area and cause injury to workers and/or supervisors.
- Before performing work, inspect the workplace for areas with steep inclines. The mower cannot be used on inclines of 10 degrees or greater.



■ **Maintain correct posture when operating the mower and/or running the engine.**



Warning

- **Maintain correct posture when operating the mower and/or running the engine. Falling and/or slipping can cause injuries or accidents.**

- When performing mowing work, be sure to install the basket before running the engine, and maintain correct basic posture.

<Basic posture>

- Always face in the direction in which the mower is moving, carefully hold the grips on the handle, and walk while keeping your feet shoulder—width apart.
- While walking and looking in the direction the mower is moving, avoid placing your feet in front of the other in a straight line.



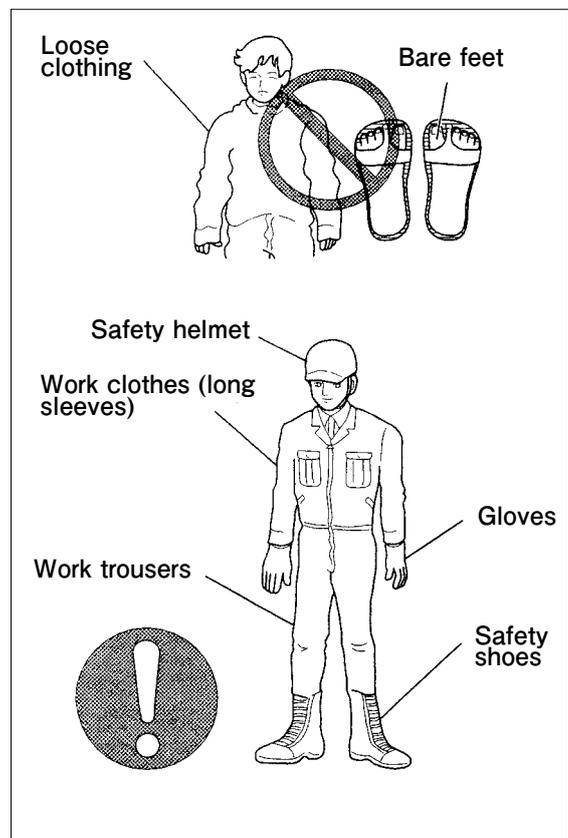
■ **Wear appropriate clothing.**



Warning

- **Wear clothing that fits your body.**
Drooping or hanging clothing could become caught in the rotating parts of the mower or snag on other parts, causing an impediment to work or serious injury.
- **Wear gloves and boots.**
Gloves and boots prevent insects and grass clippings from coming into direct contact with your skin, protecting you from insect stings and bites.
- **Wear a safety helmet.**
A safety helmet protects your head from impediments such as low—hanging branches at the workplace.

- When operating the mower, wear gloves and clothing with sleeves and other openings that close snugly. Make sure your clothing fits well and does not droop or hang.
- Wear non—slip boots or laced shoes, and make sure there is no opening between the bottom of your trousers and top of your shoes.
- Wear a safety helmet to protect your head from low—hanging branches and other obstructions.

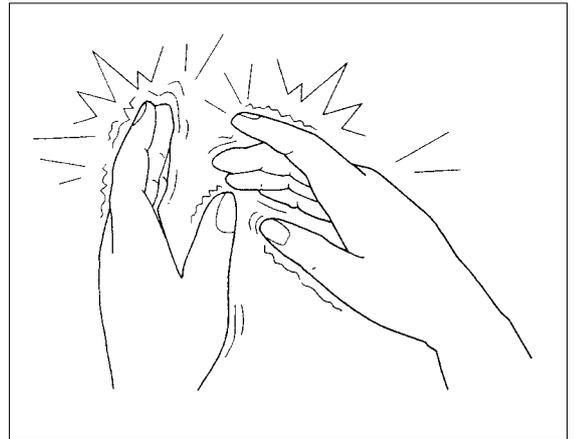


■ Regarding chills and vibration



Warning

- Take appropriate breaks when performing mowing work during cold seasons. During long hours of work, symptoms such as pain in fingertips, hands, and arms due to vibration and chill could appear.
- If you experience pain while operating the mower, immediately stop working and consult a physician. These symptoms could be signs of Raynaud's syndrome.



- If you experience pain in your fingertips, hands, or arms while operating the mower in low temperatures, immediately stop working and consult a physician. The symptoms of Raynaud's syndrome, including chronic pain in fingertips, hands, and arms, are said to appear during long exposure to low temperatures.

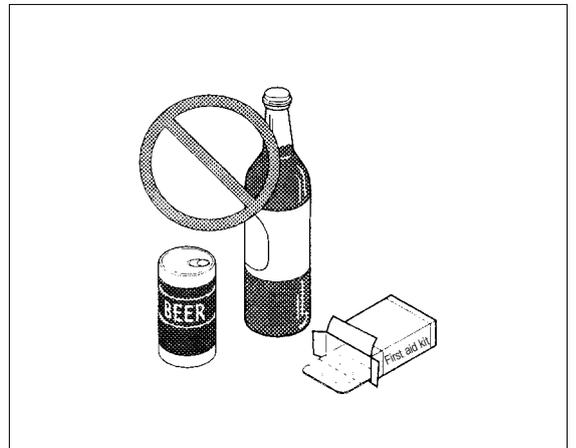
It is unknown whether this syndrome is caused by temperature or time of exposure. Therefore, when performing mowing work in cold areas or during cold seasons, be sure to take sufficient breaks in order to restore body temperature to your fingertips and hands.

■ Do not operate the mower while taking medication or under the influence of alcohol.



Warning

- Do not operate the mower while taking medication. Even commonly used medication can affect judgment and alertness. Be especially careful when using cold medicine or pain relievers.
- Do not operate the mower when drinking or under the influence of alcohol. Alcohol affects judgment and alertness, and leads to accidents that cause serious injury.



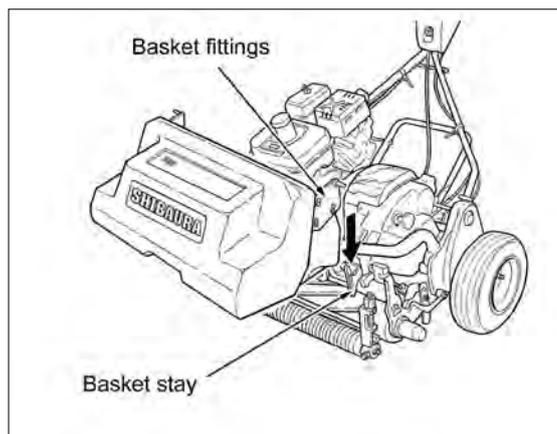
4. Preparations before Operation

■ Installing the basket



Warning

- Be sure to install the basket before performing mowing work or operating the mower.



〈Installing the basket〉

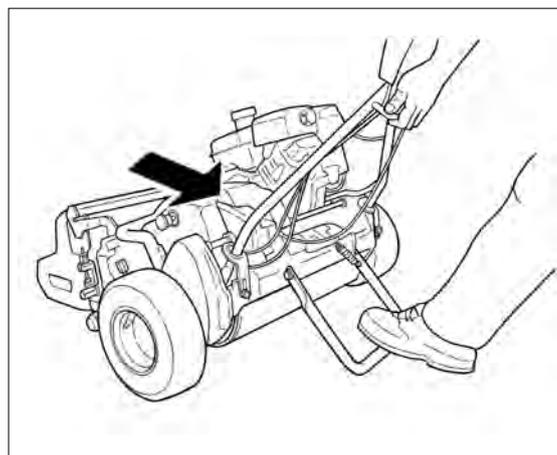
1. Insert the projecting parts of the mower's right and left basket stays between the round bar and plate on the right and left basket clamps, and press down the basket until it stops.
2. Make sure the basket is installed firmly, is not angled, and is not in contact with the blades.

■ Engaging the stand and removing/installing the tires



Warning

- Be sure to engage/release the stand in a level area where the mower will not move on its own, before removing/installing the tires.



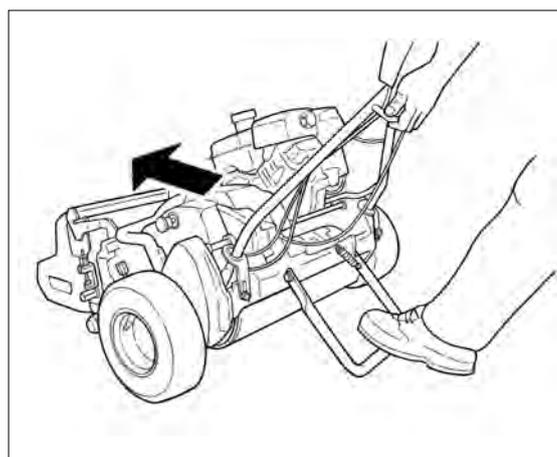
〈Engaging/releasing the stand〉

Engaging the stand

1. Grab the horizontal section of the handle with your left hand, hold the stand grip with your right hand, and then place your right foot on the stand and press it to the ground.
Do not remove your right foot from the stand.
2. While pressing the stand to the ground with your right foot, pull the stand grip up and toward you.
 - **The stand becomes engaged, the mower is supported by the front roller and the stand, and the tires are lifted from the ground.**
 - **In this position, you can now remove/install the tires.**

Releasing the stand

1. Firmly grab the stand grip with your right hand, and press the stand down with your right foot.
2. Hold the horizontal section of the handle with your left hand, and carefully push the mower forward with both hands while being careful to keep your right foot pressing down on the stand.
 - **The stand is released, and the tires (rear rollers) come down to the ground.**
3. Make sure the tires (or the rear rollers if the tires have been removed) are on the ground before carefully removing your right foot from the stand and allowing it to return to its original position. (This is easy to perform by hooking your shoe on the return pin on the right side of the stand.)

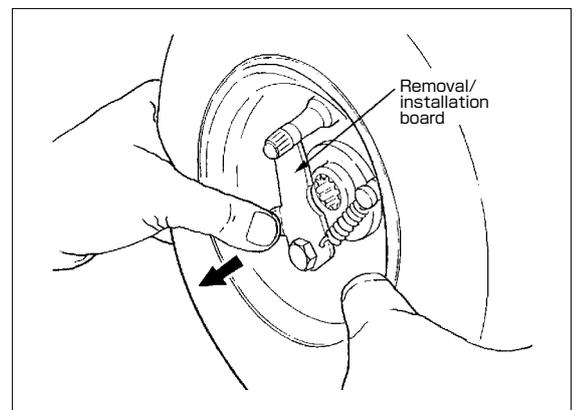
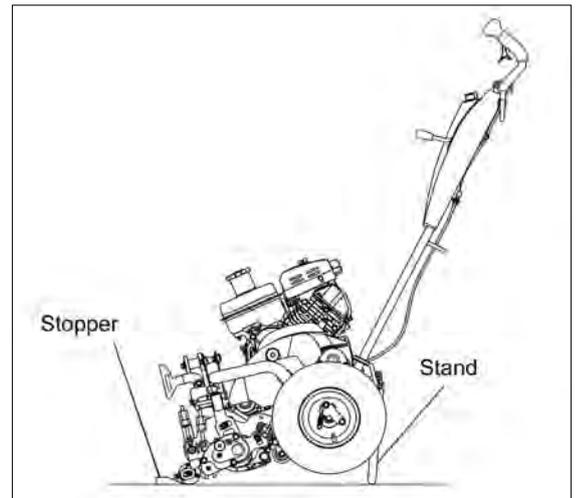


〈Removing/installing the tires〉

- Follow the “Engaging the stand” procedure on the previous page to make sure the stand is in a stable position before removing/installing the tires.

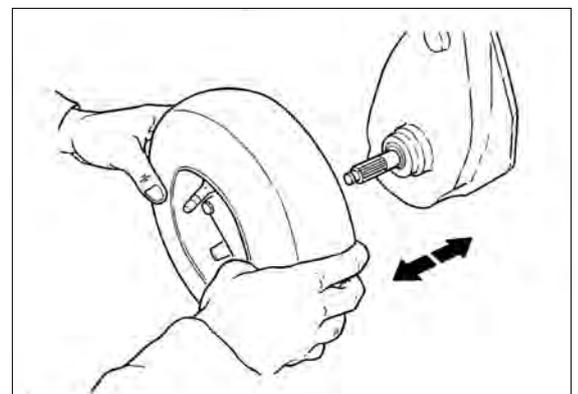
Removing the tires

1. Engage the stand, and then insert a rock or stick in front of the front roller as a stopper so that the stand will not disengage even if the mower is bumped by a worker.
 2. While supporting a tire with one hand, use the thumb on your other hand to press down on the quick—release lever on the inside of the wheel, until it stops.
 3. Pull the tire perpendicularly off of the tire axle.
 4. Use the same method to install the other tire, and then remove the rock or stick inserted to the front of the front roller and follow the "Releasing the stand" procedure to carefully release the stand.
- **An impact to the rear roller will bend the tire axle, break the rear roller, and interfere with grass clippings.**



Installing the tires

1. Follow the “Engaging the stand” procedure on the previous page to engage the stand, and then insert a rock or stick in front of the front roller so that the stand will not disengage even if the mower is bumped by a worker.
2. While supporting a tire with one hand, use the thumb on your other hand to press down on the quick—release lever on the inside of the wheel, until it stops.
3. While continuing to press down on the quick—release lever, insert the tire perpendicularly so that it matches the shape of the spline on the tire axis. When you see the tire axis coming through the wheel, release the quick—release lever, and continue pushing the wheel until you hear the sound of the quick—release lever snapping into the tire axle groove.
4. Use the same method to install the other tire, and then remove the rock or stick inserted to the front of the front roller and follow the "Releasing the stand" procedure to carefully release the stand.



■ Adding fuel



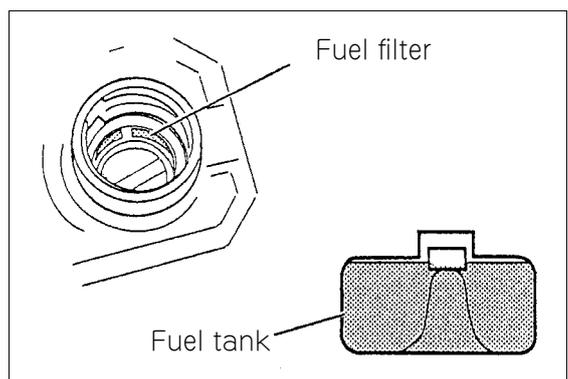
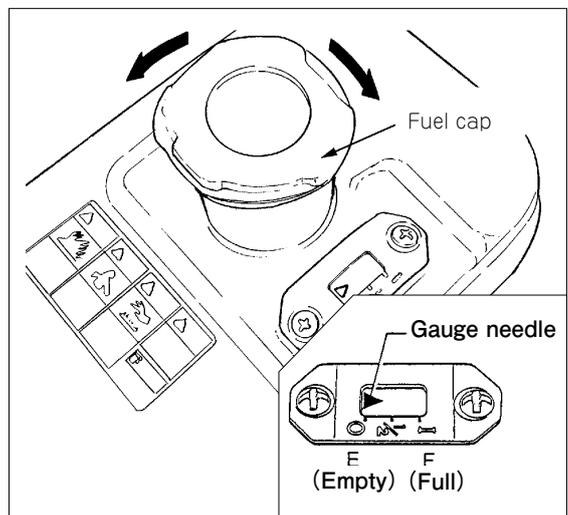
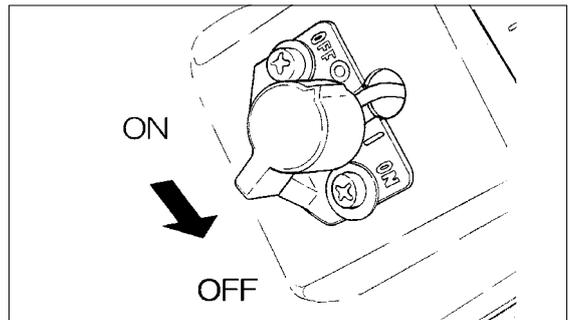
Danger

- Be sure to stop the engine before adding fuel. Do not smoke or use open flames while adding fuel. Otherwise, the fuel will ignite and explode, resulting in death.
- Do not add fuel immediately after stopping the engine while the engine is still very hot.
- Fuel should be added and/or stored in a facility that conforms with the ordinances of the Fire Service Act.
- Be sure to wipe away any fuel that is spilled while adding fuel.
- Do not store fuel in small quantities such as in plastic containers, or add fuel to the mower from such containers.
- Doing so could result in ignition or fire due to static electricity.
- Do not start the engine in areas where fuel is stored.

Important

- Use regular gasoline (unleaded) in the mower.
- Be sure that the fuel filter is installed correctly before adding fuel.

- Add fuel when the needle of the fuel gauge on the top of the fuel tank is at "E".
1. Turn the fuel cap counterclockwise to loosen and remove it.
 - **There is a fuel filter inside the fill opening.**
 2. Inspect the fuel filter for contaminants. If necessary, remove it from the fill opening and wash it with fuel.
 - **Be careful not to damage fuel filter when removing/installing it.**
 - **If there is damage to the fuel filter such as holes, contact a Shibaura dealer to request a replacement filter.**
 3. Confirm that the fuel filter is installed in the fill opening, and then carefully pour fuel into the fill opening up to the fuel filter.
 - **Avoid adding too much fuel. Otherwise, the fuel will spill out when the fuel cap is replaced.**
 - **Do not remove the fuel filter when adding fuel.**



■ Inspecting/replacing engine oil

Danger

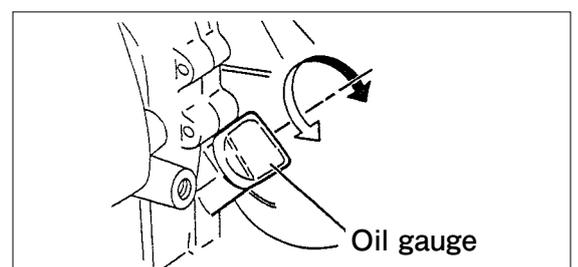
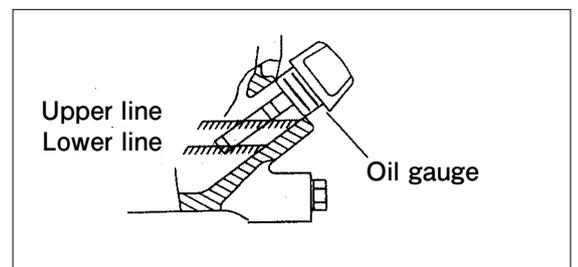
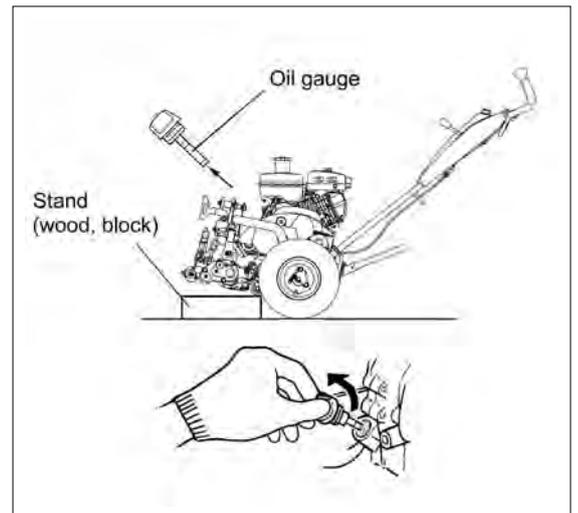
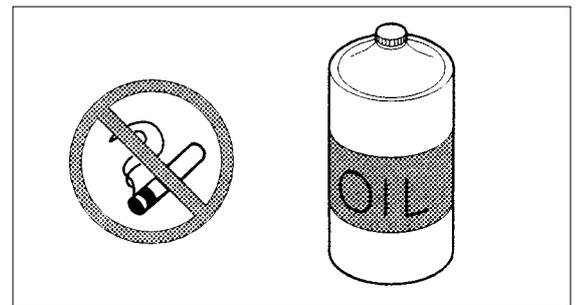
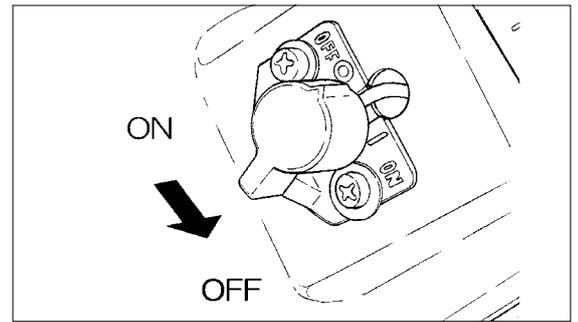
- Be sure to stop the engine before inspecting/replacing oil. Keep tobacco, sparks, and open flames away during the inspection/replacement of oil.
- Be sure to wipe away any engine oil that is spilled during inspection/replacement.
- Do not touch extremely hot areas such as the engine or muffler immediately after the engine is stopped.

Important

- Use API : SE, SAE : 10W—30, or a similar type of engine oil in this mower.
- Inspect the engine oil every day before starting work.

〈Inspecting engine oil〉

- The engine oil inspection opening is on the front of the engine.
1. Place the mower in a level area, and place a strong board (wood, block, etc.) under the front roller so that the inspection openings on the front and back are level.
 - Use a strong board and make sure the front roller does not slide off of it during the inspection.
 2. Turn the oil gauge counterclockwise to remove it.
 3. Use a clean white cloth to wipe the graduations on the oil gauge, and then inspect the oil on the cloth for contaminants.
 - If the oil is black or contains contaminants, replace the oil even if the replacement date has not yet been reached.
 4. Insert the oil gauge once again into the inspection opening (do not screw it in), and then remove it and inspect the oil on the graduations to check the volume of oil.
 - Always maintain the oil volume so that oil marks the top graduation position on the oil gauge. If the oil volume is below that position, add oil until it once again reaches the top position.
 5. Insert the oil gauge into the inspection opening, and turn it clockwise to tighten it securely.
 6. Use a dry cloth to completely wipe away any oil that was spilled on the mower during this procedure.



〈Replacing engine oil〉

- Drain engine oil from the drain bolt installation opening on the back of the engine.
- Replace the engine oil for the first time after the first 20 hours of use from the date the mower was purchased, and then at approximately every 100 hours of use thereafter.

1. Place the mower in a level area, hold the handle, place the stand on the ground, and lower it carefully backwards into a stable position.

- **Place a weight on the handle to prevent the mower from falling forward.**

2. Place an oil drain pan behind the engine.

- **The engine can hold 0.6 liters of engine oil. Prepare an oil drain pan of sufficient size.**

3. Use a box wrench to turn the drain bolt on the back of the engine counterclockwise to loosen and remove it.

- **As the drain bolt loosens, oil will begin to drain out of the engine. Slowly remove the drain bolt while adjusting the position of the oil drain pan as necessary.**

- **The oil will flow out more quickly and smoothly if you loosen the oil gauge in the engine oil inspection opening on the front of the engine.**

4. After the oil is completely drained, return the drain bolt to its original position, and turn it clockwise to tighten it securely.

5. Holding the handle, return the mower to its original position. Use a cloth to wipe away any oil on the mower.

6. Place the mower in a level area, and place a strong board (wood, block, etc.) under the reel unit so that the inspection openings on the front and back are level.

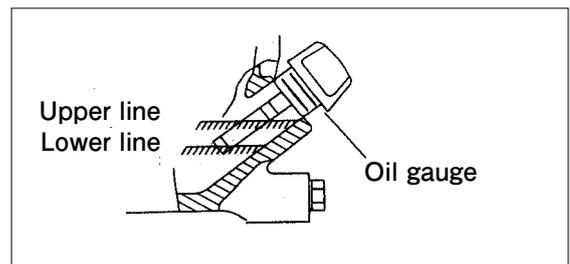
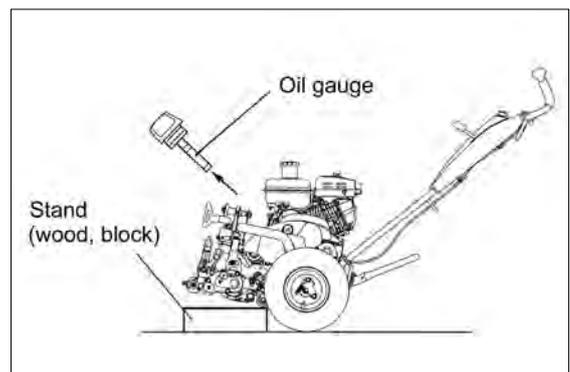
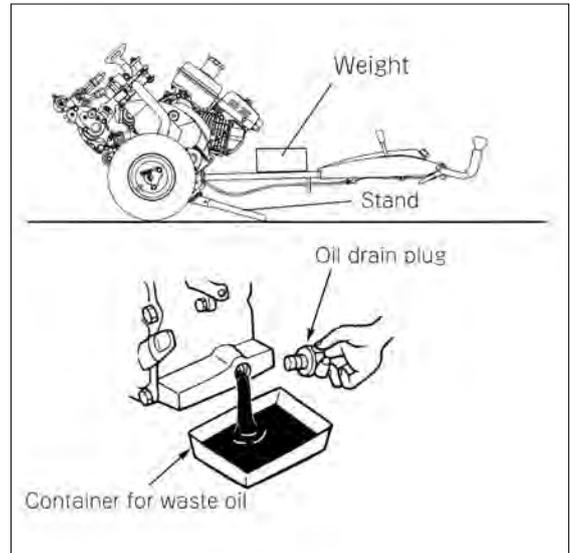
- **Use a strong board and make sure the reel unit does not slide off of it during the inspection.**

7. Turn the oil gauges on the front and back of the engine counterclockwise to remove them, and then add oil until it reaches the top position on the oil gauges.

- **Pour oil in through the oil gauge installation opening.**

8. Insert the oil gauge into the inspection opening, and turn it clockwise to tighten it securely.

9. Use a dry cloth to completely wipe away any oil that was spilled on the mower during this procedure.



■ Checking the operation of the brakes, main clutch, and blade clutch



Warning

- Before operating this mower, inspect the operation of the brakes, main clutch, and blade clutch.
- Do not operate the mower if any of these inspections produce abnormal results.

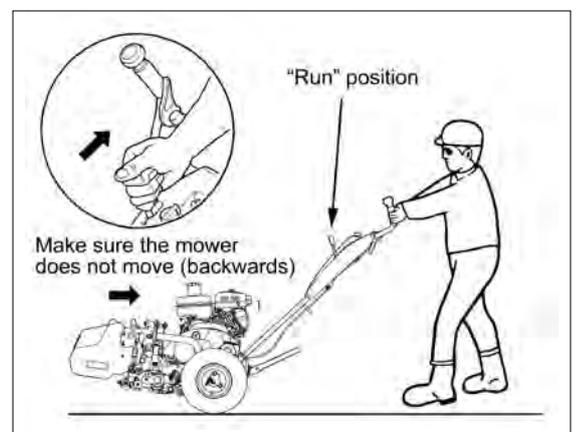
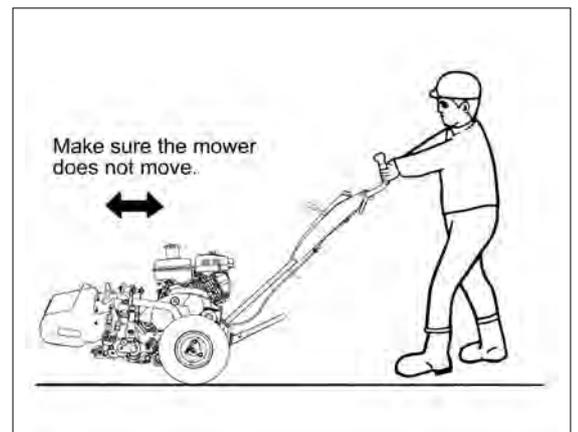
〈Checking the operation of the brakes〉

1. When gripping the brake lever, if you do not feel any braking power, or if the brakes do not operate at all, it is possible that the brake wire has snapped or rusted. Contact a Shibaura sales office to request inspection and replacement of the brake wire.
2. Holding the grips on the handle with both hands, squeeze and hold the brake lever (locked) while trying to move the mower forward and backward, and confirm that the mower does not move.
 - If the mower does move, the brake wire has stretched and requires adjustment. See “Adjusting the brakes” on page 32.”)



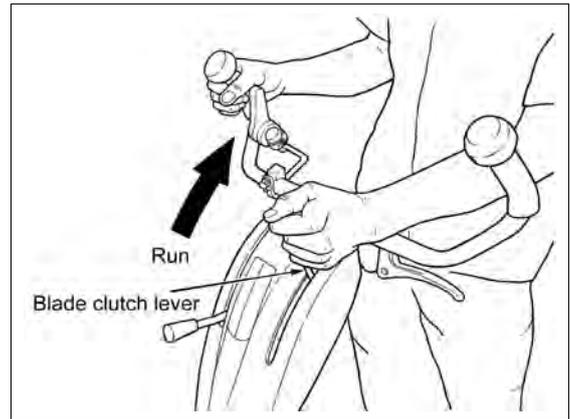
〈Checking the operation of the main clutch〉

1. With the engine stopped, grip the main clutch lever and pull it into the “Run” position (toward you).
 - When the midpoint of the range in which the main clutch lever moves has been passed, the lever will naturally fall toward the operator.
 - When the main clutch lever is in the “Run” position, if you do not feel any resistance, or if the clutch does not operate at all, it is possible that the clutch wire has snapped or rusted. Contact a Shibaura business or sales office to request inspection and replacement of the clutch wire.
2. Place the shift knob in the “H” or “L” position.
3. Move the main clutch lever completely in to the “Run” position, hold the handle with both hands, and try pushing and pulling the mower forward and backward to confirm that the mower will not move.
 - If the mower does move, the main clutch wire has stretched and requires adjustment. See “Adjusting the main clutch” on page 33.)



〈Checking the operation of the blade clutch〉

1. With the engine stopped, grip the blade clutch lever and pull it into the “**Run**” position (toward you).
 - When the midpoint of the range in which the blade clutch lever moves has been passed, the lever will naturally fall toward the operator.
 - When the blade clutch lever is in the “**Run**” position, if you do not feel any resistance, or if the clutch does not operate at all, it is possible that the clutch wire has snapped or rusted. Contact a Shibauro business or sales office to request inspection and replacement of the clutch wire.
2. Place the shift knob in the “**H**” or “**L**” position.
3. Move the blade clutch lever completely in to the “**Run**” position, hold the handle with both hands, and try pulling the mower backward to confirm that the blades turn in reverse.
 - If the blades do not turn, the blade clutch wire has stretched and requires adjustment. See “Adjusting the blade clutch” on page 34.)



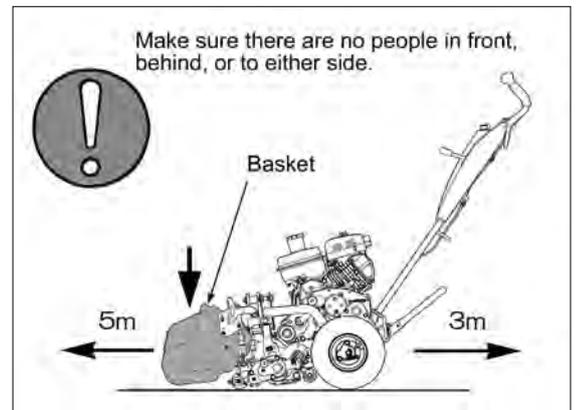
5. Operation

■ Starting and stopping the engine



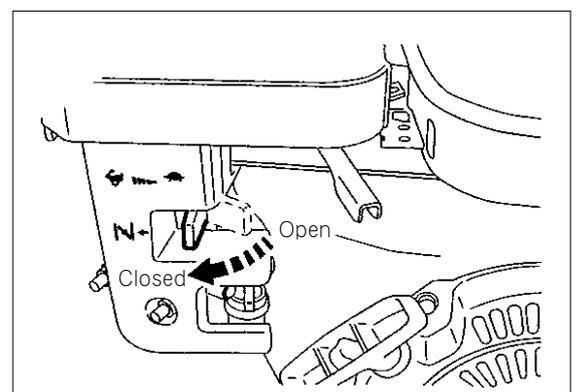
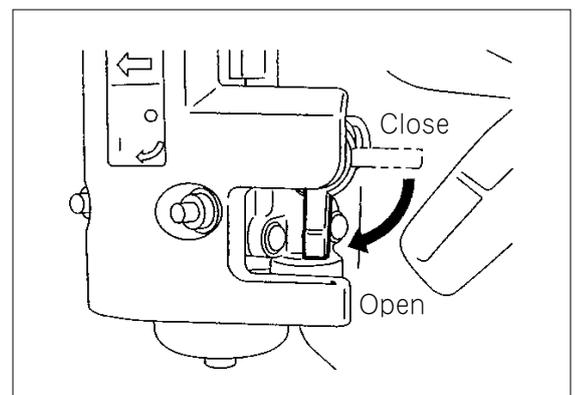
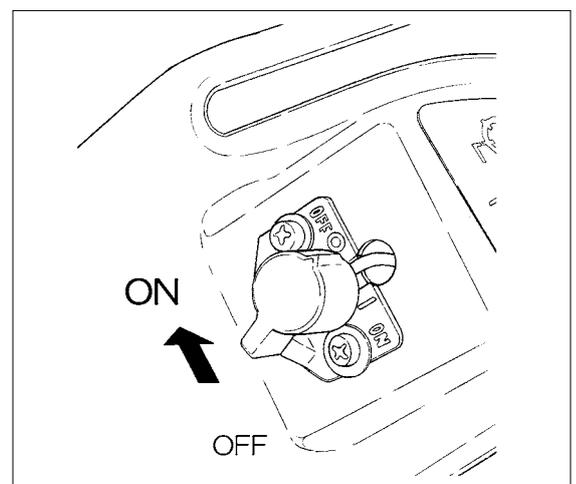
Danger

- Be sure to start the engine outdoors.
- Before starting the engine, place the shift knob in the “N” position.
- Before starting the engine, make sure the main clutch and blade clutch are not engaged.
- Make sure you are at least 5m away from the fuel storage area before starting the engine.
- Be sure to install the basket before starting the engine.
- Before starting the engine, make sure there are no people within 5m in front of the mower, or 3m behind and to either side of the mower.
- Before starting the engine, make sure you understand how to stop the engine.



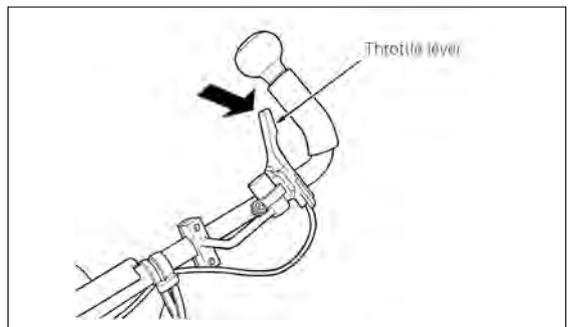
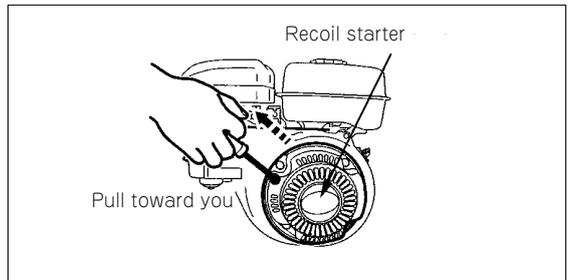
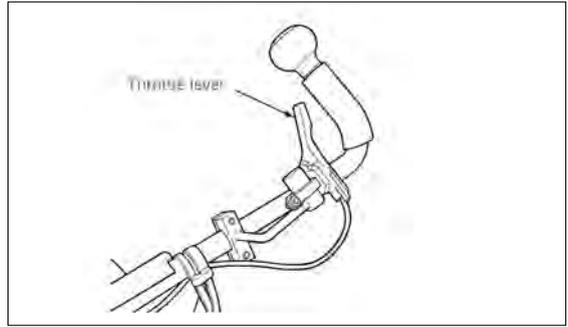
〈Starting the engine〉

1. Follow the procedures on page 17 to check the operation of the brakes and main clutch.
 2. Follow the “Installing the basket” procedure on page 12 to install the basket.
 3. Place the shift knob in the “N” position.
 4. Make sure the main clutch and blade clutch are not engaged (in the “Stop” position).
 5. Place the engine manual switch in the “ON” position.
 6. Move the fuel cock to the “ON” position to open the cock.
 7. Move the choke lever to the “ |●| ” position to close the choke.
- After starting the engine once, it is not necessary to close the choke to start it again.



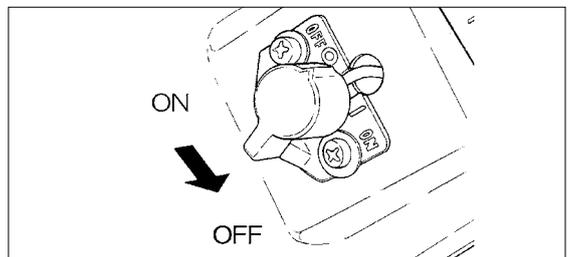
Operation

8. Move the ▽ mark on the throttle lever to the position midway between "H" and "L".
9. Press down on the fuel tank with your left hand so that the mower will not move, and then grip and quickly pull the recoil starter with your right hand.
 - **The engine starts. If the engine fails to start after several pulls, contact a Shibaura business or sales office for assistance.**
 - **Do not pull the recoil starter more than 4/5 of its length.**
10. Carefully return the handle of the recoil starter to the base of the engine housing.
11. Once the engine starts, gradually open the choke lever until it is finally fully open.
12. After starting the engine, allow it to warm up for two or three minutes.



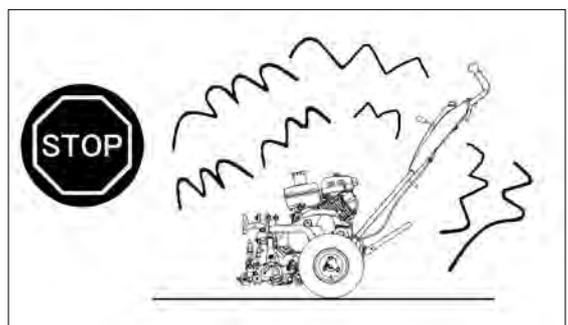
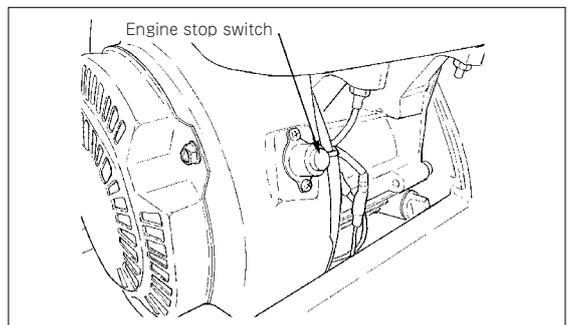
〈Stopping the engine〉

1. Move the ▽ mark on the throttle lever to the "L" position.
2. Place the engine manual switch in the "OFF" position.
 - **The engine stops. You can stop the engine by pressing the engine stop switch on the engine.**
 - **In case of emergency, such as white smoke emitted from any location other than the exhaust opening, stop the engine immediately.**
3. Close the fuel cock.



Important

- **The engine of this mower is designed for high speed operation. If the engine is run at low speed, it may cause engine trouble. Run the engine at high speed (MAX speed) for at least 10 minutes after every 15 days (30 hours) of use.**



■ Operating the mower

<Transport by running the engine>



Warning

- Before running the engine, make sure there are no people within 5m in front of the mower, or 3m behind and to either side of the mower. Place the shift knob in the "H" or "L" position and engage the main clutch. The mower will begin moving forward as soon as the main clutch is engaged. Avoid causing an accident by allowing the mower to lurch forward.
- Be sure to install the basket before starting/running the engine.
- Before running the engine, make sure you understand how to stop the mower.

Important

- Do not run the engine with the tires removed in any areas other than on grass. Doing so will not only damage the rear roller, but will also bend the roller axle. A bent axle will not turn correctly, and will not cut grass evenly.

- Practice is required to transport the mower by running the engine. Be sure to practice this procedure several times until you can perform it safely.

1. Make sure there are no people within an area 5m in front of you or 3m behind or to either side of you. Start the engine, and assume the basic posture.

2. Place the shift knob in the "H" or "L" position.

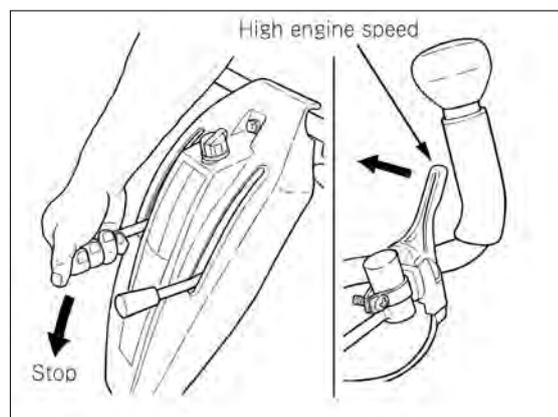
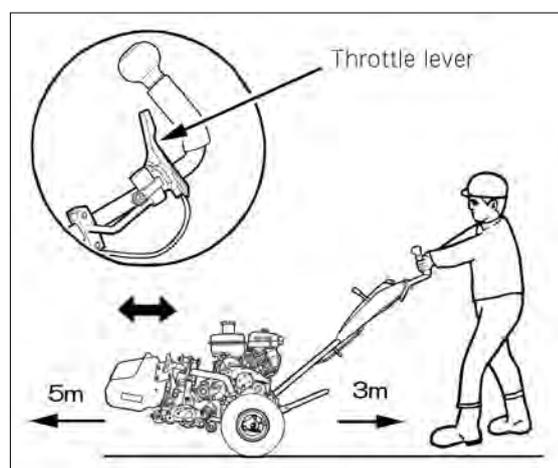
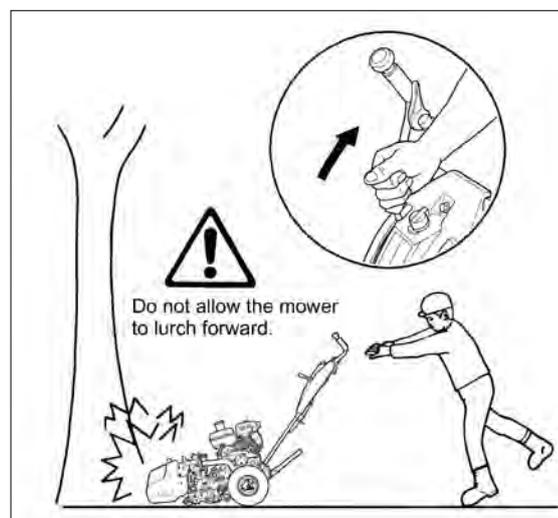
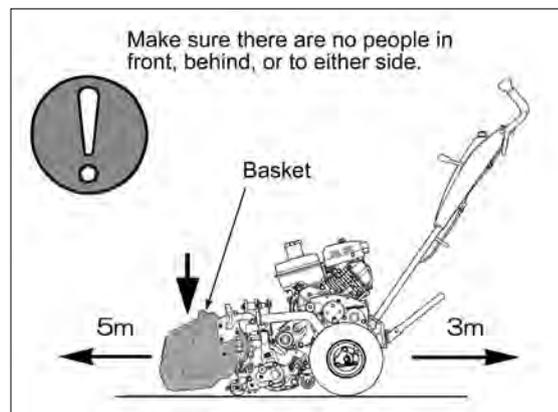
3. Move the ▽ mark on the throttle lever to the "L" position, and place the blade clutch lever in the stop position.

4. Securely hold the left grip with your left hand, and slowly pull the main clutch lever into the "Run" position.

- The mower will begin moving forward when the main clutch becomes engaged.

- Once you have become accustomed to and can safely operate the mower with the engine running, move the throttle lever to the position marked "H" to practice operating the mower with the engine at high speed.

5. To stop the mower, move the main clutch lever forward to the "Stop" position.

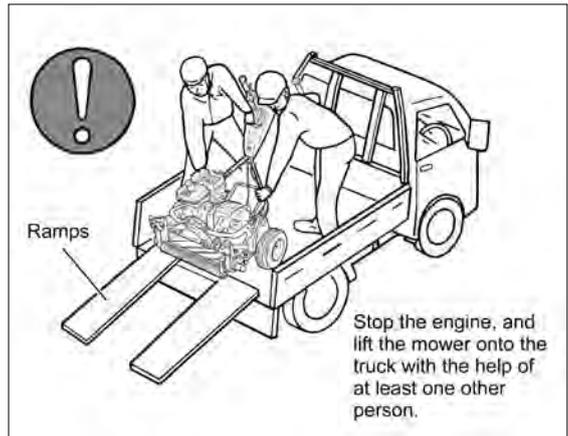


■ Transporting the mower by truck



Warning

- Do not load/unload the mower with the engine started and/or running.
- Loading/unloading the mower should be performed by two or more workers. Use ramps on the truck when loading/unloading the mower.
- Be extremely careful to avoid dropping the mower when loading/unloading it.
- Do not allow anyone to stand in a location in the direction where the mower would fall if dropped.



Important

- Install the tires onto the mower before loading/unloading it. Otherwise, not only will the rear roller be damaged, but the roller axle will also become bent. A bent axle will not cut grass evenly.



- Be sure to get help from at least one other person when loading the mower onto a truck. No people other than workers should be standing in a location where the mower might fall, between the ramps, or near the truck, in case the mower should fall.

1. Make sure the engine is stopped with all clutches in the "Off" positions.
2. Securely place ramps on the truck onto which the mower will be loaded. Make sure there are no people standing in a location where the mower might fall, between the ramps, or near the truck.
3. Make sure the truck's emergency brake is engaged so that the truck will not move.
4. One worker must always be sure to engage the brakes on the mower to prevent the mower from falling while carefully lifting it up onto the truck.
 - Do not push the mower up from below.
 - After the mower is loaded onto the truck, use ropes to fix it securely into place for transport.

■ Operation prior to mowing



Danger

- Be sure to operate the work attachment clutch knob and the shift knob from the side of the mower.
- Be sure to install the basket before operating the clutches and starting grass clipping work.

- In order to perform grass clipping work with the mower, it is necessary to engage the blade clutch and the work attachment clutch.
- The blade clutch turns the blades for cutting grass.
- The work attachment clutch turns the work attachment.
- The blades and work attachment begin to turn after both of these clutches are engaged and then the main clutch is engaged.

〈Engaging the work attachment clutch〉

- Engage the work attachment clutch before engaging the blade clutch.

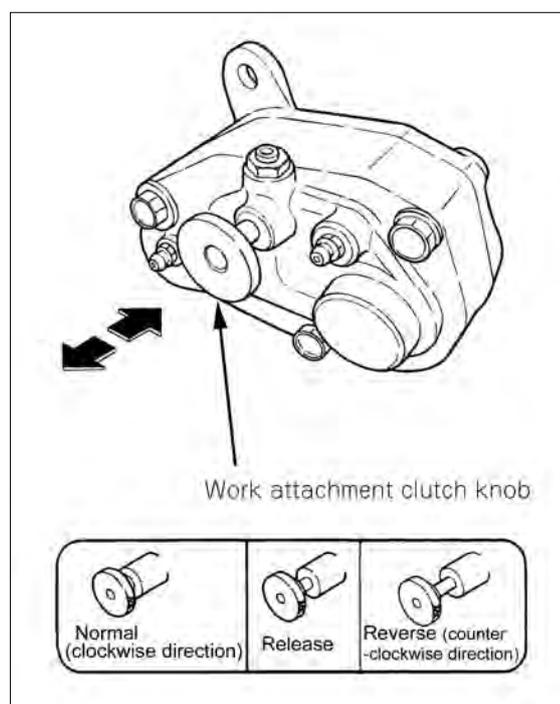
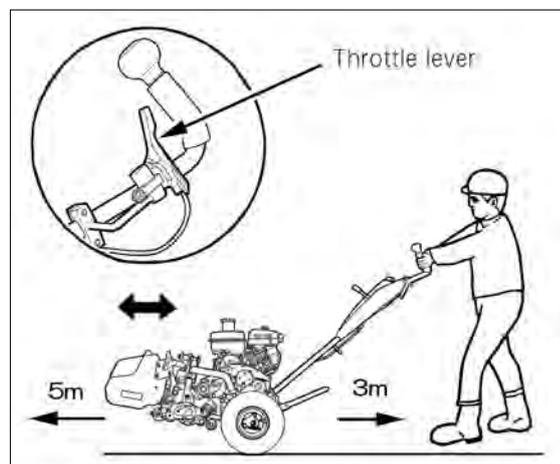
1. When you arrive at the workplace, find a flat and soft ground near the grass where you can remove the tires.

2. When you are ready to start grass clipping work, install the basket, and then before starting the engine confirm that the main clutch is not engaged, and that there are no people 5m in front of you or 3m behind and to either side of you.

- Move the ▽ mark on the throttle lever to the "L" position.

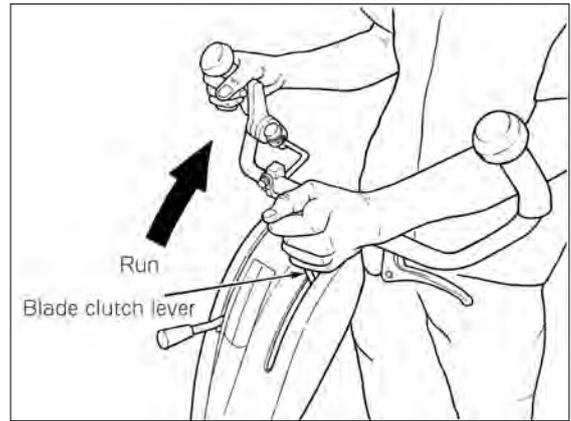
3. Make sure that the mower does not begin to move forward even if the brakes are not engaged. Push the work attachment clutch from the left side until it stops.

- If you press this clutch until it stops, it will be in the "Normal (counterclockwise)" position. If you pull it back one position, it will be in the "Released" position. If you pull it back one more position, it will be in the "Reverse (clockwise)" position.



〈Engaging the blade clutch〉

1. After engaging the work attachment clutch, make sure once more that the mower will not move, and then move the blade clutch lever to the "Run" position.



〈Starting grass clipping work〉

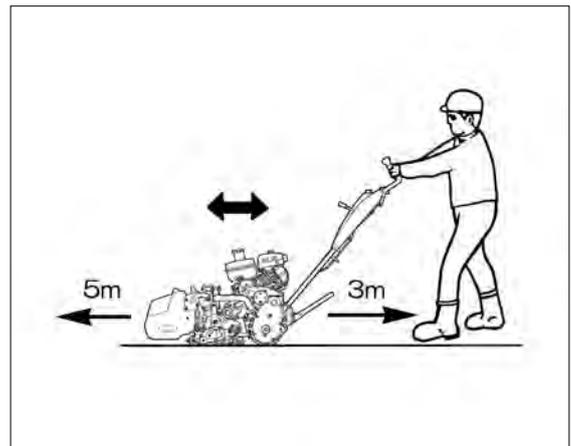
Warning

- Be sure to install the basket before starting grass clipping work.
- Before starting work, make sure there are no people within 5m in front of the mower, or 3m behind and to either side of the mower.
- Hold the grips securely to prevent wild, lurching movement of the mower. The mower will begin moving forward immediately after the main clutch becomes engaged.
- Maintain the basic posture while performing grass clipping work. Unstable posture will lead to accidents.

1. Follow the previous procedure to bring the mower to a flat area near the workplace, remove the tires, and start the engine.

2. Make sure there are no people within an area 5m in front of you or 3m behind or to either side of you. Make sure the basket is installed correctly, and then move the ▽ mark on the throttle lever to the position midway between "L" and "H".

- After you have been accustomed to the work, move the throttle lever to the "H" position.



3. Manually push the mower to the position where you will start cutting grass, and once there engage the work attachment clutch, move the blade clutch lever to the "Run" position, and then firmly hold the grip on the handle with your left hand while assuming the basic posture in the direction in which the mower is facing, and then use your right hand to slowly pull the main clutch lever to the "Run" position.

- The mower will begin moving forward immediately after the main clutch is engaged. Be careful to avoid causing an accident by letting go of the mower or operating it wildly.



■ Grass cutting work



Warning

- Be sure to operate the work attachment clutch know and the shift know from the side of the mower.
- Be sure to install the basket before operating the clutches and starting grass clipping work.

〈Moving forward and turning〉

- These are the methods for moving forward and turning, required for performing grass clipping work. Practice these methods several times to become accustomed to the work. Become completely accustomed to the methods for moving forward and turning explained here before performing work with the ▽ mark on the throttle level in the “H” (high speed) position.
- This mower is shipped from the factory with the gap between the blades and the bedknife set to its greatest distance, to prevent damage by the blades during transport. If after performing a bit of grass clipping work you discover that the blade height is not correct for your purposes or that cutting sharpness is poor, make adjustments as necessary. See “6. Adjustments” on page 26.)
- Before performing grass clipping work, adjust the height of the handle to fit the height of the operator. See “Adjusting the height of the handle” on page 34.)

1. To cut grass while moving forward, maintain the basic posture as shown in the figure on the right.

2. When you come to the end of the green, raise the front end of the mower as shown in the figure on the right, slightly reduce the throttle lever, and make a slow turn.

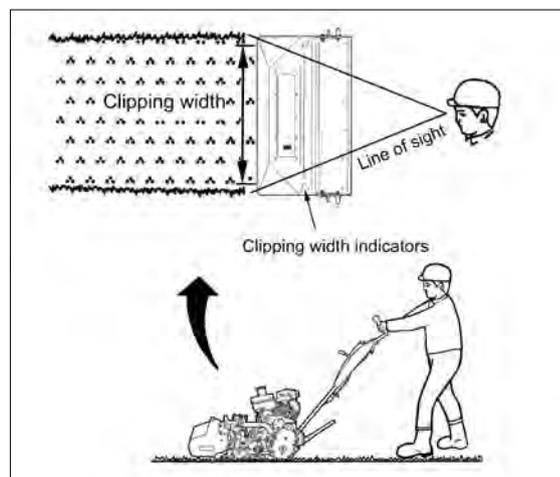
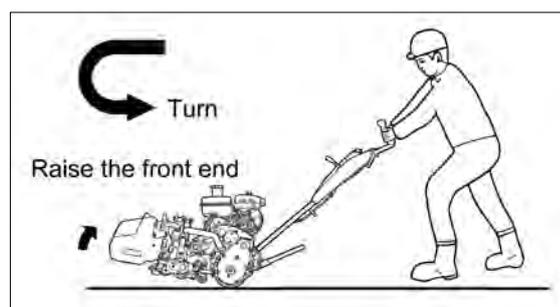
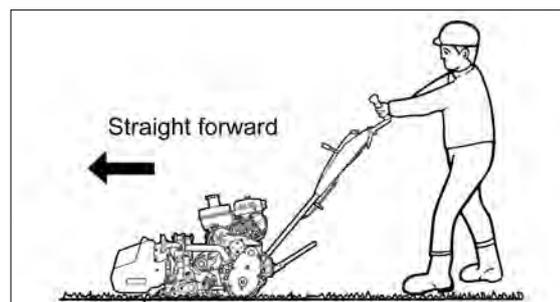
- **Be sure to play it safe and make large turns, until you become accustomed to this method.**

3. When the basket becomes full of grass clippings, first stop the engine, and then remove the basket and dispose of the grass clippings.

- **Select a location for disposal of grass clippings where there is no chance of ignition by an engine or other source of fire. Dispose of grass clippings as burnable garbage.**

〈Estimating grass clipping width〉

The handles for indicating the grass clipping width are located on both ends of the top of the basket. They mark the width that you can cut the grass that you see beyond the handles while holding the grips with both hands and maintaining the basic posture.



6. Adjustments

■ Adjusting cutting sharpness

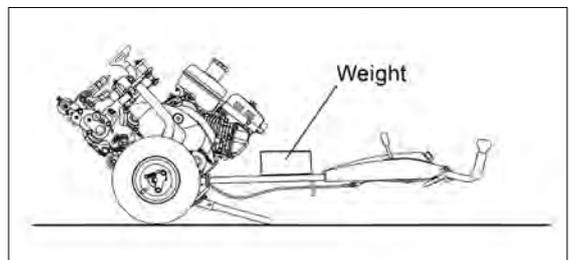
- This mower is shipped from the factory with the gap between the blades and the bedknife set to its greatest distance, to prevent damage by the blades during transport. Therefore, it is necessary to adjust this gap before performing grass clipping work.
- If the cutting sharpness is poor during use of the mower, it is necessary to sharpen the blades and then adjust the gap between the blades and the bedknife again.
- To adjust the gap between the blades and the bedknife, follow the procedure under “Adjusting the blades and bedknife” on this page.
- If the cutting sharpness is not improved by adjusting the gap between the blades and the bedknife, perform lapping (polishing) on the blades. See “Adjusting cutting sharpness with lapping (polishing the blades)” on page 30.)
- After adjusting the gap between the blades and the bedknife and adjusting the lapping, if grass that has been cut forms lines or blocks, contact a Shibaaura business or sales office for assistance.

〈Adjusting the blades and bedknife〉



Warning

- Be sure to stop the engine, and disengage the main clutch, blade clutch, and work attachment clutch before making adjustments.
- Be sure to use the blade alignment tool to turn the blades.
- Do not directly touch the blades.



- Before adjusting the blades and bedknife, tear newspaper into 50mm strips.

1. Tilt the mower back on a level surface, until the stand is on the ground so that the mower will not move.

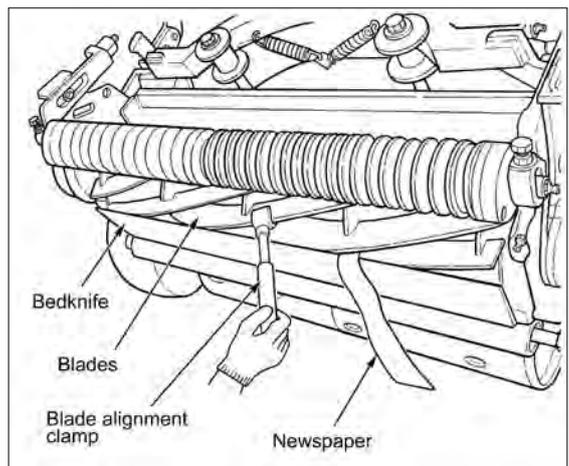
- Place a weight on the handle to prevent the mower from falling forward.

● When rotating the blades, be sure to use the blade alignment tool. Do not touch the blades directly with your hands.

2. Insert the newspaper strips between the blades and the bedknife in three locations at the center, left, and right sides of the blades, use the “blade alignment tool” to turn the blades from top to bottom and test the cutting sharpness.

● If the newspaper strips are not cut, the gap between the blades and the bedknife is too wide.

● If the gap is too wide, rotate the bedknife adjustment handles (left and right) to narrow the gap.

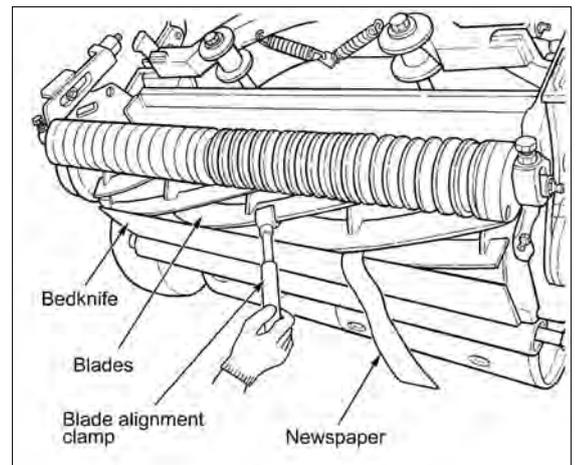
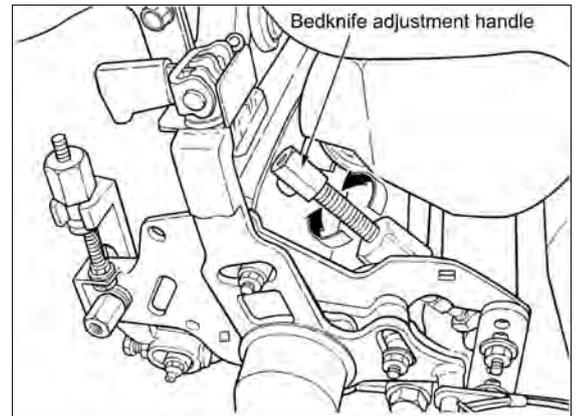


- The gap between the blades and the bedknife is narrowed by rotating the bedknife adjustment handles in the clockwise direction, and widened by rotating the handles in the counterclockwise direction.

3. Use the newspaper strips to test the cutting sharpness of the blades in three locations at the center, left, and right sides. Repeat these adjustments until the newspaper is cut cleanly.

- Adjust the cutting sharpness of all blades.

4. Test the cutting sharpness. Rotation of the blades is normal if all of the newspaper strips are cut cleanly by all blades in any position.



■ Adjusting grass clipping height



Warning

- Be sure to stop the engine, and disengage the main clutch, blade clutch, and work attachment clutch before adjusting cutting height.

- This procedure should be performed after adjusting the cutting sharpness of the blades and the bedknife (aligning the blades).
- Adjust the height of the front and rear rollers in order to cut the grass on the green to the required height. Adjust the grass clipping height and the work attachment height at the same time, and then cut some grass to check the current settings and make further adjustments as necessary.
- Check that the rear roller bracket is set within the desired cutting height range. (It is set to the following height when shipped from the factory.)
- The following procedure explains how to adjust the grass height to 5mm from the ground and the work attachment to 4mm.

1. Set the screws in two locations on the cutting height gauge to face each other as shown in the figure on the right.

2. Loosen the wing nut of the screw closest to the center of the cutting height gauge, use a ruler to adjust the distance between the bottom of the screw head and the gauge (neck of the screw) to 5mm, and then fix the screw by tightening the wing nut.

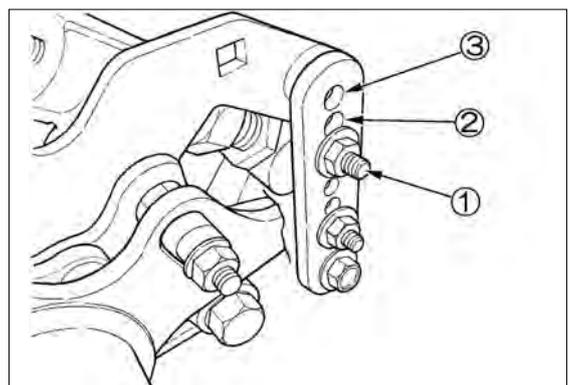
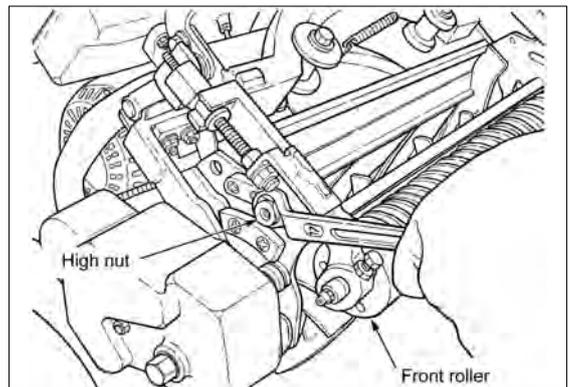
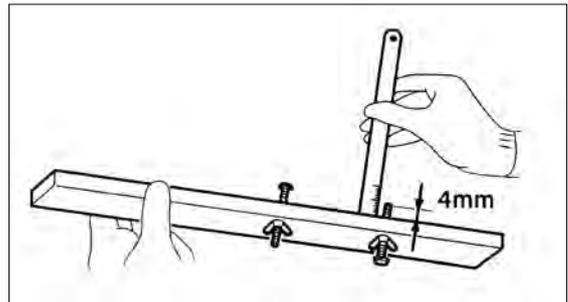
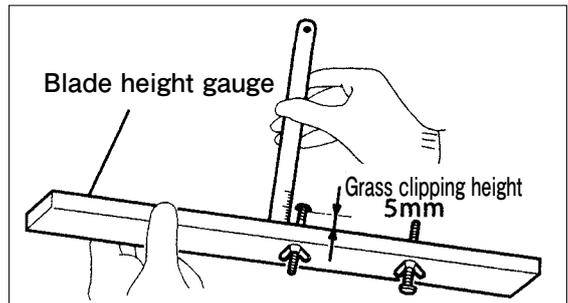
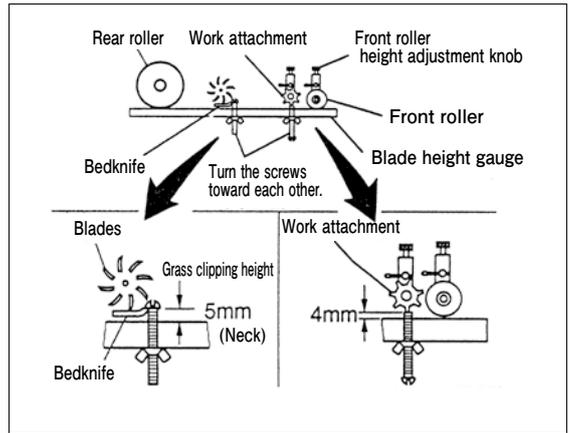
- This measurement is the cutting height.

3. Loosen the other wing nut of the screw, use a ruler to adjust the length of the end of the screw sticking out from the cutting height gauge to 4mm, and then fix the screw by tightening the wing nut.

- This measurement is the gap between the work attachment and the surface of the ground.

4. Tilt the mower back on a level surface, until the stand is on the ground, and then place a weight on the handle so that the mower will not move.

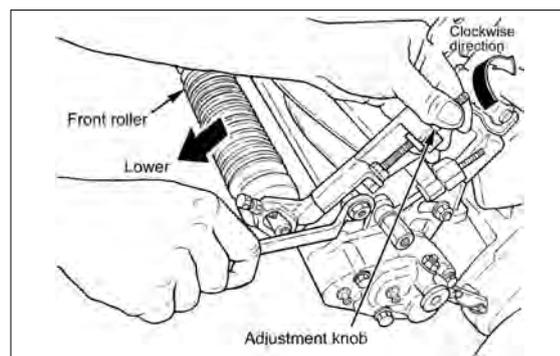
5. Loosen the height anchor nuts on the front roller height adjustment knobs (left), (right).



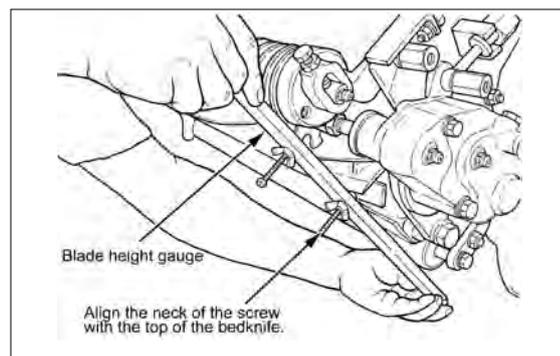
Bracket position	①	②	③
Grass cutting height (mm)	Less than 10	10~20	20~30

6. Place the cutting height gauge against the portion of the front roller that contacts the ground and the rear roller, and then turn the height adjustment knob for the front roller until the neck of the screw in the center of the gauge is at the same height as the top of the bedknife.

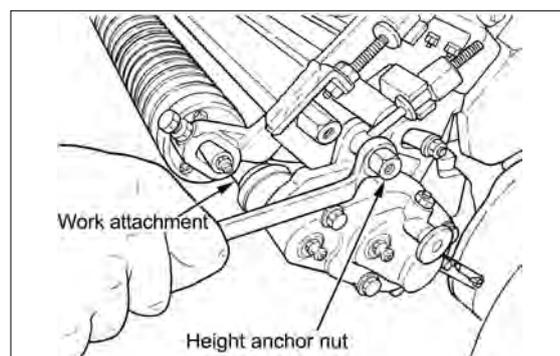
- Turn the height adjustment knob for the front roller clockwise to lower the front roller and counterclockwise to raise the front roller.



7. Adjust the height on the left and right sides. Once the bedknife is positioned at the correct height, tighten the height anchor nuts to anchor the height of the front roller.

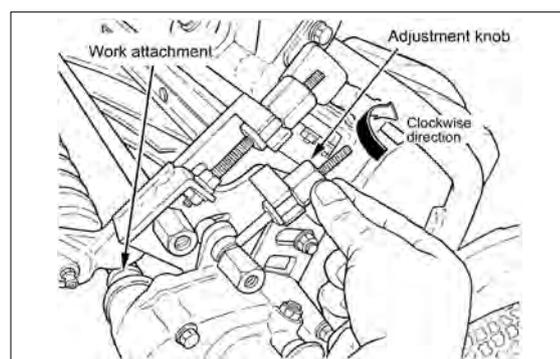


8. Loosen the height anchor nuts on the work attachment height adjustment knobs (left), (right).

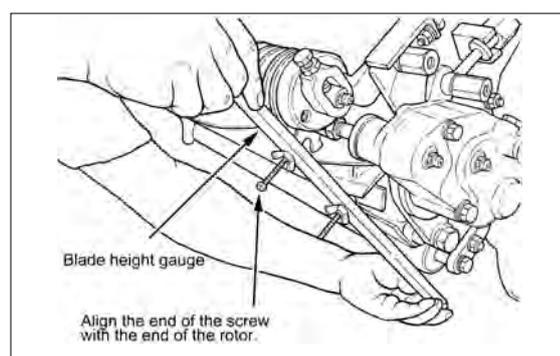


9. Place the cutting height gauge against the portion of the front roller that contacts the ground and the rear roller, and then turn the height adjustment knob for the work attachment until the length of the gauge screw sticking out is the same as the end of the work attachment.

- Turn the height adjustment knob for the work attachment clockwise to raise the work attachment and counterclockwise to lower the work attachment.



10. Adjust the height on the left and right sides. Once the work attachment is positioned at the correct height, tighten the height anchor nuts to anchor the height of the work attachment.

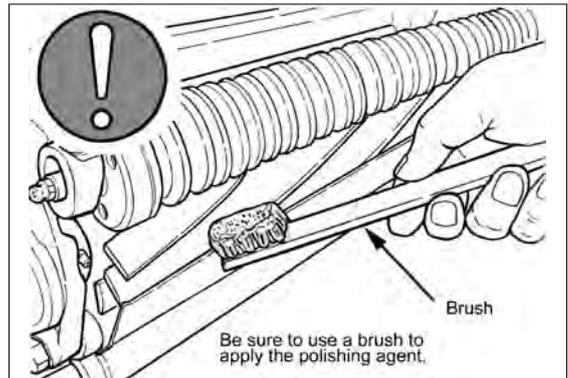


■ Adjusting cutting sharpness with lapping (polishing the blades)



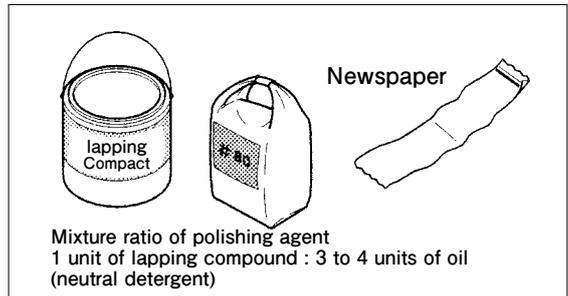
Warning

- Be sure to stop the engine, and disengage the main clutch, blade clutch, and work attachment clutch before performing lapping.
- When turning the blades with the lapping machine, be careful to avoid getting your hands, feet, or clothing within the turning radius of the blades.
- Be sure to use a brush to apply the polishing agent to the blades.

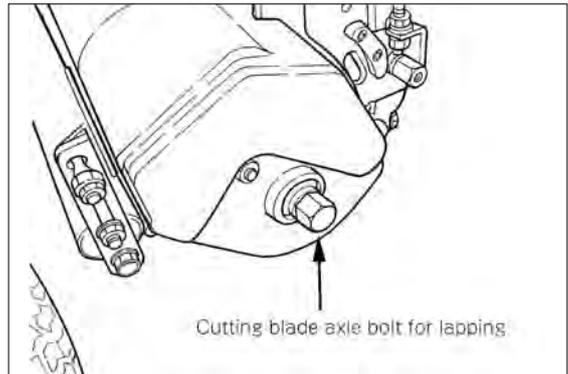


Important

- When performing lapping, use a polishing agent specified by Shibaura, lapping compound #180 — #220, or a lapping carbon of the same number.
- Do not apply polishing agent to areas of the blades where the cutting sharpness is not good.



- To perform lapping, prepare newspaper torn in 50mm strips, and either lapping compound or a polishing agent of lapping carbon mixed with oil or a neutral detergent.
- The volume ratio of the polishing agent mixture is 1 unit of lapping compound : 3 to 4 units of oil (neutral detergent).

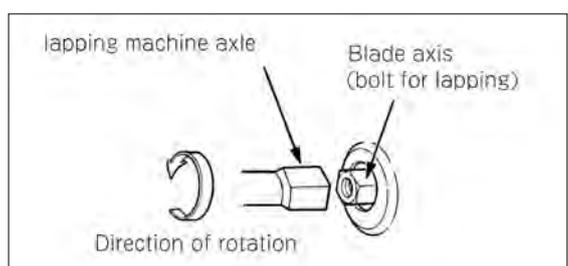
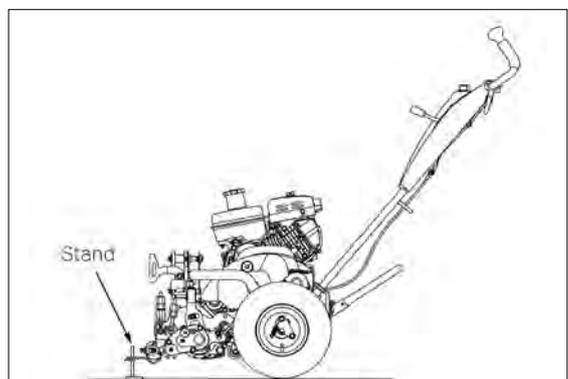


1. Set the lapping machine on a level surface, and make sure the rotating axle of the lapping machine is at an appropriate height.

2. Set the stand for the lapping machine, hold the stopper, and adjust the height of the V-shaped area with the axle of the lapping machine that you adjusted in the previous section.

- Set the stand at two locations on the left and right sides of the front roller.

3. Lean the mower backwards to set the front roller onto the V-shaped area of the stand, and securely connect the axle of the lapping machine with the center of the cutting blade axle.



4. Insert a newspaper strip between the blades and the bedknife, and use the “blade alignment tool” to turn the blades from top to bottom and test the cutting sharpness. Use chalk to mark the position where the cutting sharpness is best.

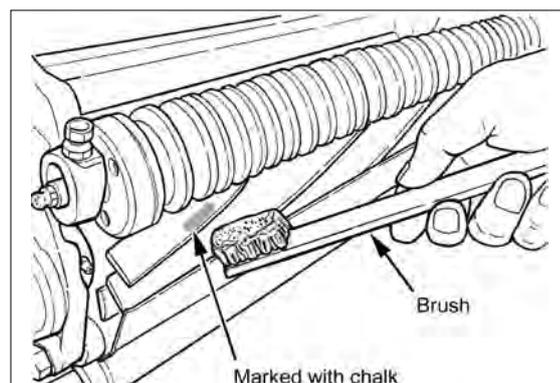
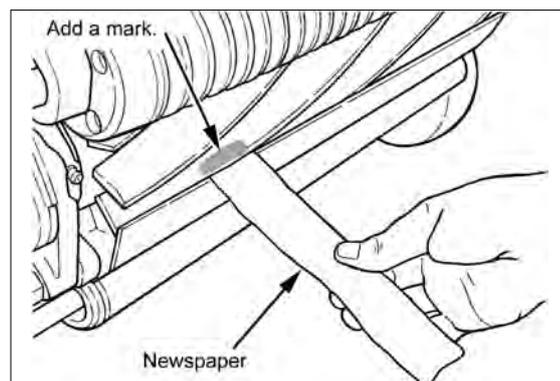
5. Add the lapping compound to a brush and then apply it evenly to the top of the blades at the position you marked in step 4. Press the switch on the lapping machine in the reverse rotation direction, to rotate the blades in the counterclockwise direction (reverse of the normal cutting direction).

- **Compound is applied to the cutting areas so that the uneven edge caused by wearing is straightened.**
- **Friction between the blades and the bedknife polishes the blades.**
- **If lapping is performed while the blades and bedknife are tightly joined together, the ends of the cutter will be worn and normal lapping will not be possible. Do not join the blades firmly.**

6. Gradually apply the polishing fluid to areas where cutting was not good (areas not marked in step 4), and repeat the polishing work.

7. After the blades have been polished evenly, add a final even application of lapping compound to the blades throughout while rotating the blades in the counterclockwise direction (reverse of the normal cutting direction) to finish polishing.

8. After polishing is finished, wash the blades and bedknife thoroughly with water to remove the polishing agent.



Important

- **Do not use a high-pressure water sprayer to wash the mower. It may cause the label to peel off or the mower to be damaged.**
- **Follow the procedure in “Adjusting cutting sharpness” on page 26 to adjust the gap between the blades and bedknife while testing the cutting sharpness.**

■ Adjusting various parts

〈Adjusting engine parts〉

- Adjustments related to engine trouble, such as adjustment of the carburetor, affect the basic performance of the mower and should be performed by a Shibaura business or sales office.

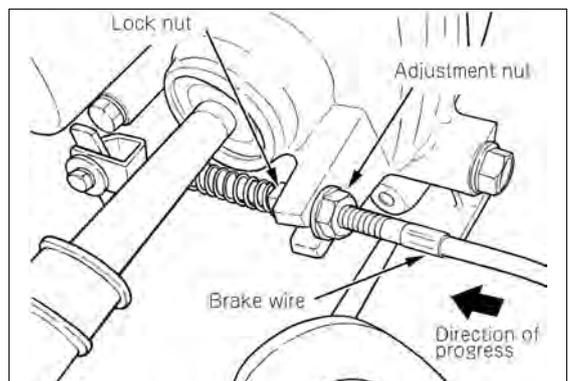
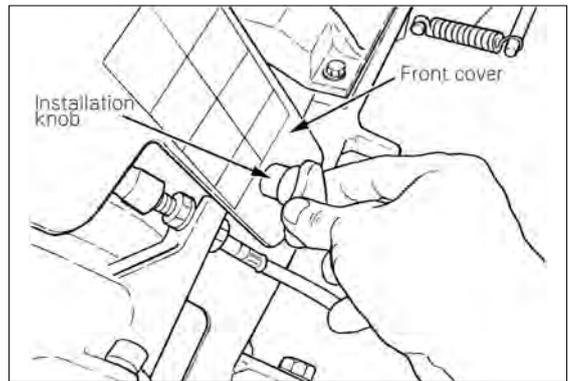
〈Adjusting the brakes〉



Warning

- Be sure to stop the engine, and disengage the main clutch, blade clutch, and shift knob before adjusting the brakes.
- Immediately after stopping the engine, wait for the engine to cool before making adjustments.

1. Turn the installation knob on the front cover in the counterclockwise direction to loosen it, and open the cover by lifting it upwards with your hands.
2. Use a spanner to loosen the two brake wire locknuts by turning them in opposite directions.
3. Make adjustments so that the tires lock if the mower is pulled toward the operator while the brake lever is engaged fully (locked).
4. After adjustments are complete, tighten the two locknuts by turning them in the directions opposite to step 2 to fix the length of the wires.
5. Close the front cover, and turn the installation knob on the front cover in the clockwise direction until it stops to fix the front cover.
 - After making these adjustments, follow the procedure under “Checking the operation of the brakes” on page 17 to check the operation of the brakes.
 - Make sure that the brakes do not operate when the brake lever is released.



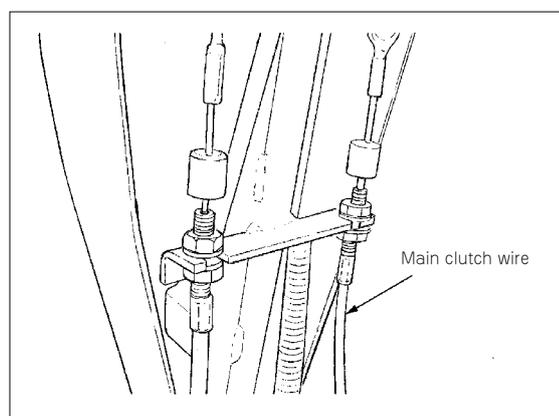
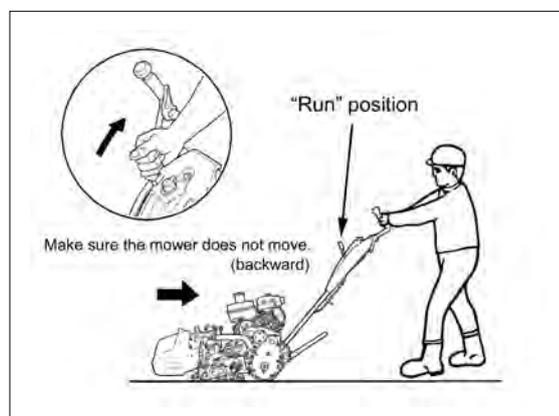
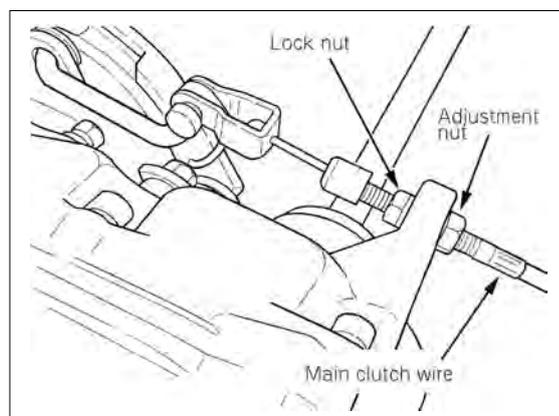
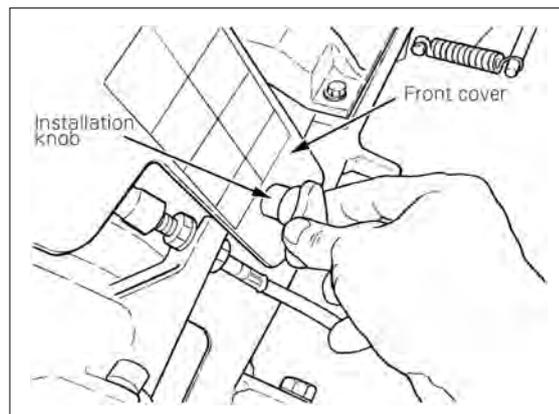
〈Adjusting the main clutch〉



Warning

- Be sure to stop the engine, and disengage the main clutch and blade clutch before adjusting the clutch.
- After stopping the engine, wait for the engine to cool before making adjustments.

1. Turn the installation knob on the front cover in the counterclockwise direction to loosen it, and open the cover by lifting it upwards with your hands.
2. Use a spanner to loosen the two clutch wire locknuts by turning them in opposite directions.
3. Make adjustments so that the spring on the back of the handle stretches 4 to 5mm when the clutch lever is moved in the "Run" direction.
4. After adjustments are complete, tighten the two locknuts by turning them in the directions opposite to step 2 to fix the length of the wires.
5. Close the front cover, and turn the installation knob on the front cover in the clockwise direction until it stops to fix the front cover.
 - After making these adjustments, follow the procedure under "Checking the operation of the main clutch" on page 17 to check the operation of the main clutch.
 - With the main clutch in the "Stop" position and the shift knob in the "H" or "L" position, pull the recoil starter. If the mower does not move, the main clutch is not engaged.
6. The clutch wire can also be adjusted at the clutch wire installation fitting position on the back of the handle. If adjustments in inside the front cover are insufficient, try making similar adjustments in this location.



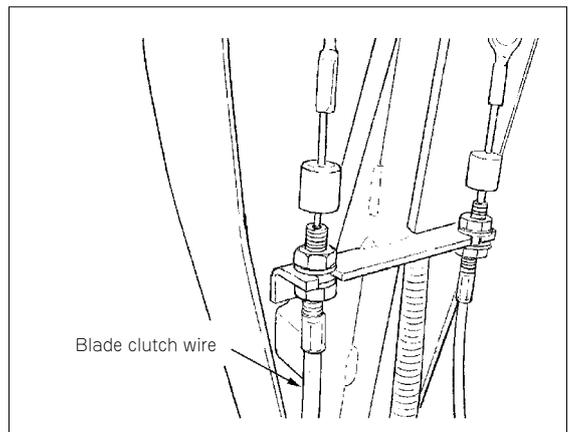
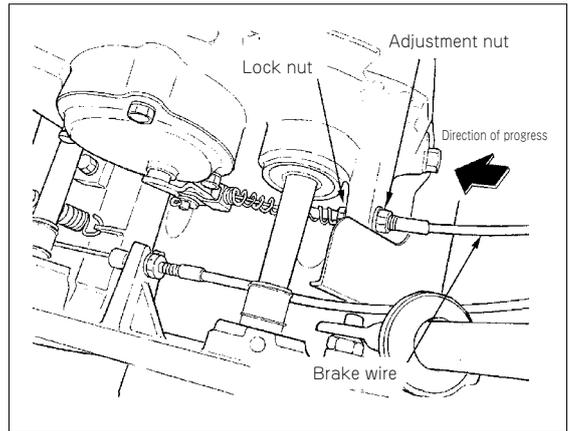
<Adjusting the blade clutch>



Warning

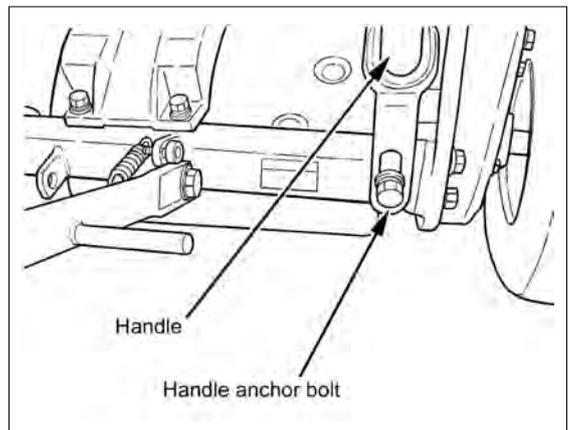
- Be sure to stop the engine, and disengage the blade clutch before adjusting the clutch.
- After stopping the engine, wait for the engine to cool before making adjustments.

1. Use a spanner to loosen the two clutch wire locknuts on the mower frame side by turning them in opposite directions.
2. Make adjustments so that the spring on the back of the handle stretches 4 to 5mm when the clutch lever is moved in the "Run" direction.
3. After adjustments are complete, tighten the two locknuts by turning them in the directions opposite to step 1 to fix the length of the wires.
 - After making these adjustments, follow the procedure under "Checking the operation of the blade clutch" on page 18 to check the operation of the blade clutch.
4. The clutch wire can also be adjusted at the clutch wire installation fitting position on the back of the handle. If adjustments are insufficient on the mower frame side, try making similar adjustments in this location.



<Adjusting handle height>

- Before performing grass clipping work, adjust the height of the handle to fit the height of the operator.
1. Loosen the handle anchor bolts on the left and right sides at the rear of the mower.
 2. Adjust the height of the handle to an appropriate position for working, and then tighten the anchor bolts to fix the handle in place.
 - If the adjustment procedure above does not allow a handle position appropriate to the operator's height, contact the business or sales office where you purchased the mower for assistance.



〈Adjusting the grass clipping position (offset moving system)〉



Warning

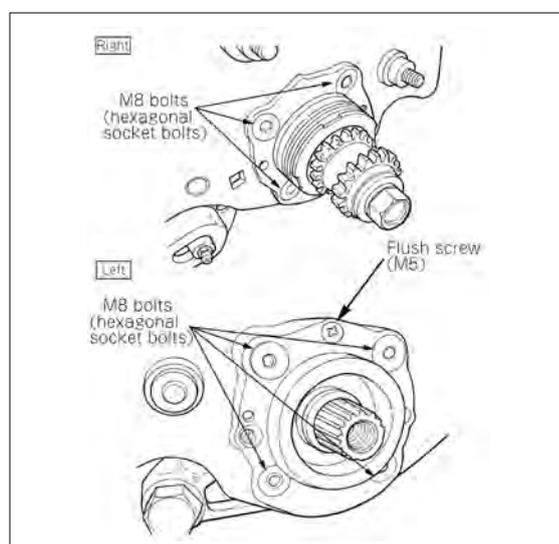
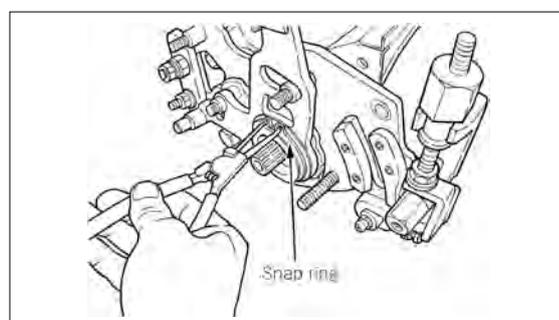
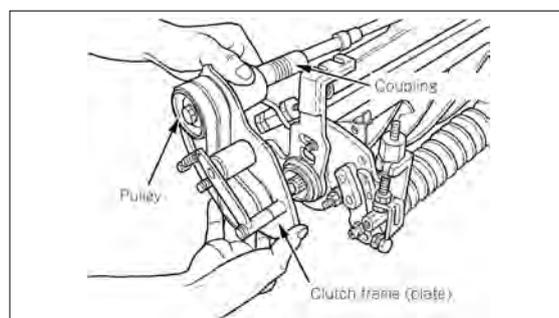
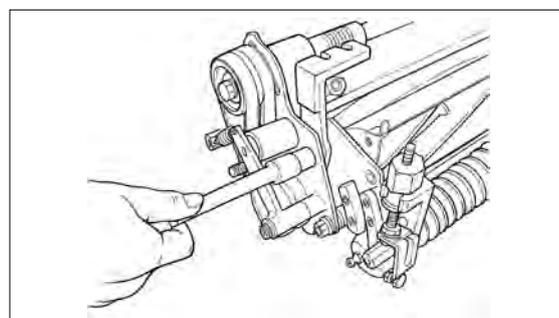
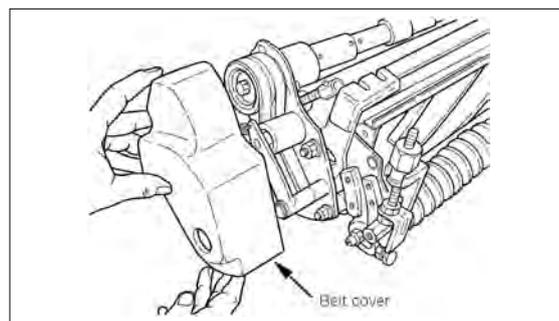
- Be sure to stop the engine and disengage the main clutch and blade clutch.

- In order to mow greens according to the customer's request, it is necessary to adjust the grass clipping position. Cut some grass and make adjustments as necessary.

* Make adjustments only if you are not satisfied with the grass clipping conditions.

- Adjustments will result in changes to the way the grass is cut.
- Remove the reel unit from the mower. (Refer to "Removing/installing the reel unit" on page 40.)

1. Place the reel unit on the working table.
2. Loosen and remove the three M8 flange nuts holding the cutter cover, then remove the cutter cover along with the baffle plate.
3. Loosen and remove the M8 lock nut holding the belt cover, and then remove the belt cover.
4. Use an impact wrench to loosen and remove the lapping bolts holding the cutter pulley, and then remove the pulley.
- Note that the lapping bolt has left-hand thread.
5. Loosen and remove the four M8 flange nuts holding the clutch frame. Remove the clutch frame as an assembly installed with the coupling, the pulley, etc.
6. Remove the rubber cap (gear box) of the frame on the left side.
7. Remove the snap ring retaining the arm bracket, and then remove the thrust washers on the right and left sides of the arm bracket.
8. Loosen the four M8 bolts (hexagonal socket bolts) on the right and left cutter metals: OUT, and remove the positioning M5 screws. (They are located in position "6" when shipped from the factory.)
- Be sure to align the blades in this condition.
- After aligning the blades, turn the bedknife adjustment handles on the right and left sides to 1/3 turn to tighten them (clockwise direction).
9. If you hold and move the bedknife adjustment handles on the right and left sides, the grass clipping position (position of alignment between the blades and the bedknife) changes around the blade axle.
- See "Effects of blade position on grass" on page 48.
10. For installing the cutter metals, tighten the positioning M5 screws, and hold the left cutter metal: OUT first, then the right one, by tightening four M8 bolts (hexagonal socket bolts).



〈Adjusting the baffle plate〉

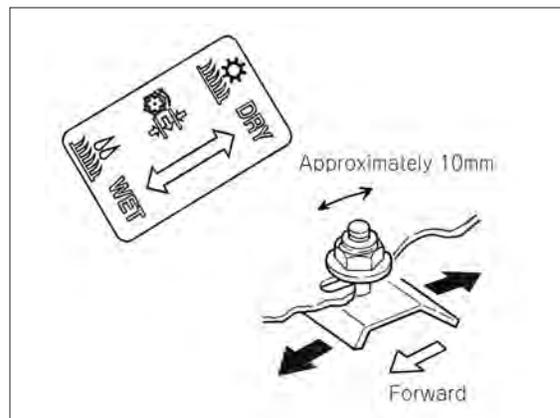
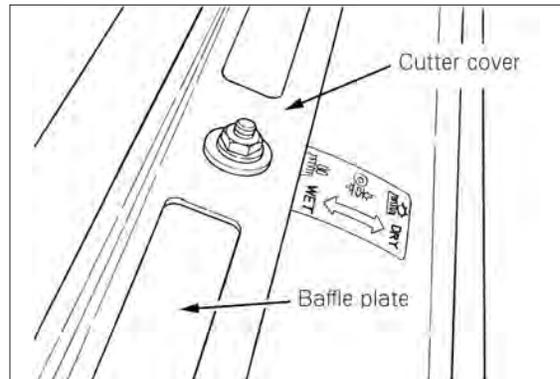


Warning

- Be sure to stop the engine and disengage the main clutch and blade clutch.

- The manner in which grass clippings flow into the basket changes depending upon the condition of the grass. Cut some grass and make adjustments as necessary.
- The manner in which grass clippings flow will change according to the adjustments made.
- Remove the reel unit from the mower. (Refer to "Removing/installing the reel unit" on page 40.)

1. Place the reel unit on the working table.
2. Loosen the three M8 flange nuts holding the cutter cover.
3. Move the baffle plate forward and backward while leaving the cutter cover in the original position.
 - Move the baffle plate toward you if the grass is wet, the running speed of the mower is slow, or the rotation of the blades is slow.
 - Move the baffle plate away from you if the grass is dry, the running speed of the mower is fast, or the rotation of the blades is fast.



〈Adjusting the rear roller (centering the blades)〉

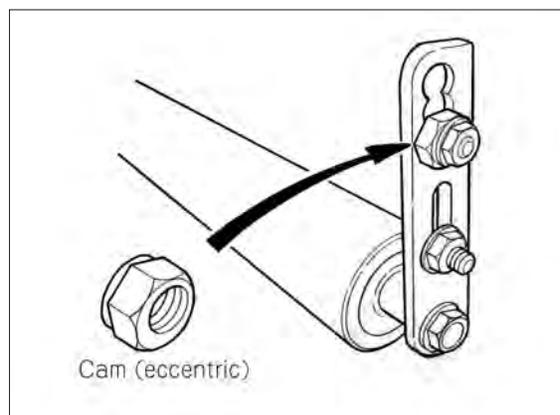
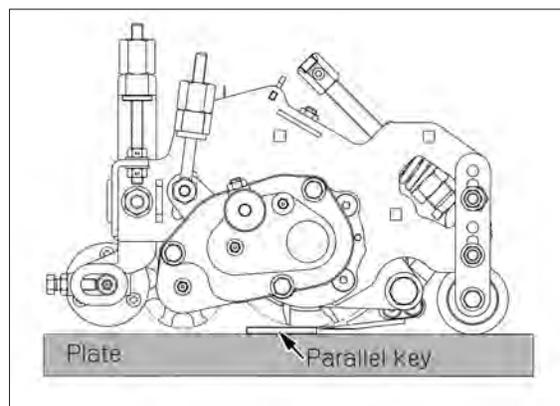
- Remove the reel unit from the mower. (Refer to "Removing/installing the reel unit" on page 40.)



Warning

- Be sure to stop the engine before adjusting the rear roller.

1. Place the reel unit on the plate.
2. Place two parallel keys, of which size is between 5 to 6 mm, on two positions, where one of them comes directly below the blades, and another one makes contact with the edge of the bedknife.
 - Raise the front roller and the work attachment so that they do not touch the plate.
3. Loosen and remove the four M8 flange nuts holding the rear roller bracket. Displace the rear roller bracket to the desired hole position and tighten the M8 flange nuts loosely (Refer to the table on Page 28 for the height.)
4. Insert a newspaper stripe underneath the rear roller while keeping the blades in touch with the machine keys. Check the gap between the plate and the rear roller.
 - Use the eccentric cam to adjust the gap to 0.1 mm or less in both vertical and horizontal directions.
5. After adjusting the gap, tighten the M8 flange nut while holding the eccentric cam to prevent it from rotating.



7. Maintenance

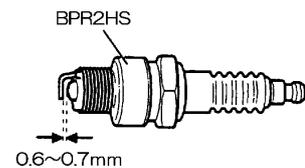
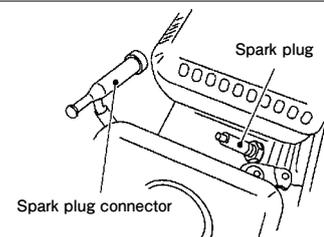
■ Inspecting and replacing spark plugs



Warning

- Do not smoke or keep open flames nearby when inspecting/replacing the spark plug.

- Inspect the spark plug after every **100 hours of use**, and replace it if it becomes difficult to start the engine.
1. Pull the spark plug connector toward you to remove it.
 2. Insert the plug tool onto the spark plug and turn it counterclockwise to remove the plug.
 3. Use a wire brush to remove the carbon (soot) from the spark plug.
 - If you have a gap gauge, adjust the electrodes so there is a gap of **0.6 to 0.7mm** between them.
 4. Return the spark plug to its original position, and turn it clockwise with the plug tool to tighten it. Insert the spark plug connector until it stops.
 - If you replace the spark plug, replace it with a **BPR2HS**.



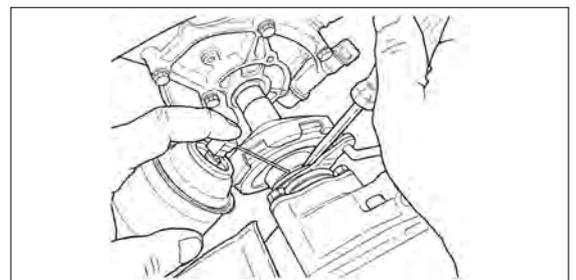
■ Maintenance of the main clutch



Warning

- Be sure to perform the maintenance of the main clutch after stopping the engine.
- After stopping the engine, wait for the engine to cool down before performing the maintenance.
- If the maintenance of the main clutch is not performed, there is a possibility that the mower goes out of control and cause severe injury.

- Perform the maintenance of the main clutch every 50 hours of use.
1. Turn the installation knob on the front cover in the counterclockwise direction to loosen it, and open the cover by lifting it upward with your hands.
 2. Move the main clutch lever to "Run", press the clutch disk to the engine side with your hands, and return the main clutch lever to the original position. (This procedure can be easily performed by using a clamp, etc.)
 3. Insert the flat-head screwdriver between the bearing installed in the clutch disk and the cam lever to make a gap.
 4. Apply enough amount of thick spray grease (molybdenum) to the shaft inside the gap.
 5. Remove the flat-head screwdriver, and move the main clutch lever to "Start" position, then to "Stop" position, approximately 10 times in the same order.
 - If the clutch does not normally operate after performing the maintenance of the main clutch, it requires to overhaul the clutch.



■ Cleaning the mower



Warning

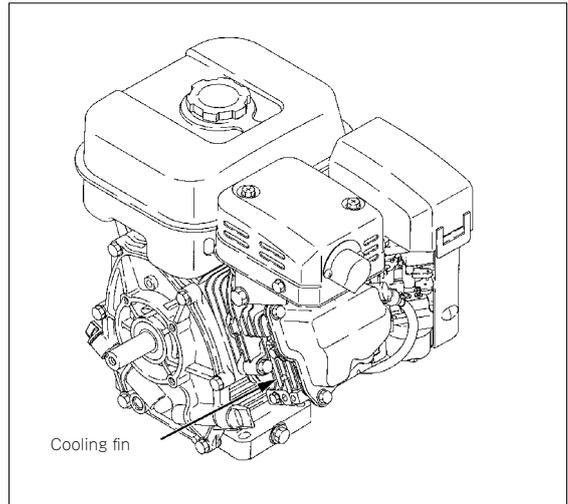
- Remove dirt and material from the engine cooling fin every day after work is completed. Otherwise, the engine will overheat and cause fire.
- Make sure the engine has cooled before cleaning it.

Important

- Do not use water to wash high-temperature parts, such as the cooling fin and muffler on the engine. Using water on hot parts could cause deformation and cracking.

Important

- Do not use a high-pressure water sprayer to wash the mower. It may cause the label to peel off or the mower to be damaged.

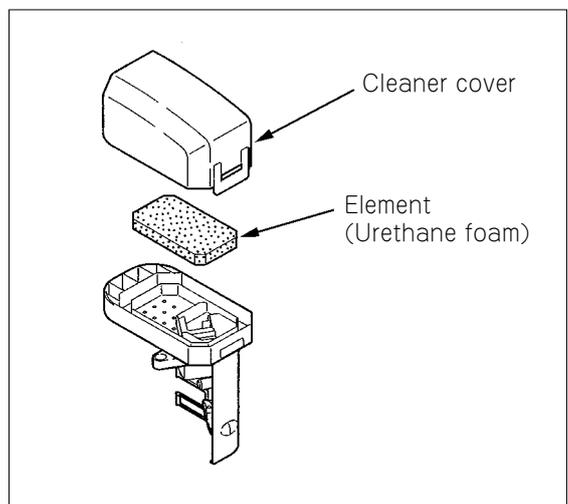


- Clean the mower each time you finish grass clipping work. Materials such as grass clippings adhere easily to the cooling fin in particular. This may cause the engine to overheat and result in fire.
- Use a brush to remove grass clippings and other materials from the engine cooling fin. If some materials are difficult to remove, wash with water where necessary. Then, completely wipe away all moisture and dry all parts thoroughly.

■ Cleaning the air cleaner

- Clean the air cleaner after **every 50 hours of use**.
- If the element in the air cleaner becomes deformed or clogged, contact a Shibaura business or sales office for a replacement part.

1. Loosen and remove the wing nut on the top of the air cleaner cover, and then remove the air cleaner cover.
2. Remove the element, clean it with kerosene or a neutral household detergent, and then allow it to dry. Next, soak it in engine oil, and then wring it out carefully before installing it back inside the air cleaner.
3. Lightly tap the element against a flat surface to knock away any dirt and dust, and use pressurized air to blow away any dirt on the inside (the engine side of the element when it is installed).
4. Return the clean element to its original position, and then replace the air cleaner cover.

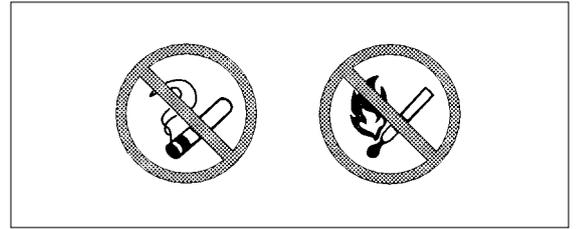


■ Cleaning the strainer



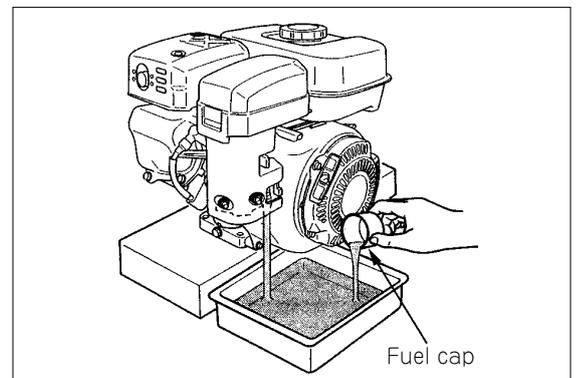
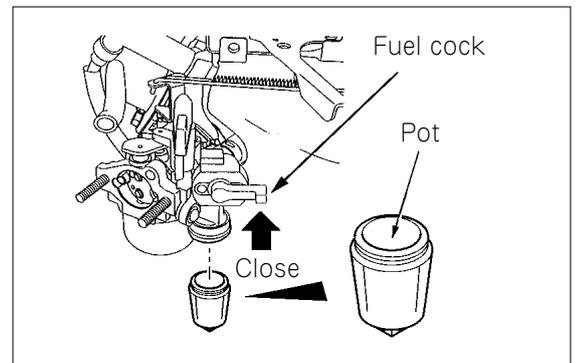
Warning

- Be sure to stop the engine before cleaning the strainer.
- Do not smoke or keep open flames nearby when cleaning.
- After stopping the engine, wait for the engine to cool before cleaning.
- Ensure thorough ventilation when cleaning the strainer.
- Be sure to wipe away any fuel that is spilled while cleaning.



- Inspect the air strainer every day, and clean it after **every 100 hours of use**.
- Immediately clean away any sedimentation you discover inside the strainer at any time, regardless of the number of hours of use noted above.

1. Place the fuel cock in the “Closed” position.
2. Use a spanner to turn the square part protruding from the bottom of the strainer clockwise. Once it is loosened, remove it slowly.
 - **There is fuel inside the strainer pot, so be sure to loosen and remove it slowly.**
3. Pour the fuel into a container that is not deformed by fuel, and then wash the pot, filter, and packing with fuel inside this container.
 - **If you are unable to easily remove all sedimentation, allow the parts to soak in the fuel for a while before cleaning.**
4. Return the filter, packing, and pot to their original positions, and then use a cloth to completely wipe away any fuel on the outside of the strainer.



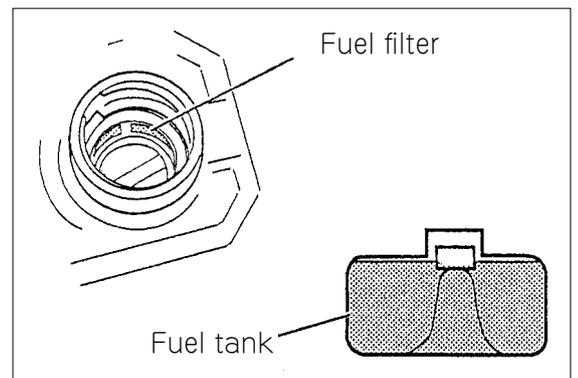
■ Cleaning the fuel filter



Warning

- Be sure to stop the engine before cleaning.
- Do not smoke or keep open flames nearby when cleaning.

- Clean the fuel filter after every **100 hours of use**.
1. Turn the fuel cap counterclockwise to loosen and remove it.
 2. Inspect the fuel filter for contaminants. If necessary, remove it from the fill opening and wash it with fuel.
 - Be careful to not damage fuel filter when removing/installing it.
 - If there is damage to the fuel filter such as holes, contact a Shibaura business or sales office to request a replacement filter.



■ Removing/installing the reel unit



Warning

- Be sure to stop the engine before removing or installing the reel unit.

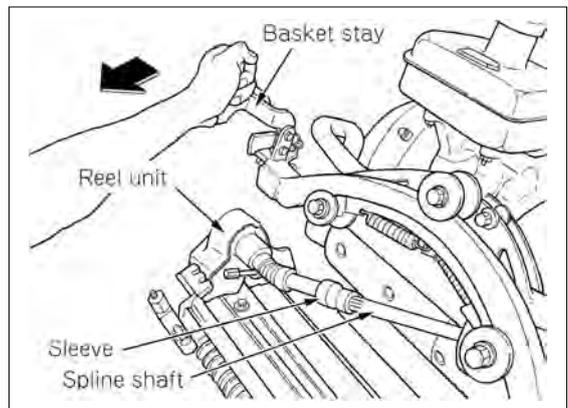
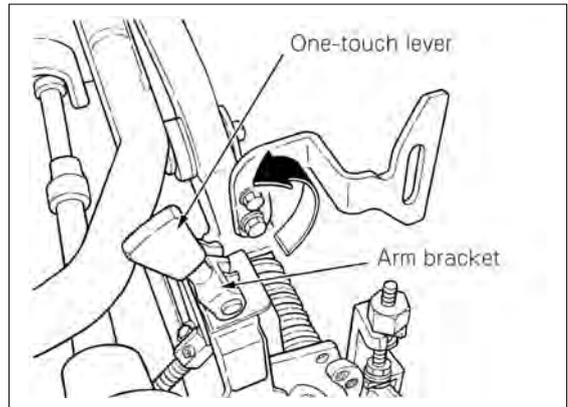
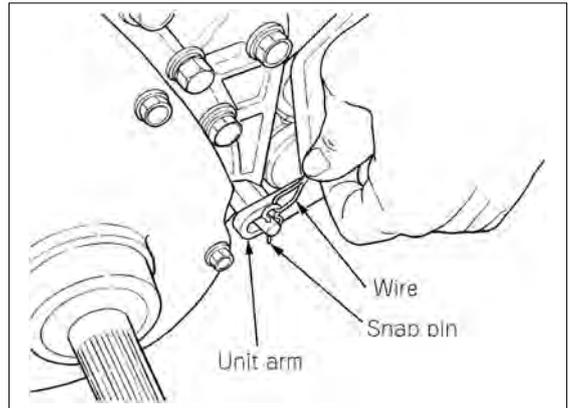
- Remove the tires before removing or installing the reel unit. (Refer to "Engaging the stand and removing/installing the tires" on page 12.)
- Place the mower on a level surface.

<Removing the reel unit>

1. Pull the wires on the right and left sides of the mower upward and pull off the snap pins to remove the unit arm (snap pin: two places on the right and left sides, unit arm: one place on the right and left sides).
2. Pull the one-touch levers (right and left) upward.
3. Pull the arm brackets (right and left) forward to remove them from the rolling arm.
4. Slowly tilt the mower backward while holding the basket stays with the both hands.
5. Pull off the reel unit forward. Disconnect the spline shaft and the sleeve connecting the mower and the reel unit, and then remove the reel unit from the mower.

<Installing the reel unit>

1. Lower the handle to lay the mower on its side.
2. Set the reel unit in front of the mower, and connect the spline shaft and the sleeve.
3. Lift the mower upward while holding the basket stays with the both hands.
4. Slide the arm brackets (right and left) under the one-touch levers, and push them.
5. Install the reel unit in the reverse order of removing.



■ Removing/installing the bedknife support



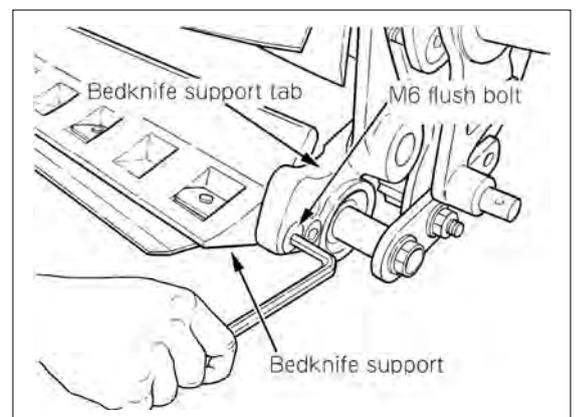
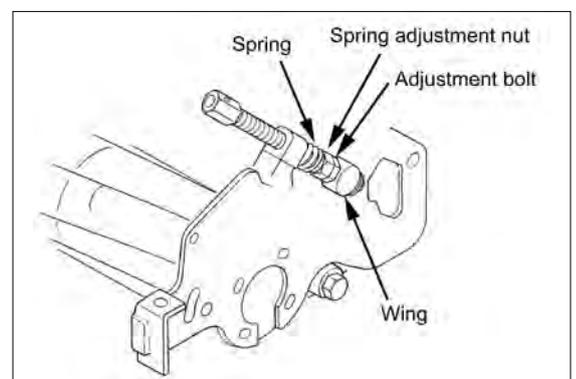
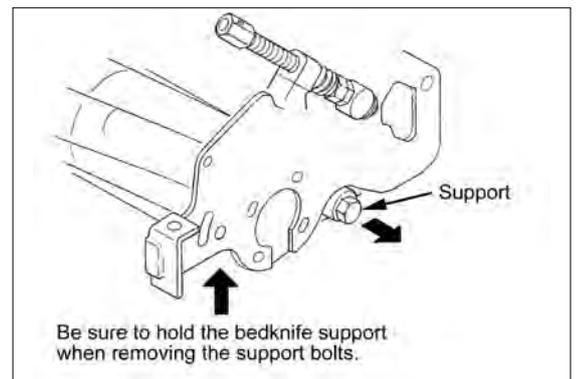
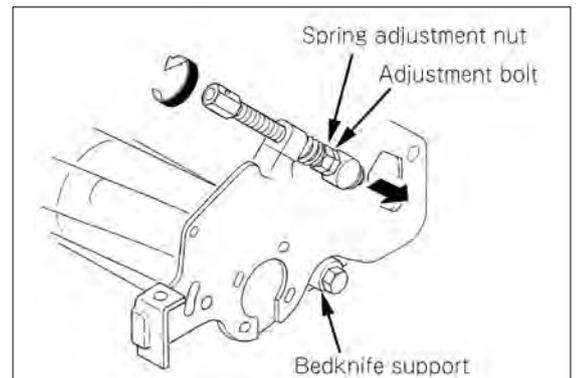
Warning

- Be sure to stop the engine before removing/installing the bedknife support.
- Wear thick work gloves or leather gloves when removing/installing the bedknife support.

- Remove the reel unit from the mower. (Refer to "Removing/installing the reel unit" on page 40.)

⟨Removing the bedknife support⟩

1. Place the reel unit on the working table.
2. Turn the bedknife adjustment handles (right and left) half in the counterclockwise direction to open the gap between the bedknife and the blades.
3. Loosen and remove the three M8 flange nuts holding the cutter cover, and then remove the cutter cover along with the baffle plate.
4. Pressing down the adjustment bolts (right and left) on the collar of the bedknife support with a spanner, loosen the spring adjustment nuts (until they touch the adjustment bolt heads)
 - Check that the bedknife support moves up and down.
5. Loosen and remove the support bolts (right and left) on the bedknife support.
 - Be sure to hold the bedknife support when removing the support bolts.
6. Loosen and remove the two M6 flush bolts holding one of the collar of the bedknife support (right or left) to separate it from the bedknife support.
7. Pull off the bedknife support from between the blade and the rear roller (underside) of the reel unit.
 - Install the bedknife support in the reverse order of removing.



■ Removing/installing the blades



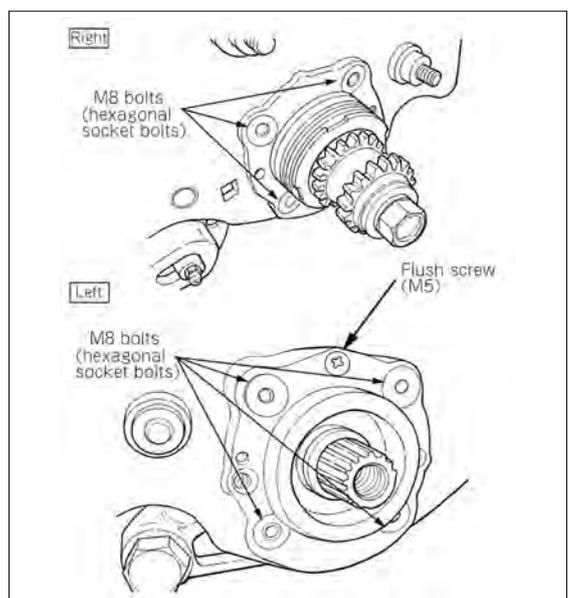
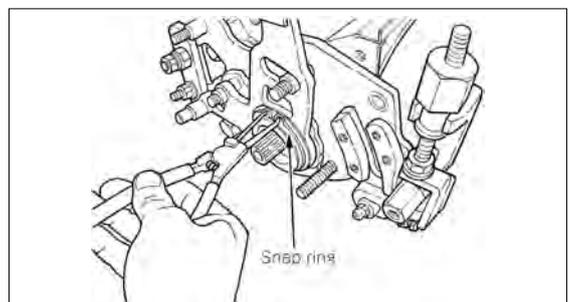
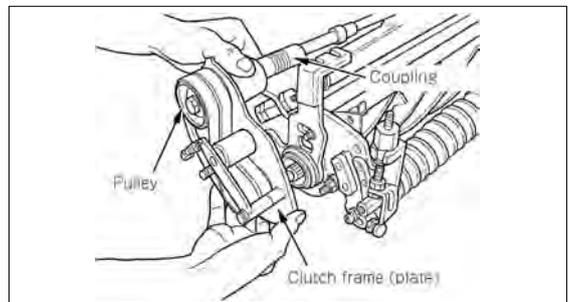
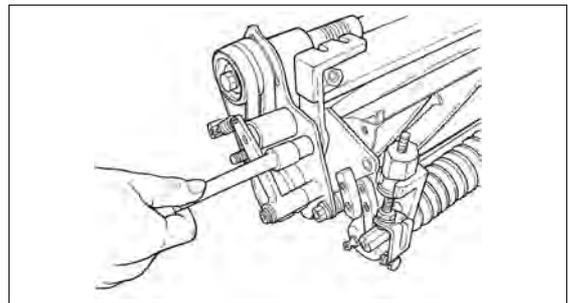
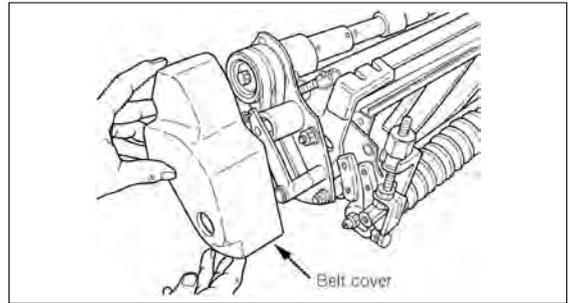
Warning

- Be sure to stop the engine before removing/installing the blades.
- Wear thick work gloves or leather gloves when removing/installing the blades.

- Remove the reel unit from the mower. (Refer to "Removing/installing the reel unit" on page 40.)

〈Removing the blades〉

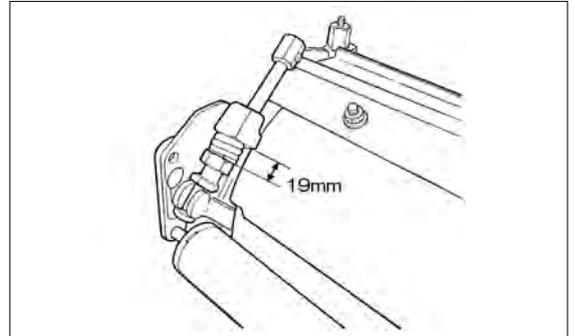
1. Place the reel unit on the working table.
2. Turn the bedknife adjustment handles (right and left) half in the counterclockwise direction to open the gap between the bedknife and the blades.
3. Loosen and remove the three M8 flange nuts holding the cutter cover, then remove the cutter cover along with the baffle plate.
4. Loosen and remove the M8 lock nut holding the belt cover, and then remove the belt cover.
5. Use an impact wrench to loosen and remove the lapping bolts holding the cutter pulley, and then remove the pulley.
 - Note that the lapping bolt has left-hand thread.
6. Loosen and remove the four M8 flange nuts holding the clutch frame. Remove the clutch frame as an assembly installed with the coupling, the pulley, etc.
7. Remove the rubber cap (gear box) of the frame on the left side.
8. Remove the snap ring retaining the arm bracket, and then remove the thrust washers on the right and left sides of the arm bracket.
9. Place a wooden block under the blades. Loosen and remove the two M8 flange bolts holding the rear roller, and then remove the rear roller.
10. Loosen and remove the four M8 bolts (hexagonal socket bolts) holding the cutter metals: OUT (right and left) and the positioning M5 screws.
11. Pull off the cutter metals: OUT (right and left) to remove the blades along with the bedknife support downward.



〈Installing the blades〉

- Install the cutter metals (right and left) and the bedknife support onto the blade axle, and align the blades.
- When aligning the blades, adjust the bedknife adjustment spring so that its length is 19 mm as compressed.
- After aligning the blades, turn the bedknife adjustment handles on the left and right sides to 1/4 or 1/3 turn to tighten them, and check that the blades and the bedknife do not move.

1. Set the blades to the center of the cutter frame, and insert the cutter metals: OUT (right and left) so that they are aligned with the blade axle center.
2. Insert the offset positioning M5 screws in position "6" or positions "4" and "8" to set the position. (The standard setting is position "8".)
3. Tighten the M8 bolts first on the tight cutter metal: OUT side (the M5 screw side), then on the left cutter metal: OUT side.
4. Install the blades in the reverse order of removing.



■ Removing/installing the engine

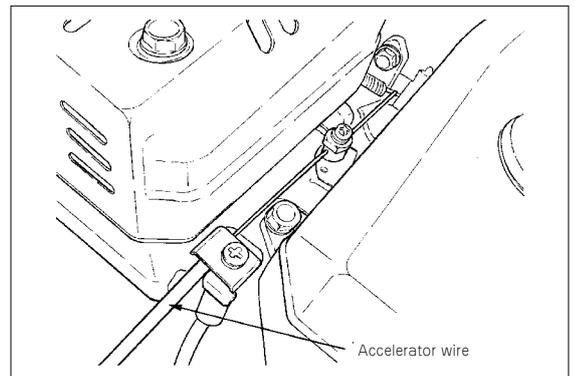


Warning

- Be sure to stop the engine before removing/installing the engine.
- Immediately after stopping the engine, wait for the engine to cool.

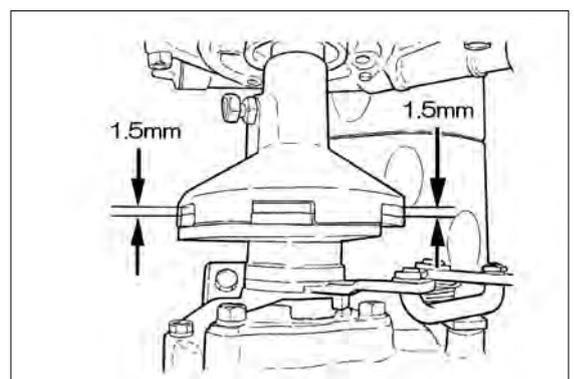
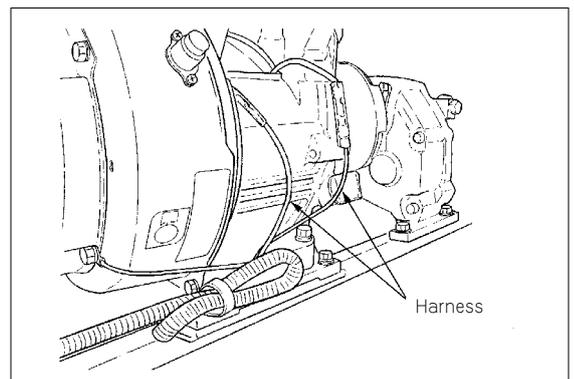
〈Removing the engine〉

1. Remove the throttle wire anchored by the engine.
2. Remove the wire harness anchored by the engine.
3. Loosen and remove the four M8 bolts that anchor the engine, and then remove the engine together with the clutch housing.



〈Installing the engine〉

1. Install the clutch housing on the engine.
2. Lift the engine, and place it on the engine stand.
3. Position the clutch facing and housing so they are aligned, and then temporarily tighten the four M8 bolts that anchor the engine.
4. Move the main clutch lever to "Run" to fix the clutch facing and clutch disk.
5. Adjust the gap between the clutch housing and facing to approximately 1mm.
6. Insert a thickness gauge in front and back to make sure the gap is parallel, and then tighten the four M8 bolts.



Important

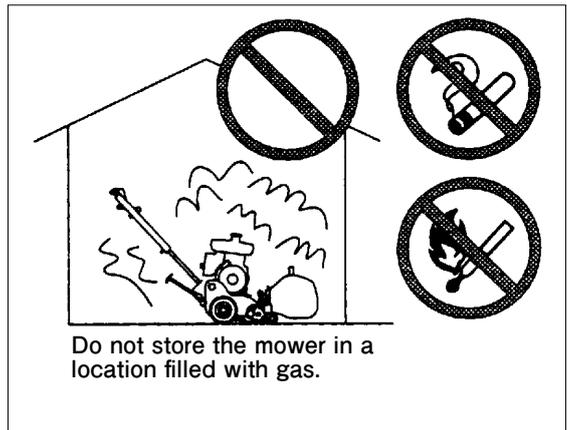
- Practice is required to install the engine. Contact the business or sales office to request adjustment.

■ Long-term storage



Warning

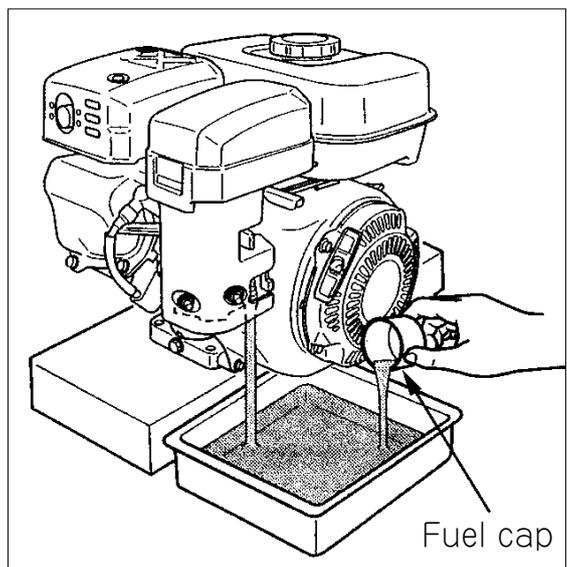
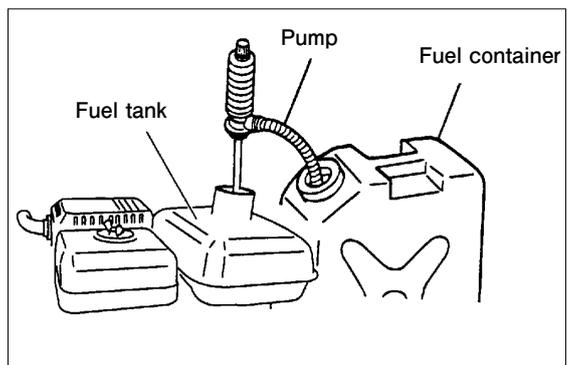
- Do not store the mower in closed locations full of fuel gas, or near open flames or sparks.



<Engine treatment>

- If the mower is not to be used for 60 days or longer, perform the following treatment procedure and then place it in storage.

1. Drain the gasoline from the fuel tank via the fill opening.
 - Do not store the drained gasoline in small fuel containers. Store it in facilities that satisfy the standards stipulated in the Fire Service Act.
2. Remove the strainer, and close the fuel cock.
 - Fuel can be drained from the fuel tank to the strainer.
3. Install the strainer in its original position.
4. Place a container underneath the carburetor float chamber, and then loosen and remove the bolt at the bottom of the carburetor float chamber.
 - The fuel inside the carburetor float chamber will begin to drain from the bolt. Have a gasoline container in place to catch the fuel as it drains.
5. After the fuel has drained, close the fuel cock.
6. Return the bolt to its original position on the carburetor float chamber, and tighten it securely.
7. Follow the “Replacing the engine oil” procedure on page 16 to replace the engine oil.
8. Pull the recoil starter handle, and hold it in the position where you first feel significant weight and resistance (compression position).
9. Use a cloth to wipe all parts clean, and then place a cover over the mower and store it in a location with little moisture or humidity.



<Mower treatment>

1. Apply grease to the blades and bedknife.
2. Use a dry cloth to wipe the mower clean, and check if any paint has been chipped or removed.
 - Apply paint if necessary, to prevent rusting.

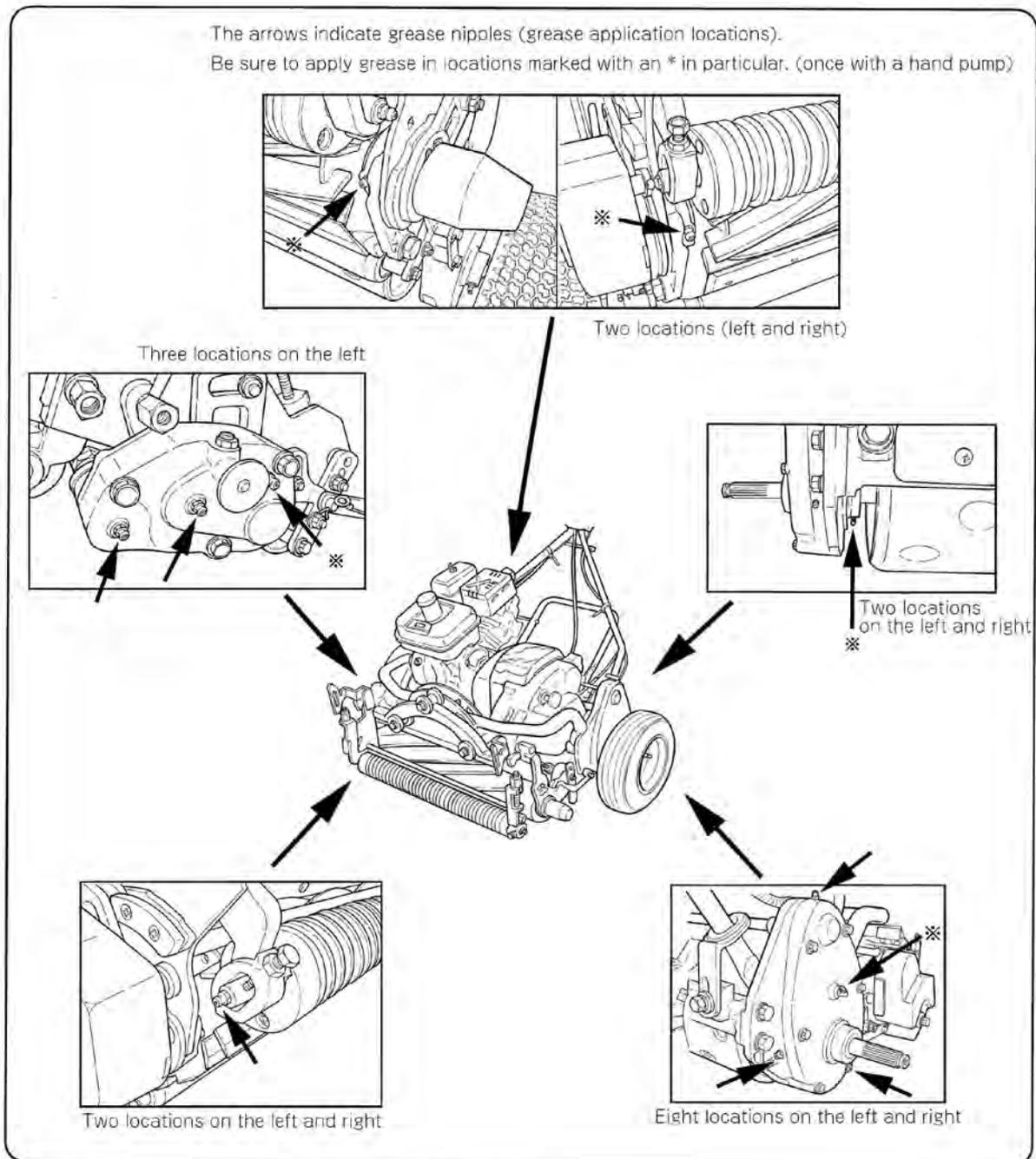
■ Adding grease



Warning

- Use grease that is not deformed or degraded.

- The figure below shows areas where grease should be applied. Be sure to apply grease after every 15 work days (30 hours).



8. Troubleshooting

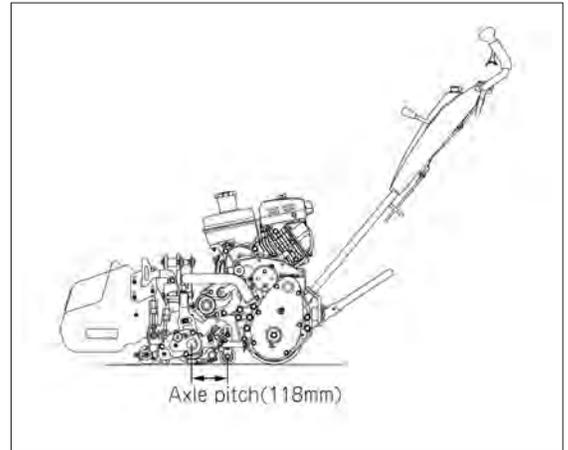
If you experience any trouble with blades, brakes, or clutches not listed in the following table, make adjustments according to the procedures in "6. Adjustments" on page 26. If the trouble persists, contact the business or sales office where you purchased the mower for assistance.

Trouble	Cause	Details	Page where solution can be found
The engine does not start.	<ul style="list-style-type: none"> Fuel is not being supplied to the engine. An appropriate amount of fuel is not supplied to the inside of the combustion chamber. There is little fuel flow. 	<ul style="list-style-type: none"> There is no fuel in the fuel tank. The fuel cock is in the "Closed" position. The filter in the fuel strainer is clogged. Other 	<ul style="list-style-type: none"> Supply fuel (P14) Set the fuel cock to the "Open" position. Supply fuel. Set the fuel cock to the "Open" position. Cleaning/replacing the filter in the fuel strainer (P39) Contact a sales office for assistance.
The engine is difficult to start.	<ul style="list-style-type: none"> The spark plug does not product strong sparks. The fuel is contaminated. 	<ul style="list-style-type: none"> The engine switch is off. The gap between electrodes on the spark plug is not correct. There is carbon on the spark plug. The spark plug has gone bad. The fuel has deteriorated. Other 	<ul style="list-style-type: none"> Turn the engine switch on. Adjust the gap between electrodes to 0.6 to 0.7mm (P37). Inspect/replace the spark plug (P37). Replace the spark plug. Replace the fuel (P14, 44). Contact a sales office for assistance.
Insufficient engine output and operation malfunction	<ul style="list-style-type: none"> Insufficient/poor compression There is no compression. There is insufficient compression Other Overheating and knocking in the engine 	<ul style="list-style-type: none"> The spark plug is loose. The cylinder head is loose. The cooling fin is dirty. The work load has exceed the performance of the mower. The spark plug does not match specifications. Other 	<ul style="list-style-type: none"> Tighten the spark plug. Tighten the cylinder head. Contact a sales office for assistance. Remove dirt and cut grass (P38). Reduce work load to an appropriate level. Replace the spark plug with the specified model (P37). Contact a sales office for assistance.
Rotation fluctuation	<ul style="list-style-type: none"> Poor fuel flow Air suction from the suction piping Poorly adjusted carburetor Other 	<ul style="list-style-type: none"> Fuel strainer The filter is clogged. 	<ul style="list-style-type: none"> Clean the fuel path (P39). Contact a sales office for assistance. Contact a sales office for assistance.
Engine speed does not increase.	<ul style="list-style-type: none"> Sufficient air is not being supplied. Pressure is applied to the exhaust. There is little fuel flow. The engine is overheating. 	<ul style="list-style-type: none"> The air cleaner is dirty. The exhaust outlet or muffler is clogged. The fuel filter is clogged. The spark plug has gone bad. The work load has exceed the performance of the mower. Other 	<ul style="list-style-type: none"> Clean or replace the air cleaner (P38). Clean Clean or replace (P14). Clean or replace (P37). Reduce work load to an appropriate level. Contact a sales office for assistance.
Fuel consumption is too great. (Black smoke is discharged from the exhaust.)	<ul style="list-style-type: none"> Combustion is incomplete because sufficient air is not being supplied. Incomplete combustion due to the quality of the fuel Other 	<ul style="list-style-type: none"> The air cleaner is dirty. Contamination with impurities or degradation of fuel 	<ul style="list-style-type: none"> Clean or replace (P38). Replace the fuel (P14, 44). Contact a sales office for assistance.
Lubricant consumption is too great. (White smoke is discharged from the exhaust.)	<ul style="list-style-type: none"> Oil is being burned. 	<ul style="list-style-type: none"> There is too much oil in the crank case. Other 	<ul style="list-style-type: none"> Supply the stipulated volume of oil. (P15, 16) Contact a sales office for assistance.

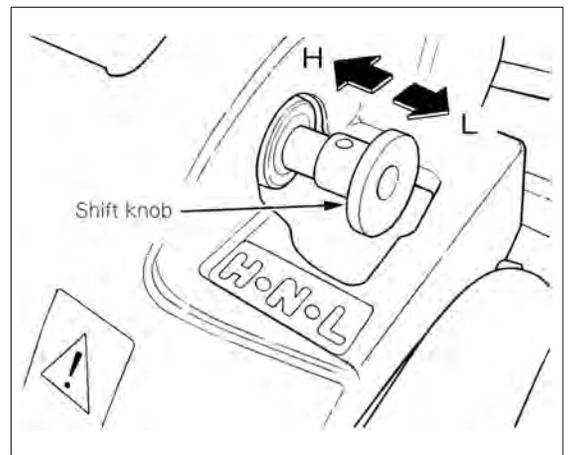
9. Features/Specifications/Models/Accessories/Options

■ Features

- This model is the industry's lightest (96kg) green mower, for mowing golf greens. (G-FLOW22-A11)
- With the industry's smallest axle pitch of 118mm, this model achieves superior contour following capability..



- Newly developed transmission gives you LOW/Hi speeds and internal brakes.

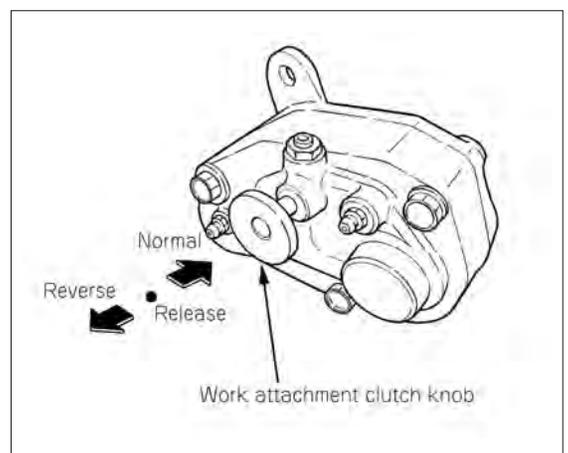


- The above features allows switching between 2 levels of cutting rates (cutting pitch). (Two roles in one mower.)

	Mower speed L	Mower speed H
Cut rate mm	3.5	4.5

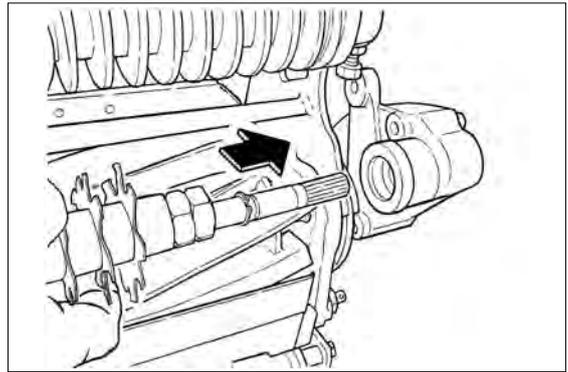
* The cut rate shown above is for when using 11 blades.

- Attachments (grooming and brushes) allow for normal operation and reverse operation.

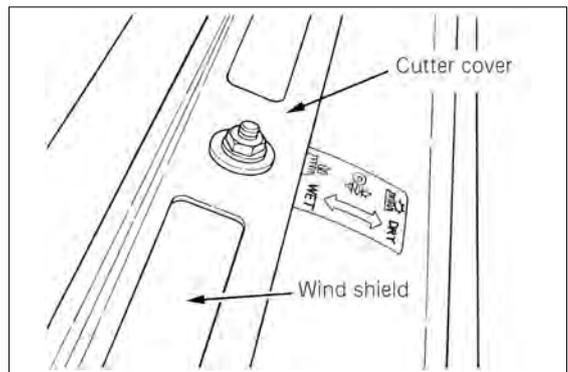


Features/Specifications/Models/Accessories/Options

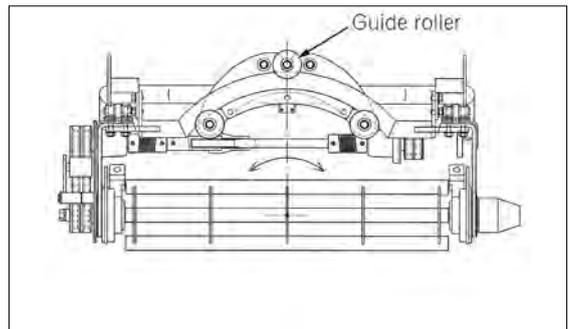
- Grooming blades are changed to Shiba cutters, more appropriate for removing grass grain. Further, it offers superior durability.
- Attachments (grooming, brushes) can be removed/ installed with a single touch.



- The flow of grass clippings into the basket can be adjusted.



- Utilizing the three guide rollers, this mower allows to position the reel unit supporting point to the center of the blade. Therefore, it demonstrates the superior performance in following undulations on the ground and preventing grass from clinging.



- You can remove the reel unit easily without any tools.

- An offset moving system is used, similar to the G-EXE series.

■ Effects of blade position on grass

- The cutting position is adjusted to “6” when the mower is shipped from the factory.

Grass cutting adjustment	Grass cutting position	Grass cutting effect
6 : standard	Small screw	
4	Small screw	To prevent grass from clinging (poor grass cutting) (clearly visible striping) (not suitable for low cutting)
8	Small screw	To pull up grass (grass cutting is too good) (almost no striping) (suitable for low cutting)

■ Specifications

Model		G-FLOW22-A11	G-FLOW22-AC11	G-FLOW22-AD11
Dimensions	Total length	mm	1150	1190
	Total width	mm	970	
	Total height	mm	1100	
Mass	kg	96	98.5	99.5
Engine	Model	Robin EX13D		
	Type	Air-cooled 4-cycle angled OHC gasoline engine		
	Total displacement	cc	126	
	Output	kW(PS)rpm	3.2(4.5)/4000	
	Weight	kg	14.9	
	Fuel tank capacity	ℓ	2.7	
	Spark plug		BPR2HS	
Speed	km/h	4.3/5.5(3000rpm)		
Cutting pitch	mm	Mower speed L: 3.5, mower speed H: 4.5		
Cutting width	mm	557		
Performance	m ² /h	2100 - 3400		
Cutting height adjustment range	mm	3 (2 when using thin blades) to 30(AC·AD27)		
Reel diameter	mm	φ123		
Number of blades		11		
Bedknife	mm	2.5 (end 1.2) Tournament blade Standard		
Attachments		Basket, tires		

* These specifications are subject to change without notification.

■ Models

Model	Specifications	Brush included	Grooming included	Rotating blades (11 blades)	Engine	With small-diameter tire	With large-diameter tire	Light KIT
G-FLOW22-A11ST				○	Domestic use only	○		Not available
G-FLOW22-AC11ST		○		○	Domestic use only	○		Not available
G-FLOW22-AD11ST			○	○	Domestic use only	○		Not available
G-FLOW22-A11DT				○	Domestic use only		○	Not available
G-FLOW22-AC11DT		○		○	Domestic use only		○	Not available
G-FLOW22-AD11DT			○	○	Domestic use only		○	Not available
G-FLOW22-A11STE				○	Export only	○		Available
G-FLOW22-AC11STE		○		○	Export only	○		Available
G-FLOW22-AD11STE			○	○	Export only	○		Available
G-FLOW22-A11DTE				○	Export only		○	Available
G-FLOW22-AC11DTE		○		○	Export only		○	Available
G-FLOW22-AD11DTE			○	○	Export only		○	Available

■ Accessories

Name	Part No.	Qty/unit	Remarks
Tool bag	A95680040	1	
Blade alignment tool	A95520010	1	
Cutting height adjustment gauge	A95510030	1	
Operator's manual	A00810710	1	
Wrench for hexagonal socket bolts	090500004	1	For 4 mm bolts
Wrench for hexagonal socket bolts	090500005	1	For 5 mm bolts
Basket	A82010380	1	
Plug tool		1	

Options

Name	Part No.	Q' ty/unit	Remarks	
Smoothing roller:22	A72010520	1	Solid type	
Regular groove grooming roller:22	A72010030	1	Convexity width: 3.6 mm, concavity width: 3.2 mm	
Grooved roller:22	A72010420	1	Convexity width: 10 mm, concavity width: 6 mm	
Damp-proofing rod	A82400210	1		
Lamp ASSY	A46100070	1	Available only for E/G with lamp coil	
Small-diameter tire	A36000330	1	φ276mm	
Large-diameter tire	A36000370	1	φ315mm	
Bedknife	3.0 steel blade	A70430301	1	End: 1.7 mm, general cutting height: 2.5 to 3.5 mm
	3.5 steel blade	A70430311	1	End: 2.0 mm, general cutting height: 4.5 mm or higher
	4.5 steel blade	A70430281	1	End: 2.5 mm, general cutting height: 4.5 mm or higher
	2.5 high-speed steel blade	A70430230	1	End: 1.2 mm, general cutting height: 2.0 to 3.0 mm
	3.0 high-speed steel blade	A70430240	1	End: 1.7 mm, general cutting height: 2.5 to 3.5 mm
	3.5 high-speed steel blade	A70430250	1	End: 2.0 mm, general cutting height: 3.0 to 4.0 mm
	4.5 high-speed steel blade	A70430260	1	End: 2.5 mm, general cutting height: 4.5 mm or higher

* The cutting height of the bedknife in Remarks are provided as reference values. They will differ slightly depending on the condition of the green or undulations.

Consumable parts

• Engine parts

Name	Part No.	Q' ty/unit	Remarks
Element set	A12890096	1	Air cleaner parts
Starter rope	A12890136	1	Recoil starter parts
Fuel filter	A12890166	1	Fuel tank parts
Spark plug	A12890031	1	BPR2HS

• Body parts

Shredded paper:LR	A22990200	2	Frame cover parts
Clutch facing	A22890173	1	Main clutch parts
Brake ASSY	A22890185	1	Mission parts
Rubber	A98120520	2	Handle support parts
Throttle wire	A98230510	1	
Main clutch wire	A98230890	1	
Reel clutch wire	A98230900	1	
Rubber	A98120780	2	Clutch lever stopper parts
V-belt	080420018	2	
Rubber	A98120920	4	One-touch parts

• Mower parts

Rotating bar	A70151500	1	
Bedknife: 2.5 steel blade	A70430291	1	
V-belt	080420018	2	

About refueling, oil, and grease

Refueling	Kind	Amount of refueling L
Fuel	Unleaded gas for car	2.7
Engine oil	More than 10W-30 SE class	0.6
Mission oil	SAE90	0.3
Grease	Versatile grease	Proper quantity