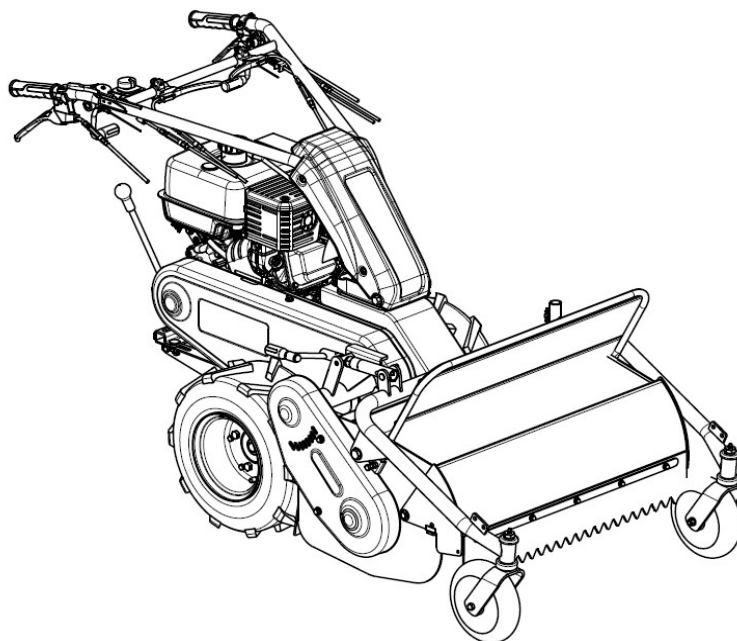


Instruction manual

Self-propelled mower **Bull Mower**

HR665 HR805



0285-84100



- Before using the product, carefully read and fully understand the important danger parts appearing in the text of the instruction manual.
- When purchasing this product, consult the retailer for safe usage.
- Keep the instruction manual in a safe place so that you can refer to it anytime.
- To maintain safety, please undergo an annual inspection. (Charged)
- When accepting various services, please be sure to specify genuine parts from the manufacturer.

OREC, CO., LTD

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■ Regarding to the instruction manual.




- Please read this instruction manual carefully before using this machine.
- When lending or transferring this unit, be sure to hand it along with this unit.
- If lost or damaged, please order directly to the dealer shop.

《Introduction》

- ✓ Thank you for purchasing this product.
- ✓ This instruction manual describes the correct handling method and easy maintenance method so that the product can always be kept in the best condition for safe operation.
- ✓ Before using the product, be sure to read this instruction manual carefully to fully understand the safe operation work and correct handling method, and use it for safe and efficient work.
- ✓ After reading the manual, keep it in a safe place for future reference so that you can use this product for a long time.

《Definition and symbol mark》

In this manual, the following definitions and symbols are used according to the degree of danger (or the magnitude of the accident). Please fully understand the meanings of the following symbols and follow their contents.

Symbol mark	Definition
 Danger	Indicates what could result in death or serious injury if this Danger sign is not followed.
 Warning	Indicates a hazard that could result in death or serious injury if the warning is not followed.
 Caution	Indicates a risk of injury if the Caution is not followed. It also indicates what can cause damage to the product itself if not followed or corrected.
Reference	This section describes the performance of the product that you should know about operation and maintenance, and items that are easy to make mistakes.

《Regulation of this product》

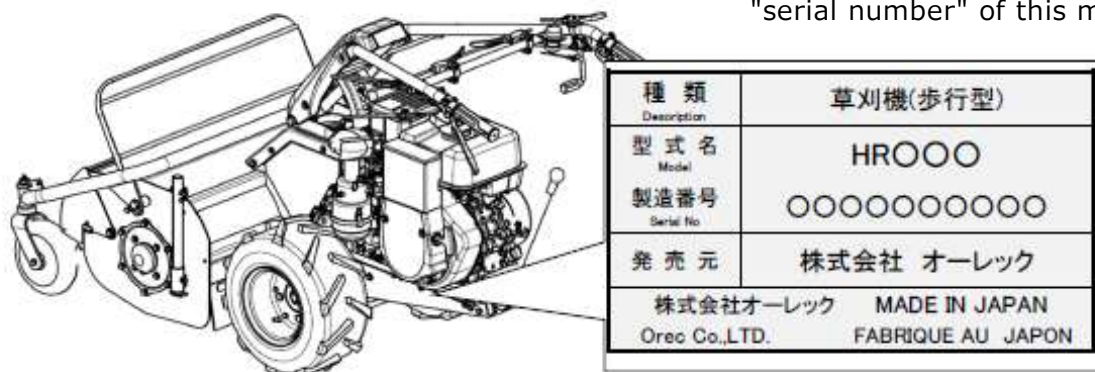
- 1) This product has been developed as an agricultural machine, so please do not use it for any other purpose (use such as rental that the operator cannot identify).
- 2) Grasses such as ivy and vines that crawl along the ground may not be able to be cut.

《Important Notices》

- 1) Please note that the specifications of your product and the contents of this document may not match in some cases due to changes in parts etc. due to performance / durability improvement and other specification changes.
- 2) Please note that copying all or part of the contents of this document without permission is a violation of copyright, unless otherwise required by law.
- 3) In this manual, photographs and illustrations are used so that the explanation part can be understood concretely, but there are cases where the parts other than the explanation part are omitted.

《Warranty / Contract / Disclaimer》

- 1) The warranty period of this product is one year from the time of purchase of a new product, or 50 usage hours (6 months of contract work, or 50 usage hours), whichever comes first.
- 2) It is impossible to predict all precautions. When using the product, it is necessary for the operator to pay attention to safety.
- 3) If you do not understand even after reading this manual, do not operate any arbitrary operations, and be sure to consult with the store where you purchased the product.
- 4) Regular inspection and maintenance are indispensable in order to continue to use the product safely and efficiently. Please make a regular inspection and maintenance. The warranty does not cover failures or accidents resulting from failure to perform these inspections / maintenances, non-compliance with this manual, such as use or modification beyond specifications.
- 5) The supply period (term) of repair parts for this product will be 9 years after the production is discontinued. However, we may contact you regarding the delivery date of special parts even within the supply period.
- 6) If you have any questions or services, please contact your dealer. In that case, please refer to the following section and check "Product model number, serial number, and model name of installed engine" and contact us as well.



1. Before using ‹Please read carefully for safe use›

1.1 working conditions



Warning

- 1) Do not use this product if you cannot understand its contents.
This product is for single rider use only. Do not allow anyone other than the operator, including animals, to ride on it.
- 2) As a rule, only the owner should use this product. If you must lend the machine to another person, instruct them to thoroughly read the “Operator's Manual” for both this machine and the engine (if applicable), fully understand the operating procedures and safety points, and only then perform work.
- 3) Operating while fatigued, ill, under the influence of drugs, or otherwise unable to perform normal operation is prohibited.
- 4) Do not allow operation by individuals under the influence of alcohol, pregnant women, children (junior high school age and below), or untrained people.
- 5) Wear appropriate work clothing to prevent entanglement in rotating parts: long-sleeved tops and long pants with tucked-in hems. Smoking while working and wearing towels around the waist are strictly prohibited.
- 6) Depending on the product, use appropriate equipment such as safety boots (or boots) with slip-resistant soles (spikes), helmets (or hats), safety glasses, gloves, and shin guards.
- 7) This product has not received type approval under the Road Transport Vehicle Act.
Absolutely do not operate it on public roads. We cannot be held responsible for accidents or violations resulting from road use. [p2.1]
- 8) Do not use on steep slopes, uneven terrain, muddy areas, or any location where there is a risk of falling, slipping, or the machine becoming buried.
- 9) All moving parts may deteriorate over time. Applying excessive force can cause damage or unexpected movement, posing a serious risk of injury. Perform maintenance with safety as your top priority.

1.2 Before Working

1.2.1 Precautions before work



Danger

- 1) Carbon monoxide poisoning may be caused by exhaust gas. Do not operate or work in places such as indoors where ventilation is inadequate.

 Warning

- 1) Never modify this machine to become an impediment to safety work.

〈We are not responsible for any accidents caused by these remodeling or defects.〉

- 2) Please make sure there are no tangible assets such as people, animals, vehicles and equipment, buildings, etc. in the surrounding area. Also, please check the safety of surroundings and start work.
- 3) Please remove stones and other foreign matters beforehand and check the position of obstacles beforehand and start work. Also, in such a field please work with higher cutting position than usual for safety. Knives are lacking, foreign objects such as stones scatter and it is dangerous.
- 4) Remove any objects such as rocks or metal that could cause sparks upon blade contact beforehand. If removal is impossible, mark them conspicuously to prevent workers from approaching.
- 5) When cutting dry grass, check areas around the engine and exhaust pipe—which become hot—once per hour for accumulated grass clippings and clean them.
- 6) Dry grass may spontaneously combust or ignite from external sources, potentially causing fires. When mowing dry grass, designate a supervisor in addition to the operator and ensure constant monitoring.
- 7) Exercise particular caution when mowing during periods of dry weather warnings. In some cases, refrain from mowing altogether.
- 8) To prevent falls, when operating near rivers, cliffs, or uneven terrain (road shoulders), consider the risk of shoulder collapse or falling. Operate only on sufficiently safe, level ground.
- 9) Using darkness or poor visibility is dangerous. Do not operate when you cannot fully assess the surrounding conditions.

 Caution

- 1) Avoid using this machine in conditions where it may be exposed to large amounts of water, such as during heavy rain or near puddles.
- 2) Pay close attention to other weather conditions and carefully consider your decision to proceed with work and your choice of equipment.

1.2.2 Inspection / confirmation before work



Warning

- 1) Before starting work, always verify that any areas requiring repair identified after the previous operation have been properly repaired. Never begin work until repairs are complete.
- 2) Operating the machine with safety covers, standard safety devices, or related parts removed is extremely dangerous. To prevent accidents, always use the machine with these components securely installed. If any abnormalities are found, repair them and confirm normal operation before proceeding.
- 3) When the work clutch (e.g., knife clutch) is in the “disengaged” position, check that the V-belt is completely stationary. If it is moving even slightly, stop the engine and adjust the belt tensioner and wire.
- 4) Knife detachment is dangerous. Tighten the knife set bolts and nuts securely. Also, replace old knives with new ones.
- 5) If your machine has an opening cover for blade replacement, operating with it open is dangerous. Always use it with the cover closed.
- 6) Before operation, always remove any grass clogging the engine's cooling air intake, the cylinder area, and especially the hot exhaust pipe area and any grass debris accumulated on the machine. This can cause engine seizure or fire.
Also, clean not only the outside but also the inside, such as the air cleaner interior and HST fan cover (applicable models), removing any accumulated grass debris.

1.2.3 No fires • Fuel supply



Danger

- 1) No open flames are permitted near the machine at any time, including during operation and refueling. There is a risk of ignition and burns. Absolutely do not use cigarettes, bonfires, or any open flames near the machine.
- 2) Refuel only after the engine has been stopped and the muffler has cooled sufficiently.
- 3) For fuel tanks marked with a maximum fuel level, fill only up to the mark (use even less when operating on slopes). If you overfill, drain fuel until it is below the mark. Also, wipe up any spilled fuel immediately.
- 4) Do not perform these tasks while your body is charged with static electricity. Vaporized gasoline may ignite, potentially causing burns or fire.

1.3 During work

1.3.1 Precautions while working

**Warning**

- 1) For safety, drive with caution and avoid sudden acceleration, braking, or sharp turns.
- 2) Avoid working in awkward positions. Take breaks every 1 to 2 hours based on your physical condition.
- 3) Ensure no people (especially children) or pets enter the work area (within a 15-meter radius). Use signs indicating mowing operations or guard ropes to keep them away. Do not allow anyone within 15 meters. If people or pets approach, immediately stop work and shut off the engine.
- 4) Do not place flammable or hazardous materials near the machine while operating. The exhaust muffler becomes extremely hot. Touching it during operation or immediately after use may cause burns.
- 5) When working on slopes, use the machine only on gradients of 10° or less. Work sideways (along contour lines) rather than up and down. Working up and down the slope risks the machine sliding downhill or the operator slipping and being caught in the machine.
- 6) Take sufficient precautions such as using anti-slip measures. Do not work in areas that remain slippery despite these precautions.

1.3.2 Operational precautions

**Warning**

- 1) When starting, ensure the drive (main) clutch and work (knife/rotary) clutch are in the "off" position. For models with a neutral position, place the shift lever in "neutral." For models with a brake, apply the brake before starting.
- 2) Exercise extreme caution when maneuvering on slopes, such as turning. Loss of balance could cause the machine to tip over, resulting in injury.
- 3) On slopes, for safety, avoid unnecessary operation of the shift lever, clutch lever, and similar controls. There is a risk of slipping, falling, or sliding.
- 4) When backing up, confirm that there are no people (especially children), animals, or obstacles. Also, be mindful of your footing to prevent being caught between the machine and obstacles, or falling from cliffs or steps. (Applicable Products)
- 5) When working near trees or walls, be extremely careful to avoid pinching your body or hands between the machine and greenhouse supports, tree branches, wires, etc., and avoid being struck or pinched by branches.
- 6) When turning, pay particular attention to your feet. Avoid getting caught in the working parts (knives, claws, etc.) or the moving parts (tires, crawlers, etc.).
- 7) When switching the cutting direction, first confirm safety in the forward and rearward directions before proceeding.
- 8) Operate the work (knife/rotary) clutch only after confirming no people (including children) or animals are present and exercising sufficient caution for safety.

1.3.3 Inspection while working · stop · cleaning

Warning

- 1) If the machine collides with foreign objects (e.g., gets something caught) during operation (mowing, tilling, etc.), immediately stop the operation and shut off the engine. Then, always check the blades, blade stays, tins (if applicable), and covers for looseness, chips, or bends. Tighten, secure, repair, or replace them as necessary.
- 2) Check the cooling air intake, grass buildup near the cylinder, and especially the high-temperature exhaust pipe area once per hour. Carefully remove any accumulated grass clippings. These can cause engine seizure or fire.
Also, clean both the exterior and interior frequently. Simultaneously clean the inside of the air cleaner and remove any accumulated grass debris from the HST fan cover (applicable products).

Caution

- 1) When inspecting during operation, always stop the engine and wait for all parts to cool down. Wear sturdy gloves, such as leather gloves, to protect your hands.
- 2) Always stop the engine when leaving the machine. Also, ensure it is securely parked on stable ground.
- 3) When stopping the engine, perform the following steps for the applicable product:
 - ① Apply the brake. ② Remove the key. ③ Close the fuel valve.
- 4) Abnormal noises, odors, or overheating during operation may cause fire. Immediately stop the engine and inspect/repair.
- 5) If you notice any other abnormalities during operation, always stop the engine before inspecting.

1.4 Notes on loading and unloading

Danger

- 1) Be sure to stop the engine and bring the fuel cock to the "closed" state when transporting this machine. Due to fuel leakage, spilled fuel may catch fire.
- 2) Do not tilt the machine beyond necessity. Fuel leakage may occur.

Warning

- 1) Please use a suitable car according with the Machine for transportation.
(Loading weight, size of loading platform, presence or absence of interference)
- 2) Select a flat and safe place for transportation vehicles, stop the engine so that it does not move when mounted, pull the side brake, and stop the wheel.
- 3) Adjust the height until the knife / claw does not contact the bridge. Also, please do the following

for the applicable model. ① Work clutch is in "OFF" position. ② Position the diff- lock to the "ON" position.

- 4) Please make sure to apply a sturdy bridge that meets the standard with a loose slope (15 degrees or less), lower the engine rotation, loading "forward", slowly at low speed in "backward" when unloading.

<At that time, the operation to change speed and direction is dangerous, please do not do. >

- 5) Beware , When the machine crosses the boundary between the bridge and the truck bed, the position of the center of gravity suddenly changed.
- 6) When transporting, please be sure to secure with a tough rope etc. Please also keep safe driving.

1.5 Inspection / maintenance

◎ **Periodic inspection is essential for maintaining quality and performance.**

<Please note , we cannot assume about the responsibility for accidents and breakdown due to neglect of periodic inspection.>



Warning

Failure to observe the contents stated below may cause burns, injury or machine damage.

- 1) Perform daily inspections before and after used, and maintenance, periodically inspect and maintain to ensure that the products are kept safe and comfortable at all times.
- 2) For Inspection, adjustment and maintenance, stop the engine, wear heavy duty gloves after the overheated part of the muffler part and other mission case has completely cooled down, then use the correct tool correctly.
- 3) Inspection, adjustment, maintenance should be carried out in a place where the ground is flat and hard, wide and bright, always keeping in mind the balance of the machine, please be careful not to fall over.
- 4) When checking by lifting the machine, be sure to prevent falling.
- 5) When replacing or installing / removing a knife / blade or tire / crawler, please make sure that it is securely tightened in the specified location or firmly tightened.
- 6) When replacing the knife / blade or tire / crawler with a new one, please replace the mounting bolts together with a new one of the manufacturer genuine products for safety.
- 7) It is dangerous to damage the safety cover of the belt and knife part and the cover for preventing scattering. Please do not leave the part where you feel abnormality during work, always interrupt the work, inspect again, please check again after work, please make necessary repair
- 8) Be sure to install the removed covers correctly in their original positions.
- 9) Please do not set the attachments or modification which are not specified.
- 10) When the fuel pipe becomes old, it becomes a cause of fuel leakage and it is dangerous. Replace it with a new one along with the tightening band every year or when it gets injured.



Caution

Failure to observe the following precautions may damage the machine.

- 1) When washing the machine, please do not spray water on the engine part (electrical parts, near the air cleaner, fuel cap etc.) and warning labels pasting place.

- 2) Check and adjust the clutches, throttle, gear change etc thoroughly.
- 3) For in case of covering please wait for "about 5 minutes or more" after stopping the engine to prevent burns and fire, after checking the cooling condition of muffler and engine body fully.

1.6 Storage



Warning

- 1) For safety, please be sure to close the fuel cock.
- 2) When storing this machine for a long time, please keep it indoors.
- 3) Please remove dust and foreign matter attached to the main body and working part.

1.7 Warning display mark



Warning

- 1) Warning indication marks are carefully selected as important items among important hazards within this item, and are affixed to the main unit. Please be sure to read before use, please fully understand and be sure to observe it.

Location of warning mark



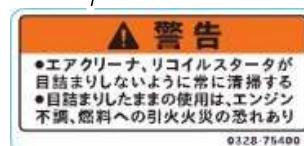
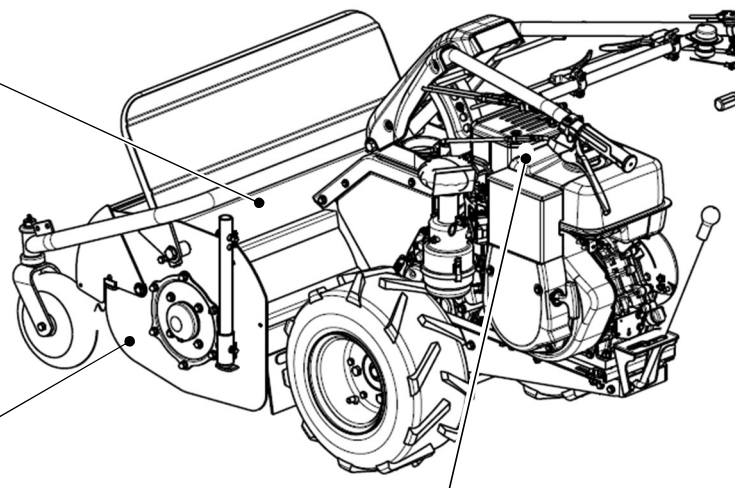
0282-70630

HR 警告ラベル



0334-71800

Keep your hands and feet away. Cause a serious injury with a knife.



Warning

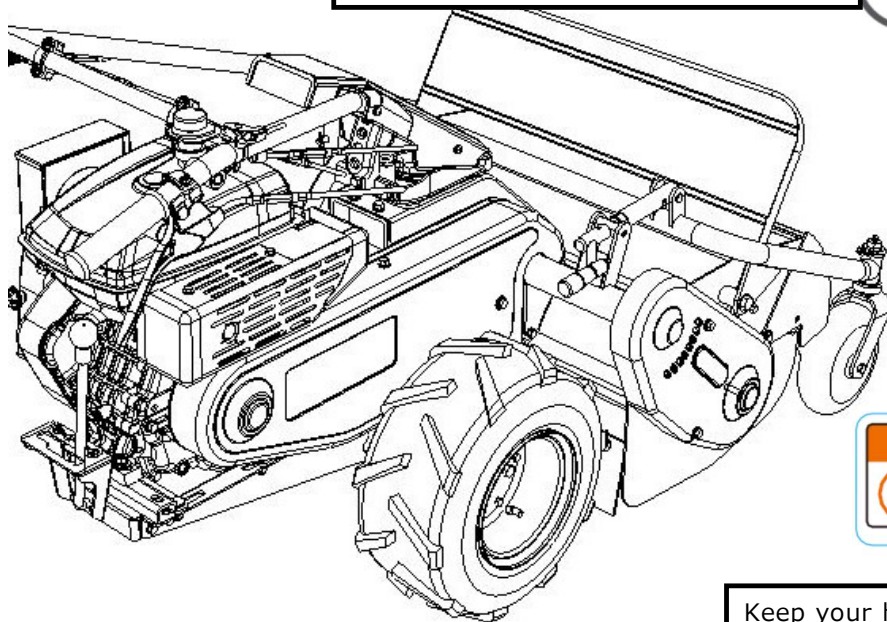
Always Clean the Air cleaner and Recoil starter.

Adjust the cutting height after the rotor has completely stopped.

刈高調整はローターが完全に止まってから

0334-73500

刈高調整注意ラベル



警告

●手や足を近づけたり踏んだりしない●ナイフで手や足に大ケガをします

0279-70800

0334-71800

Keep your hands and feet away. Cause a serious injury with a knife.



Caution

- Working without this cover is dangerous. For safety, be sure to attach this cover when working.
- For your safety, read the instruction manual carefully and fully understand the contents before use.
- Depending on the working environment, foreign matter may scatter on the operator side, resulting in injury. For safety, we recommend that you also wear protective equipment such as a commercially available Snare pad along with the goggles attached to the product.

Warning

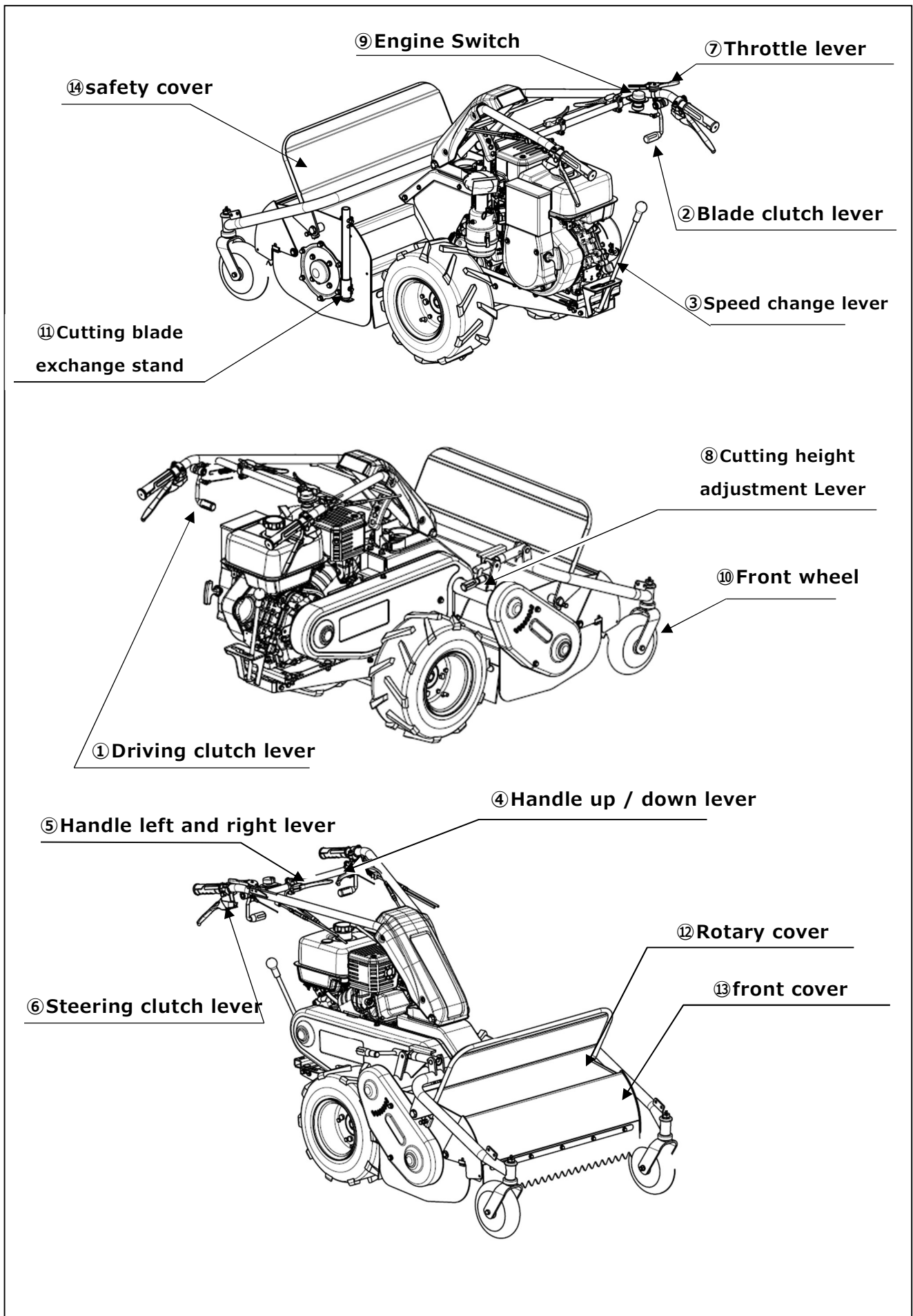
- When exchanging consumables, be sure to specify "genuine Parts".
- Loading and unloading in a car is dangerous. Please be careful not to fall.
- Be careful of driving on cliffs on slopes.
Mark the boundaries before work and work in a safe place.
- Be careful, Not to get caught in the machine when moving backward.

Danger

- Foreign matter is scattered around the cutting part, which is dangerous. Remove foreign matter first and work safely.
- Dust may get into your eyes while working. Be sure to wear safety glasses.
- Foreign matter is scattered from the cutting part, which is dangerous.
Please work away from people, cars, buildings, etc.
- It is dangerous to drop the cutting blade.
Check the cutting blade and set bolt before use. Replace the old one.

2. Names and Functions of each part

2.1 Name of each part



2.2 Function of each part

① Driving clutch lever

Driving clutch control **"ON"**, **"OFF"**. **"ON"** when pulling up and **"OFF"** when pushed down.

Driving clutch lever is linked with the parking brake, so parking brakes are applied immediately when move the lever to the "OFF" position.

② Blade Clutch lever

Blade clutch control **"ON"**, **"OFF"**. Same as Driving clutch lever, it will be **"ON"** when pulling up, **"OFF"** when pushed down. The Blade brake is linked to the Blade clutch lever. At the same time that the lever is set to the "OFF" position, the Blade brake is applied, and the Blade rotation stops within about 5 seconds.



Caution

Regardless of the position of the Driving clutch, the Blade rotates at high speed when the Blade clutch lever is in the "ON" position while the engine is running. Please pay attention to lever operation.

③ Speed change Lever

Select the driving speed. Forward 3 steps, backward 1 step, Neutral "N" is 3 places.

The position and speed of each lever are shown in the table below.

	Backward 1	Forward 1	Forward 2	Forward 3
Drive speed	0.95 Km/h	0.95 Km/h	1.99 Km/h	3.50 Km/h



Caution

Make sure to set the Driving clutch lever to the "OFF" position and stop the machine before executing the gear change operation.

④ Handle up and down lever

Workers physique. Or adjust the handle's height according to the work situation.

Please adjust the handle position around the operator's hipbone.

⑤ Handle left and right lever

Depending on the work situation, you can fix the position of the handle bar in 2 places on each side, 1 point in the center, 5 places in total.

⑥ Steering clutch lever

It is used to change the direction of driving.

The machine turns in the direction in which the lever was grasped.

(If you hold the right lever, go to the right side, if you hold the left lever, go to the left side)

⑦ Throttle lever

Adjust the engine speed.

⑧ Cutting height adjustment Lever

Adjust the cutting height.

Turning to the right reduces the cutting height, turning it to the left increases the cutting height. If there is a swell on the field, adjust the cutting height to the convex side and adjust so that there is no mud or stone biting into the blade.



If the mowing height is too low, the following harmful effects may occur.

If the following symptoms are observed, please increase the mowing height because it is too low.

- (1) The scattering of foreign matter such as stone increases.
- (2) The mud is scraped off, the scattered mud adheres to the interior of the knife cover, the discharge of the mowed grass becomes bad, and unnecessary horsepower loss occurs.
- (3) The wear of the Blade becomes extremely fast. The Blade can break easily.

⑨ Engine Switch

"ON" and "OFF" the Running of the Engine.

⑩ Front Wheel

Since the front wheels are free, smooth turning is possible on the flat ground.

⑪ Cutting blade replacement stand

Use this when fixing and fixing the rotary cover in inspection and replacement of the Blade.

⑫ Rotary Cover

The Blade rotates at high speed inside the cover. Suppresses the scattering of grass and foreign matter.

⑬ Front Cover

Automatically open and close according to the amount of grass.

Reduce the forward scattering of grass and foreign matter.

It can be fixed during Blade replacement or cleaning inside the cover.

⑭ Safety Cover

Prevent the scattering of grass and foreign matter for the operator side.



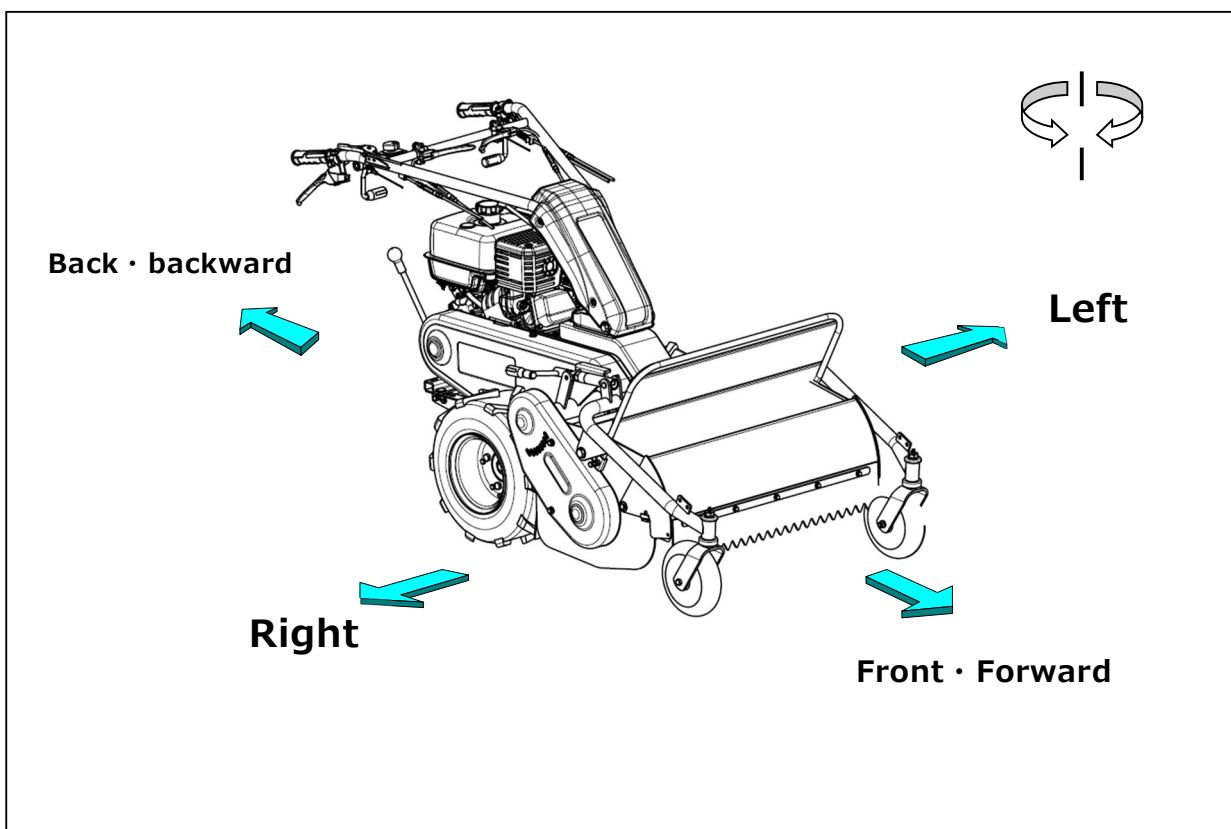
Warning

Covers are necessary for Reducing the scattering of foreign matter and ensuring safety. If it is used in an abnormal state it is very dangerous due to foreign matter scattering. Please be sure to observe the following contents.

- 1) When the rotary cover, the front cover, and the safety cover are damaged or deformed, be sure to correct / replace them.
- 2) Do not work with the front cover and safety cover removed.
- 3) Always use the front cover in a free state. Fix the front cover only when replacing the Blade or cleaning the inside of cover.

2.3 Direction of Machine

The front and rear, left and right of this machine are shown in the direction as seen from the operator as shown below. For "forward" and "backward" in the text, it is also indicated by the direction seen from the worker.



3 . Inspection before work

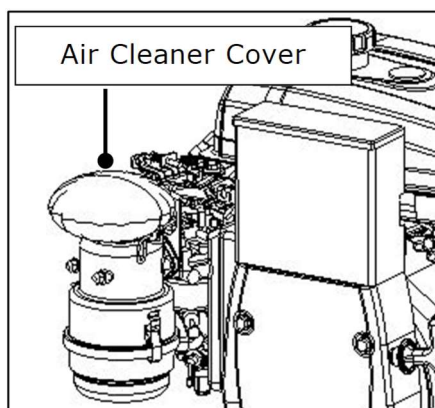
- Before starting work, check "1.2 Before Starting Work" and check the following "Before starting work checklist" and Be sure to perform the pre-operation inspection according to "7.1 Periodic inspection table"

Pre-operation checklist (summary from regular checklist)		
	Item	Inspection contents
Engine	①Engine oil	Check "oil amount and dirt" <Refer to 3.1>
	②Air cleaner	Check for "dirt" and clean <5.2.1>
	③Engine body	Check for "looseness" and "cracks"
	④Around muffler	Check and cleaning of "clogging of dust, etc."
	⑤Fuel tube, Fuel filter	Check and cleaning of "fuel leak", "deterioration", "deformation" and "clogging"
Machine Body	①Blade(Knives)	<Refer to 5. Inspection and maintenance>
	②Brake (Applicable product)	"1" bolts and nuts are loosened or dropped
	③Tire (crawler)	"2" Deformation, wear, interference
	④Levers	"3" Smooth movement or Sticking
	⑤Covers	"4" Remove foreign matter such as garbage, grass and straw
	⑥HST oil (Applicable products)	Check "oil amount and dirt"



Danger

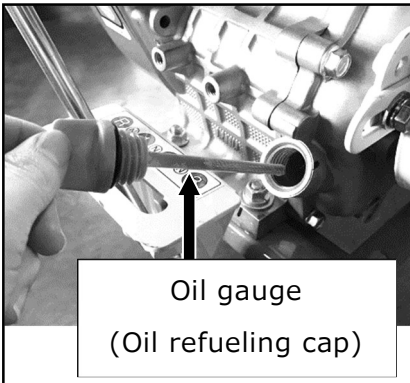
- 1) Be sure to stop the engine before Checking, Refueling, Adjusting or Servicing.
- 2) When starting the Engine and Checking the operation of the Driving clutch lever etc., Check the safety of each Lever position and the surrounding of machine.
- 3) Make sure you understand the warning markings on the Machine.



Caution

Before starting work, be sure to check that the air cleaner cover is not torn.
Please note that if you use the engine with a tear, etc., it will adversely affect each part of the engine and shorten the life of the engine.

3.1 Check engine oil



Level the engine and check the engine oil.

◎ Will be, Mitsubishi engine

The oil plug also serves as an oil gauge.

If there is no oil between the upper and lower scale lines of the oil gauge, add engine oil so that the oil reaches the upper scale line. (Do not screw in the oil filler plug, but check it by inserting it.)

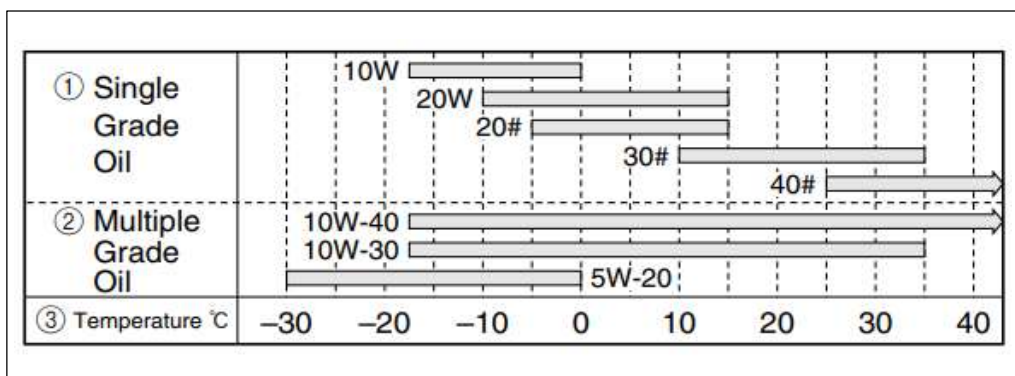
◎ HONDA Engine

Remove the oil filler cap and check if there is oil up to the inlet.

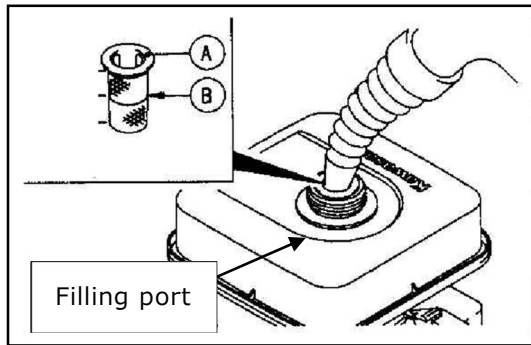
 **Caution**

- 1) If you want to check the engine oil after the engine is running, wait for "about 5 minutes or more" after stopping the engine, and check the cooling condition of the muffler and the engine itself.
- 2) A small amount of engine oil remains on the machine when shipped.
*Make sure to check the Engine oil level before starting
- 3) Use new engine oil of good quality, SE grade or better, and use it depending on the temperature.
- 4) After replenishing, securely tighten the oil gauge. If tightened loosely, engine oil may leak out.

「Recommended oil」



3.2 Fuel inspection and refueling



- ① Set the horizontal, remove the filler cap and check the amount of fuel from the filler.
- ② If the amount is small, refer to the Fig on the left and set ② as the Fuel limit, and replenish the fuel so that it will not spill from the filler port.
 〈Fuel used: Unleaded regular gasoline〉
- ③ After refueling, securely tighten the fuel filler cap.

※When using on sloping ground, use less than ② (amount that does not spill)

**Danger**

- 1) **Fire is strictly prohibited during work and refueling.** Risk of ignition and burns.
 Never use a cigarette, bonfire, or open flame near the machine.
- 2) Refueling, after the engine has stopped and the muffler temperature has dropped sufficiently.
- 3) If there is an oil level upper limit mark, refuel below the mark. If you put too much, remove it until it is below the mark. Also, be sure to wipe off any spilled fuel.
- 4) Do not refuel this when your body is charged with static electricity. Vaporized gasoline may cause a fire, which may result in burns or a fire.

**Warning**

Refuel in a flat, stable and well-ventilated place.

**Caution**

- 1) When refueling, make sure that no foreign matter such as dust, grass, rain or snow gets into the fuel tank. May cause engine malfunction.
- 2) Only use unleaded regular gasoline. It may damage the engine.
- 3) Gasoline will deteriorate naturally. If you do not use it for more than a month, replace it with new gasoline. Also, do not use gasoline stored for a long time in a plastic tank. May cause trouble.

4. Operation and work



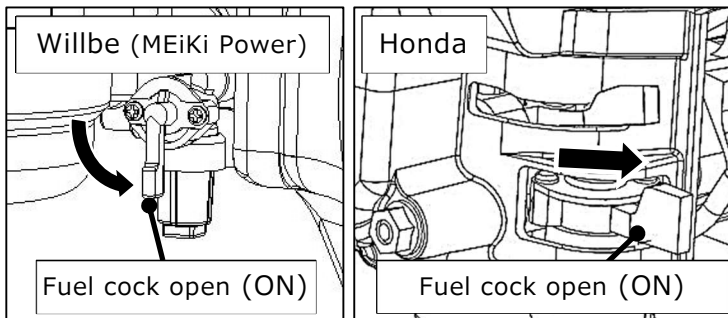
Warning

※Be sure to read 「1. Precautions」 before driving.

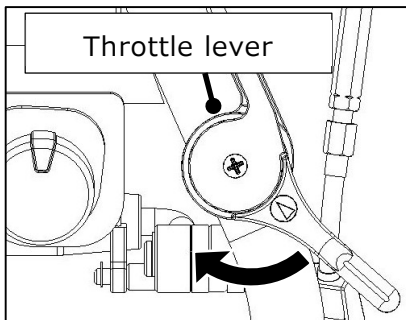
Especially read and understand “1.1 Working Conditions”, “1.2 Before Working” and “1.3 Working”. Start to operation and work.

4.1 Starting and stopping the engine

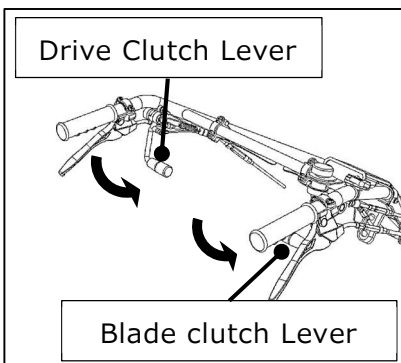
4.1.1 How to start the engine



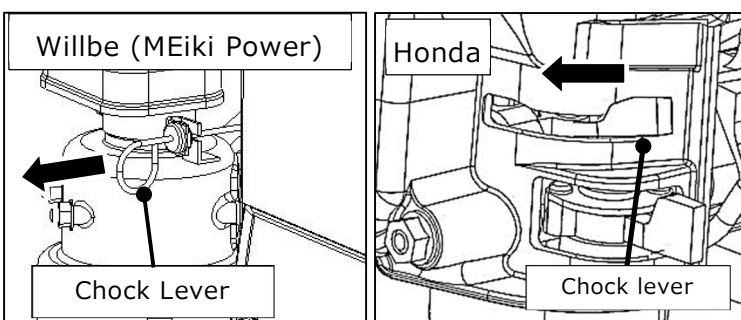
- ① Set the Fuel cock to the Open (ON) position.



- ② Set the Throttle lever between 「」 and 「」



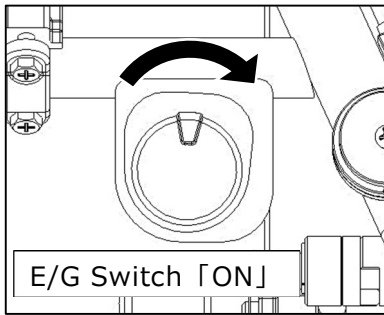
- ③ Set the Drive clutch ,Blade clutch 「OFF」 position.



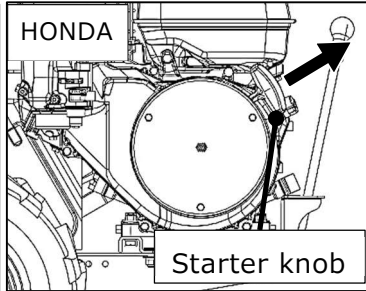
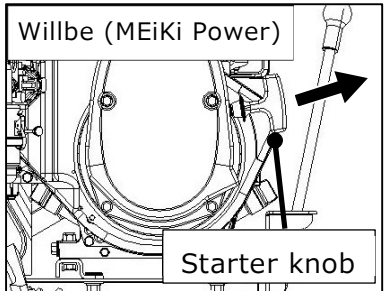
- ④ Move the Chock Lever 「Close」 Postion.

Note ;

When the engine is warm, there is no need to operate the choke lever.



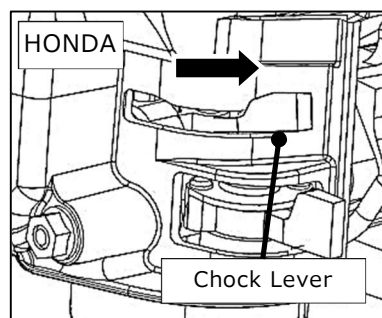
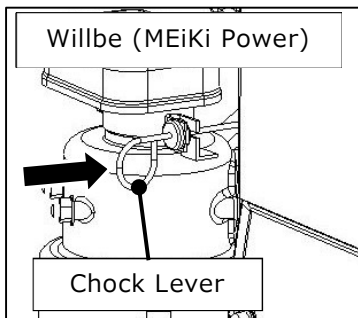
- ⑤ Turn right while pressing the engine switch to the 「(ON)」 position.




- ⑥ Grasp the Starter Knob and pull slowly to return from the position where compression felt, then pull vigorously. After the engine has started, slowly return the starter knob to its original position.




Before starting the engine, ensure no one is in the direction of the recoil starter pull and that there are no protrusions or obstacles. Failure to do so may result in injury.



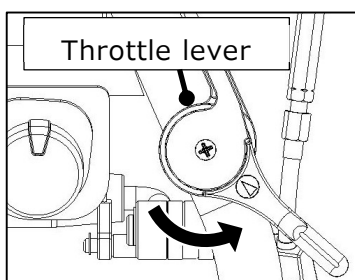
After starting the engine, return the choke lever, 「Closed」  Position. Then warm-up operation about 5 minutes.


Warm-up operation is spreads oil to various parts of of the engine inside, extending the life of the engine.

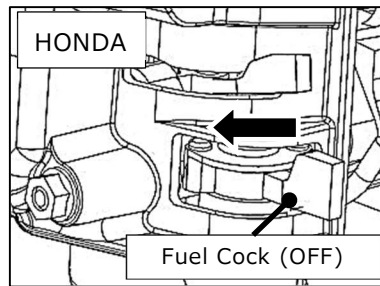
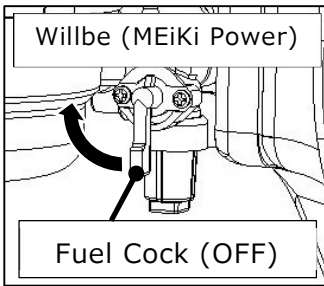


- 1) During the first week (3 to 4 hours) after purchasing a new product, use a modest running period as a break-in period to avoid overloading.
- 2) Using the Choke lever in the “fully closed”  position will adversely affect the engine and shorten the engine life.

4.1.2 How to stop the engine



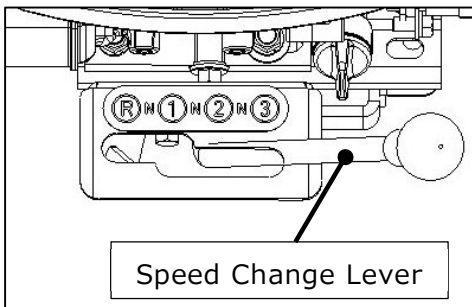
- ① Throttle lever set to Low position 「  」
Push the EG switch 「Stop (OFF)」 position to stop the Engine running.



② Finally, Set the Fuel Cock to 「Closed(OFF)」 Position.

4.2 Driving, Speed change, Turning and Stopping

4.2.1 How to drive



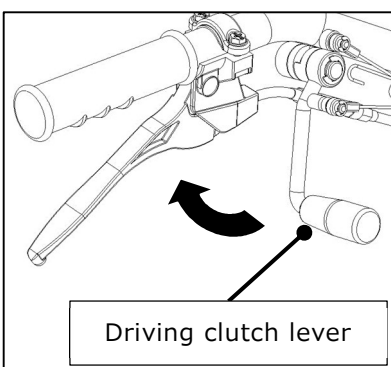
- ① Start the Engine.
〈4.1.1 See how to start the engine.〉
- ② Make sure that The Gearshift is in the required position.
〈4.2.2 See how to change gears shift〉



⚠ Caution

Insufficient gear shifting may cause gear loss and is extremely dangerous.

If it is difficult to engage the gears, do not forcibly engage the gear and slightly move the Drive clutch lever in the “engagement” direction and perform the gear shifting operation again.

The Third forward speed is for movement. Do not use for work because of high speed.

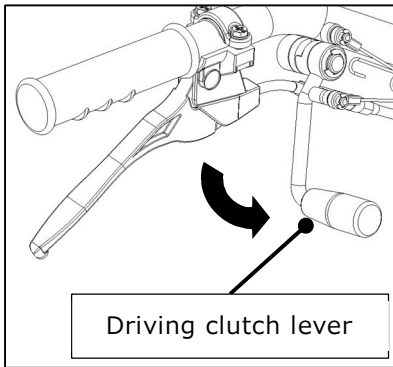


- ③ Set the Throttle lever between in the middle potions 「」 and 「」 Then Driving clutch lever Pull-up to 「ON」 position for Driving.

⚠ Warning

- 1) For safety, make sure that the cutting height is at the highest position when driving and that the Blade does not touch stones or other obstacles.
- 2) Do not set the knife clutch lever to the “ON” position when Driving or turning. It is dangerous to get caught in Blades that rotates at high speed.

4.2.2 How to change gears

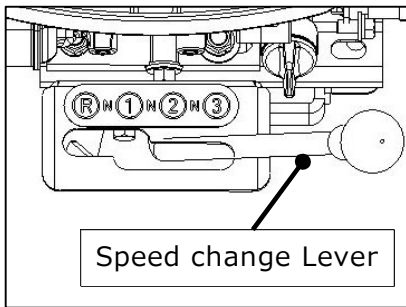


- ① Push Down the Drive clutch lever to the "off" position.

⚠ Caution

Do not change gears while the Driving clutch lever is in the "ON" position.

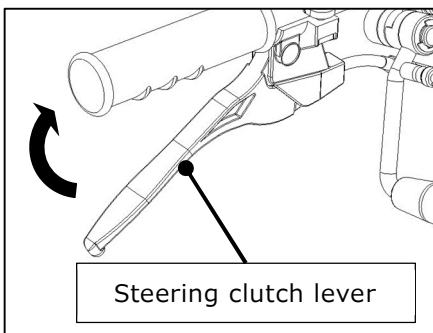
It is not only dangerous but also damage the machine.



- ② Move the shift lever and shift to the required shift position securely.

- ③ Pull Up the Drive clutch lever to the "ON" position and restart.

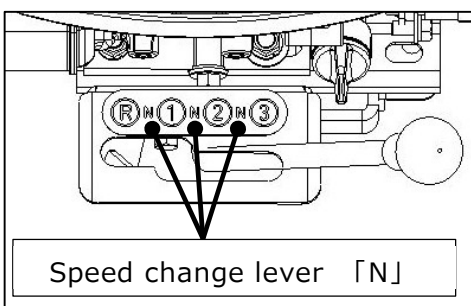
4.2.3 How to turn



- ① Grip to the Steering clutch lever on the side you want to turn.

(Gripping the right lever turns to right)

4.2.4 How to stop



- ① Move the Drive clutch lever "OFF" position and stop the machine. At the same time the parking brake is engaged.

- ② Stop the Engine.

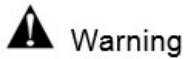
⟨Refer to the 4.1.2 How to stop the Engine⟩

- ③ Keep the shift lever in the Neutral "N" position when parking.

⚠ Warning

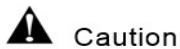
- 1) Park the machine flat and in a large place where there are no obstacles in the vicinity.
- 2) Always stop the engine when leaving the machine.
- 3) When the traveling clutch lever is in the "off" position, the parking brake works regardless of the position of the shift lever..

4.3 How to do the good work



Warning

- 1) For safety, always perform work with the standard safety covers and flaps securely in place. Working with them removed is extremely dangerous. Operating with a deformed or damaged safety cover risks projectiles such as metal fragments flying toward the operator.
- 2) Do not operate with the front cover secured in place. Flying debris such as stones from the cutting unit poses a risk of injury, particularly in the direction of travel.
- 3) Always stop the engine before removing grass, metal fragments, or other debris entangled in the blades.
- 4) The covers fitted to this machine are designed to minimize the scattering of foreign objects from the cutting unit, but they do not completely prevent it.
The operator is responsible for thoroughly removing any foreign objects (stumps, stones, needles, empty cans, broken sticks, etc.) from the field before operation.
- 5) If blades are scraping mud or stones are frequently flying, adjust the cutting height until these symptoms cease. Failure to do so may cause premature blade wear, loss, damage, loosening of mounting bolts/nuts, or blade detachment.



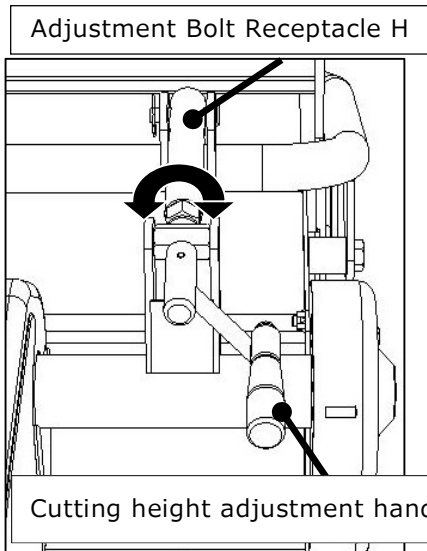
Caution

- 1) For working clothes, wear to long-sleeved jacket, long trousers with narrowed hem, and always wear spiked shoes, hats or helmets, shin pads, protective glasses (provided with the product), etc.
- 2) When working in a field with many foreign substances such as stones, be sure to take sufficient precautions for safety, such as using Hi-cutting position to prevent damage caused by these scattering.
- 3) The engine muffler becomes hot during operation of this machine, and there is a risk of burns if touched accidentally. Do not touch the muffler until the cooling status is confirmed after stopping for about 5 minutes or more after operation.

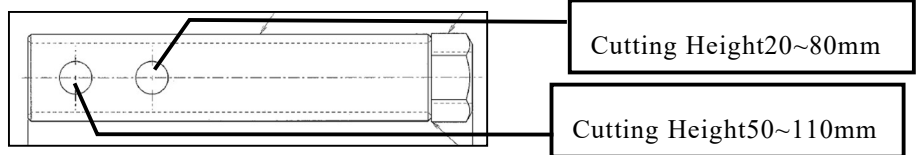
Reference ;

When using this machine for the first time, select a flat surface free of foreign matter such as stones, and slowly mow straight so that the cut marks overlap slightly.

4.3.1 How to do mowing work

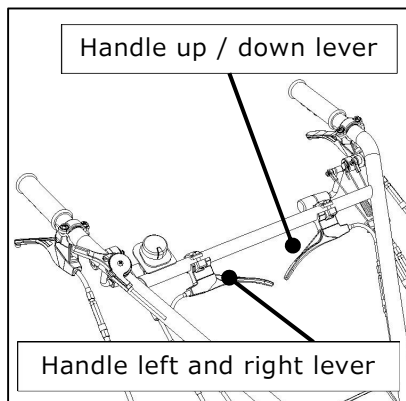


- ① Adjust the cutting height with the cutting height adjustment handle according to the working condition.
 ※The cutting height range changes depending on the setting position of the adjustment bolt holder H.



Reference ;

First, adjust the cutting height to a higher position, and adjust the cutting height according to the situation while working.

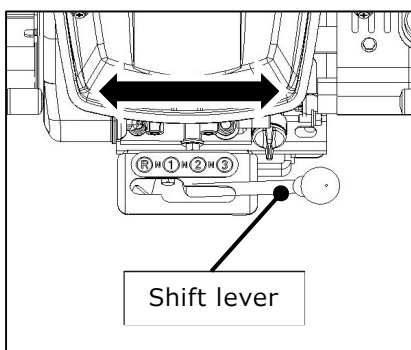


- ② Start the Engine (4.1.1 Refer to How to start the Engine)
 ③ Adjust the handle position with then handle Up/Down / Left/Right lever according to the work content and the physique of the operator.



Warning

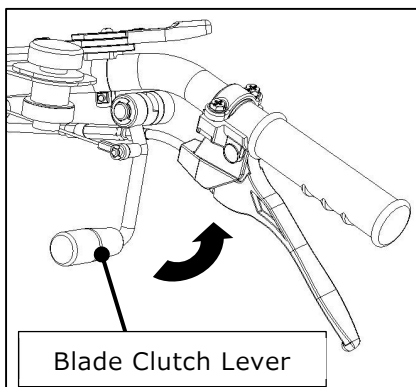
Be sure to stop the work before adjusting the handle up / down / left / right.



- ④ Set the gear shift lever in the required position surely.

Reference ;

If it is difficult to engage the shift lever, do not force it in, move the drive clutch lever to the "ON" position for a moment, and then re-engage it.



- ⑤ Move the Throttle lever Hi -Speed 『 🐎 』 position and Slow pull the Blade clutch lever to 「ON」 position.



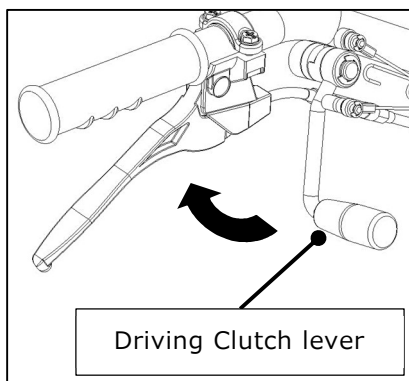
Warning

The Blade will start spinning at high speed. Be careful.

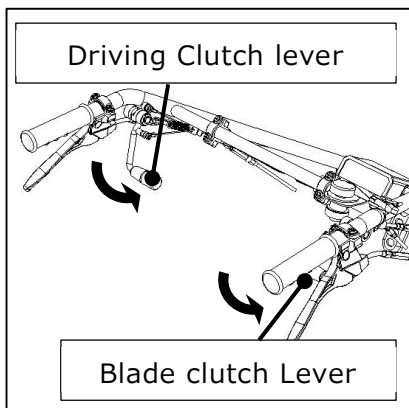
Reference ;

If you pull the Blade clutch lever up to the "ON" position at once, it may stall.

4. How to Operate and Work



⑥ Slowly pull up the Driving clutch lever **「ON」** position.



⑦ To Stop the work, First set the Driving clutch **「OFF」** position and stop the Machine. At the same time, the parking brake is engaged.

⑧ Then set the Blade clutch lever to the **「OFF」** position. At same time, Blade brake is engaged and Blade rotation stop for a short time (About 5 seconds)

⑨ Please stop the Engine and Drive.

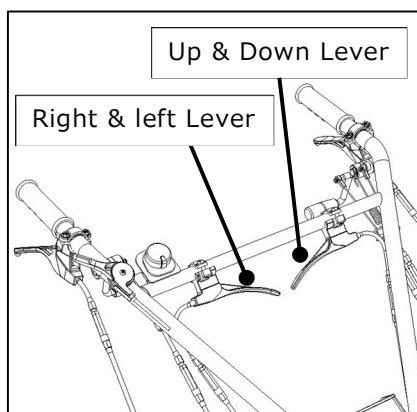
Warning

- 1) For safety, first start from position "①", check the surrounding safety, and then set the work speed that suits your working conditions.
- 2) Always work forward, never in the reverse "R" position. Not only will the mowing performance drop, but there will be more scattering of foreign matter from the mowing part, and there is a risk of falling, squeezing accidents with rear obstacles, etc.
- 3) The inside of the knife cover while the Blade is rotating is dangerous because it rotates at a high speed. Never kick grass into the knife cover or stand in the working direction.
- 4) If the mowing part comes into contact with an obstacle during work, stop the work, stop the engine, check for damage, and repair any abnormalities immediately. Resuming work without repair may lead to an unexpected accident.
- 5) Do not piled up grass debris or leaves on the engine, especially around the recoil cover, air cleaner and muffler. It may cause overheating and fire.
- 6) For safety, always stop the engine when you leave the machine.

Reference ;

- 1) Cut grass is shattered in the knife cover and discharged to the rear. If you work with the grass still wet, the grass will accumulate inside the knife cover and the discharge capacity will decrease. As a result, even short grasses will soon be stalled, so be sure to frequently remove the grass debris that has accumulated in the knife cover, or wait until the grass has dried before starting work.
- 2) If the engine is overloaded, reduce the speed to one level or increase the cutting height and cut twice.

4.4 Adjusting the handle position to suit your work and physique.



● The position of the handle can be adjusted up, down, left or right according to the physique of the worker and the work situation.

① Handle Up and down

The handle position can be adjusted up or down by grasping the handle up / down lever. (Up/down 4 steps)
When you release the lever, it will be locked in that position.

② Handel Right & Left

The handle position can be adjusted Right or left by grasping the handle R/ L lever. (Left and right 2 steps)
When you release the lever, it will be locked in that position.

Warning

Make sure to stop the work before adjusting the handle up / down / left / right.

4.5 Loading and unloading

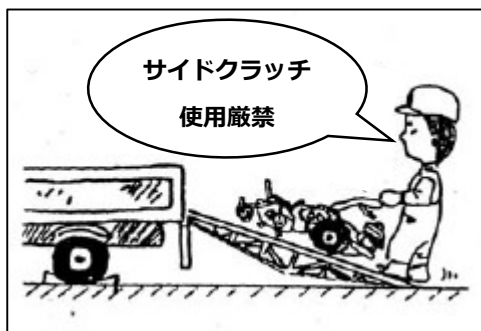
Danger

- 1) When transporting this machine, be sure to stop the engine and close the fuel cock.
Fuel leaks can cause spilled fuel to catch fire.
- 2) Do not tilt the machine more than necessary. Fuel may leak out.

Warning

- 1) Use a vehicle according to the product for the transportation.
- 2) Choose a flat and safe place for loading vehicle, stop the engine that it will not start moving when loading, pull the parking brake, and stop the wheels.
- 3) Adjust the cutting height so that the Blade does not come into contact with the Bridge. ① Blade clutch to "disengaged" position.
- 4) Surely apply a sturdy bridge that meets the standard with a gentle gradient (15 degrees or less), then lower the engine speed, "forward" for loading, and "reverse" when unloading slowly at low speed.
- 5) When the machine crosses the boundary between the bridge and the truck bed, the position of the center of gravity suddenly changes, so please be careful.
- 6) When transporting, securely fasten with a sturdy rope. Also, try to drive safely.

4.5.1 How to load and unload



Do not use the Steering clutches when loading and unloading.

- ① Choose a flat area with no dangerous objects around.
- ② Make sure that the bridge that meets the standard is applied with a gentle slope (15 degrees or less) and with a width that matches the product.
- ③ Make sure that the wheels of this machine are in the center of the bridge.
- ④ Lower the engine speed and turn off the work clutch.
- ⑤ Please load "forward" and "reverse" slowly at low speed when unloading.

Reference : Bridge standard

Use a bridge that meets the standard and has sufficient strength.

- Length: At least 3.5 times the height of the truck bed.
- Width: The width of the wheel on this machine.
- Strength: Sufficient to withstand for the weight of this machine and the weight of workers.
- Use the Bridge that has been surface treated to prevent slipping.

5. Inspection / maintenance / adjustment

5.1 Oil inspection / replacement / lubrication



Caution

- 1) Oil is not inside to this machine at the time of shipment. Before using this machine for the first time, make sure to lubricate the designated oil with the designated amount (about 1.6 L).
- 2) Regular oil changes are absolutely necessary in order to keep the machine in its best condition.
- 3) Lubricate little by little. If you try to lubricate at once, the air will not escape and the oil will overflow immediately from the inlet port. Check that the oil level is reaching the oil inlet.
- 4) When inspecting, replacing, or lubricating the oil in each part, be sure to place the machine on a flat and wide space to warm up the engine, stop it, and wait for each part of the machine to cool before doing work.

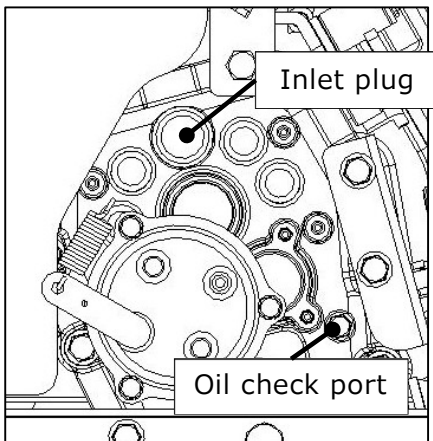
… **If you work immediately after stopping the engine.** …

***The engine itself is very hot and there is a risk of burns.**

***Immediately after the engine is stopped, there is still oil in each part, and the exact amount of oil is not shown.**

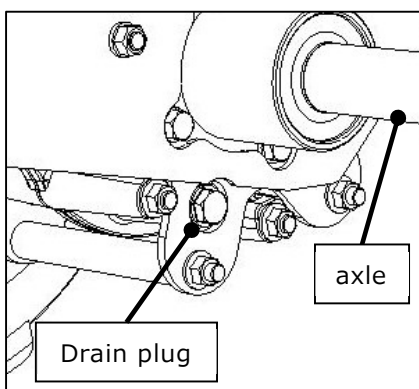
5.1.1 Inspection and replacement of mission oil

◎ Inspection / Replenishment ... Strictly observe the amount of oil.



- ① Remove the oil check port on the upper left side of the mission case, and when the oil oozes out from the oil check port, almost the specified amount of mission oil is contained.
- ② Visually check the amount and dirt of the oil. If the oil is insufficient or dirty, replenish or replace it.

◎ Exchange...



- ① Prepare a suitable container to receive the oil.
- ② Remove the drain plug at the bottom of the mission case (bottom of the axle) and drain the oil.

Reference;

At the same time, removing the Inlet plug will make it easier to drain the oil.

5. Inspection, maintenance and adjustment

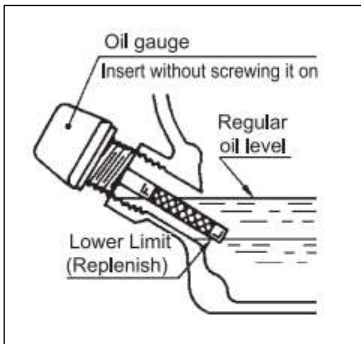
- ③ After securely installing the drain plug, pour 1.6 liters of mission oil (# 90). After lubrication, attach the tire and securely tighten the mounting bolts.

Guidelines for replacement oil

First time: 20 hours, second time and thereafter: every 100 hours.

5.1.2 Check and change engine oil

◎ Inspection / supply...

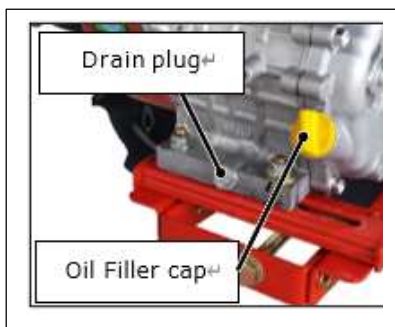


- ① Before each operation, visually inspect the amount and dirt of engine oil referring to <3.1 Checking engine oil> .If the amount is not the specified amount or if it is extremely dirty, replenish or replace it (see below).

⟨Refer to 3.1 Checking engine oil for quality and quantity of using oil.⟩

A small amount of engine oil remains at the time of shipment.

◎ Exchange...



- ① Set the machine on a level surface and adjust the cutting height so that the engine becomes horizontal.
- ② Prepare a suitable container to receive the oil, remove the oil Inlet plug, and then use the tool to remove the drain plug at the rear of the engine.

Reference ;

At the same time, if you also remove the oil Inlet plug, it will be easier to drain the oil.

- ③ After draining the oil, attach the drain plug securely.
- ④ Pour the specified engine oil referring to <3.1 Checking the engine oil>.
- ⑤ After refilling the engine oil, make sure that the oil plug is firmly tightened so that the oil does not seep out.

Guidelines for replacement

First time: 5-hour, 2nd time and thereafter: every 25 hours

Reference ;

- 1) After replacing the oil, make sure to attach the drain plug, oil inlet plug, etc.
- 2) When using the machine under high load or high temperature continuously for a long time, encourage replacement (approximately half the time) earlier than the above guideline.

5.1.3 Lubrication of moving parts

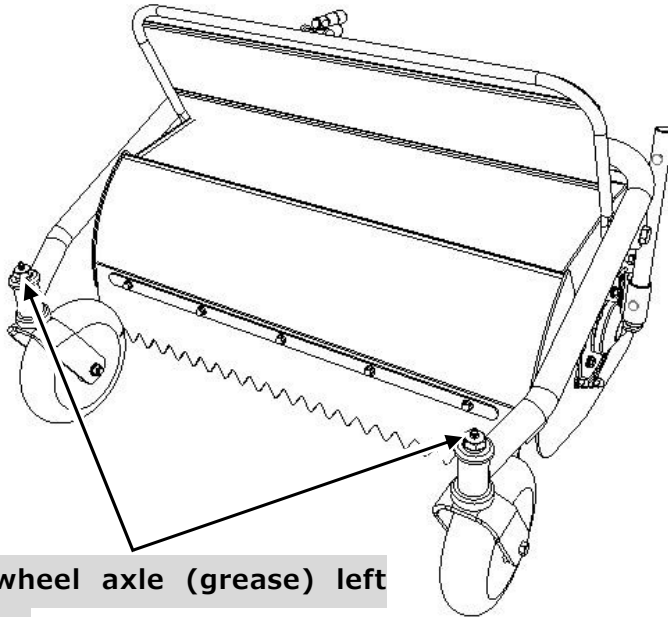


Caution

Grease about every 30 hours, lubricate engine oil (# 30) to other parts as needed. Especially, if you do not lubricate the grease, it may cause damage due to poor lubrication.

Grease

Lubricate the front axle and crawler sections.



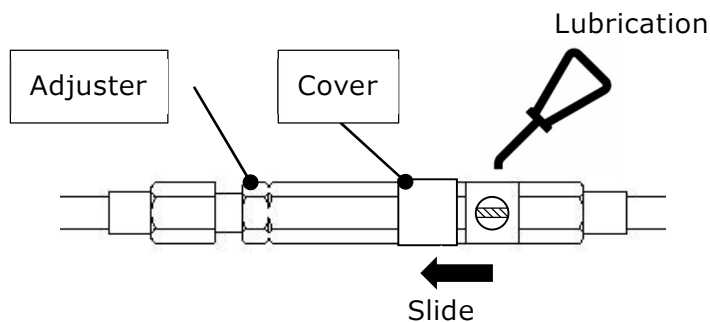
Front wheel axle (grease) left and right

Oil

Lubricate each wire section.

(Wire locations are shown in <5.3 Inspection and Adjustment of Product Components: Wire Names>)

Slide the cover on the wire adjuster section and lubricate through the lubrication port beneath the cover.

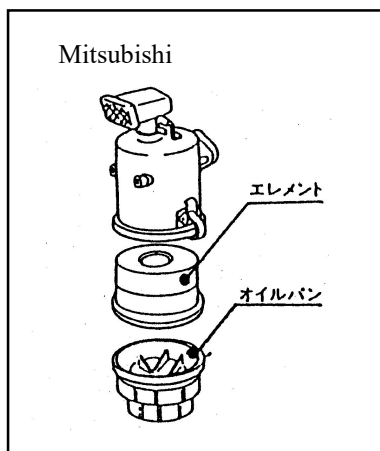


5.2 Cleaning • Inspection • Adjustment

5.2.1 Cleaning the Air cleaner

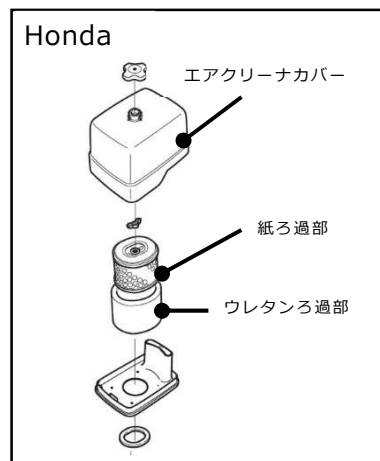
Warning

- If the air cleaner / recoil starter continues to work while being clogged with grass dust, etc, not only will the output be insufficient and fuel will be consumed more, but the exhaust gas temperature will rise, causing a fire , which is extremely dangerous. Be sure to inspect and clean regularly.
- …Do not start the engine with the air cleaner removed.…
- Dirt and Dust may be sucked into the engine, causing engine malfunction and abnormal wear.



◎ Willbe (MEiKi Power) Engine

- 1) Remove the clamp and the oil pan.
- 2) Clean the mud and grass debris in the oil pan with kerosene and add new engine oil (SAE10W-30 equivalent) to the level line.
- 3) Clean the element with kerosene (or detergent), wring it well, and dry it. Then, soak it in new engine oil (SAE10W-30), squeeze it firmly, and shake off the excess oil.
- 4) Wipe off any dirt inside the case with a waste cloth and reassemble as before.



◎ Honda Engine

- 1) Remove the air cleaner cover and check that the filtration section (urethane and paper) is clean.
- 2) Blow compressed air from inside the paper filtration section or tap it to remove dirt.
- 3) Wash the urethane filter with washing oil, squeeze it well, and dry it. After drying, soak the filter section (urethane) in engine oil, squeeze it firmly, and then install it.

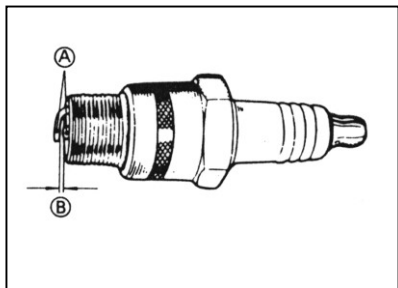
Regarding the time to clean and replace the air cleaner

inspection	cleaning	Oil change	Element replacement
Before every start	Every 25 hours	Every 50 hours	Every 300 hours

Reference ;

- 1) During cleaning, do not pull or tumble on the Foam element. The element is torn and cannot be used.
- 2) When used in a dusty place, clean the air cleaner every 10 hours or once a day.

5.2.2 Spark plug Checking · Adjusting



- 1) Remove the spark plug with a plug wrench, and if carbon is attached to the electrode part ① remove it with a wire brush and wipe it if it is wet.
- 2) If the central pottery part is cracked or if the electrodes are worn out, replace the spark plug with a new one.
- 3) Adjust the electrode gap ② 0.6~0.7mm.

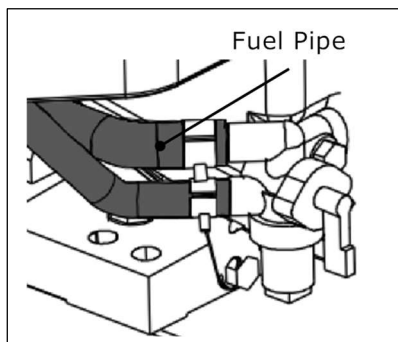
Reference ; When tightening, first lightly screwing in by hand (until the gasket hits the seating surface) then after use a plug wrench .

※if you tighten it with a plug wrench from the beginning, the threads may be crushed.

5.2.3 Fuel pipe inspection



Working with cigarettes or open flames is prohibited.



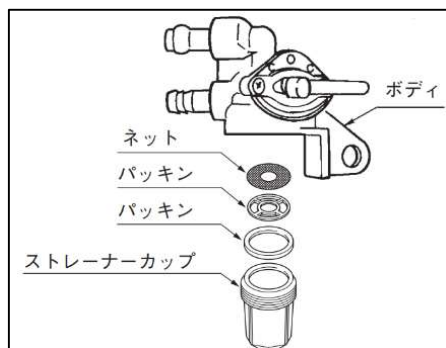
- 1) Rubber products such as fuel pipes will deteriorate even if they are not used.
Replace with a tightening band once a year or when damaged.
- 2) Always watch for loose or damaged pipes or tightening bands.

Reference ; When replacing the pipes, be careful not to get dust or dust inside the pipes.

5.2.4 Cleaning the fuel filter pot



Working with cigarettes or open flames is prohibited.

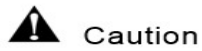


- 1) Clean the inside of the fuel cock every 50 hours after use.
- 2) Cleaning in a clean place free from dust and dust.
 - ① Move the fuel cock to the "closed (OFF)" position.
 - ② Remove the fuel filter pot, wash the sediment (dust, water, etc.) on the bottom and the filter with a solvent such as kerosene, which has low flammability, and blow it dry with air.



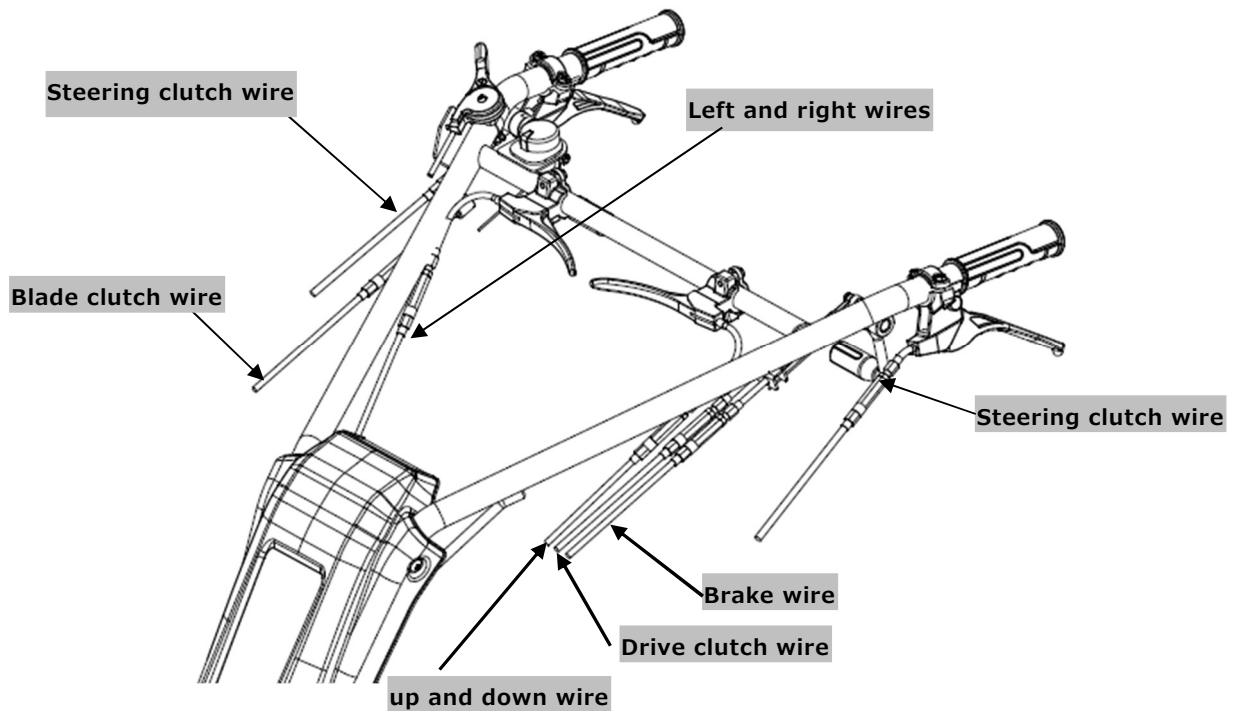
Do not use highly flammable cleaning oil such as gasoline or thinner as it is dangerous.

5.3 Product Inspection • adjustment

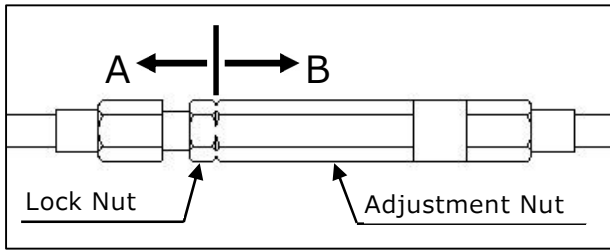
**Caution**

- 1) Be sure to place the machine on a flat and wide place for inspection and adjustment, and stop the engine.
- 2) Make sure that each control lever operates properly. (Before every work)
- 3) The wire • belt will stretch initially, so readjust it after operating for a few hours.
- 4) The wire , belt is a consumable item. If it is abnormal, replace it with a new one.
- 5) Move the machine slightly to check for abnormal noise and overheating.
- 6) After adjustment, be sure to check the "on" and "off" operation of both clutch levers.
- 7) Make sure that the bolts and nuts on each part are not loosened or come off, and tighten them securely.
- 8) Be sure to replace the cover that was removed for adjustment.
- 9) Please avoid excessive work for the first 2-3 hours in order to fully familiarize each part.
- 10) Do not forget to maintenance operation and regular inspection after work.
- 11) Look around the machine and check each part for oil leaks.
 - If you can confirm an oil leak, please contact the store where you purchased the product.
 - Continued use with oil leakage is not only dangerous, but can also damage the machine.

Name of the each Wire



5.3.1 Wire adjustment for each part



To adjust each wire, refer to the diagram on the left and adjust the wire tension with the adjustment nut.

The standard of adjustment is as follows.



Caution

After adjusting the wire, be sure to fix the adjustment nut with the lock nut.

① Driving clutch wire adjustment

- When the machine will not move even if a load is applied to Driving clutch.

...Move the adjustment nut to **Ⓑ** direction ...

- When the machine will not smooth stop even if cut the Driving clutch.

...Move the adjustment nut to **Ⓐ** direction...

② Blade clutch wire adjustment

- When the Blade will be stopped even if a load is applied to Blade after Blade clutch engaged.

...Move the adjustment nut to **Ⓑ** direction ...

When the Blade rotor will not be stopped after disengaged Blade clutch lever.

...Move the adjustment nut to **Ⓐ** direction...



Caution

A Blade brake is linked to the Blade clutch lever. After adjusting the Blade clutch wire, also check the affection of the Blade brake. It is good if you disengage the Blade clutch and stop the Blade rotation in about 5 seconds.

③ Steering Clutch wire adjustment

- When the drive is not connected even if the lever is returned.

...Move the adjustment nut to **Ⓐ** direction...

- If the drive does not cut off even if you grasp the lever.

...Move the adjustment nut to **Ⓑ** direction...

④ Handle up / down / left / right wire adjustment.

- If the handle cannot be moved up or down (left or right) even if you operate the lever.

...Move the adjustment nut to **Ⓑ** direction...

- The handle moves up and down (left and right) when a load is applied without operating the lever.

...Move the adjustment nut to **Ⓐ** direction...

⑤ Parking Brake wire adjustment.

- If the parking brake does not work even if you disengage the driving clutch lever.
 - ...Move the adjustment nut to **Ⓑ** direction...
- The parking brake works while driving. (The parking brake cannot be released.)

...Move the adjustment nut to **Ⓐ** direction...



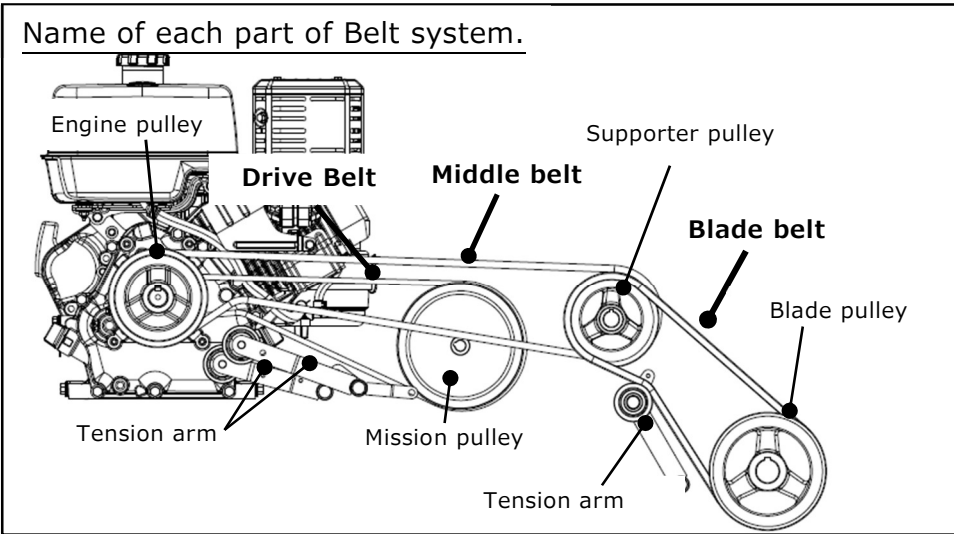
Neglect to adjust the parking brake is dangerous because the parking brake may be dragged when driving or may start moving when parked on a slope.

Reference ;
Please make allowance 3 to 5 mm for the Driving clutch lever and Blade clutch lever at the "OFF" position.

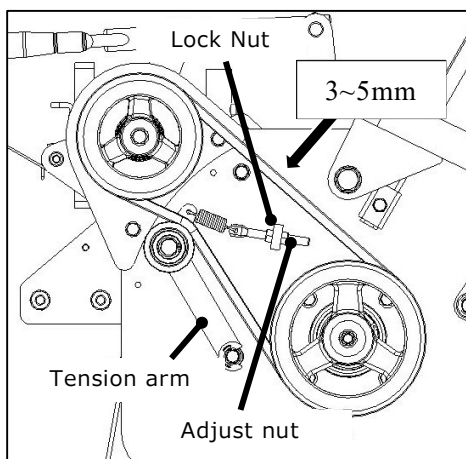
5.3.2 Belt adjustment of each part



Before adjusting each belt and belt retainer, be sure to place the machine on a flat and wide area and stop the engine.



① Blade belt adjustment



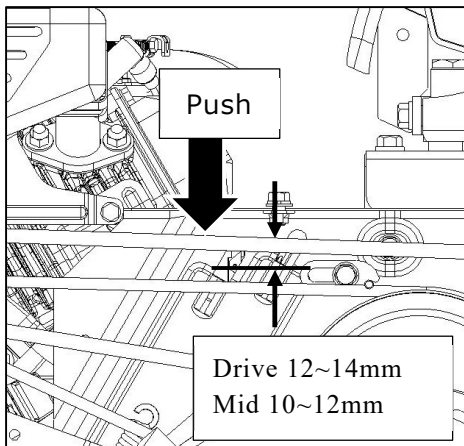
The Blade belt is always tensioned by the tension arm.

If the belt slips under load or if you replace the Blade belt, adjust the belt tension according to the diagram on the left.

Push the central part of the belt at about 4-5 kg and tighten the adjustment nut until the deflection becomes about 3-5mm.

After adjustment, fix with lock nut.

② Drive • Middle Belt Adjustment



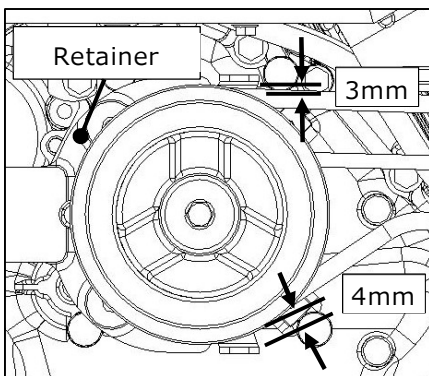
When replacing the belt, adjust the tension of the belt referring to the diagram on the left.

Adjust when both Driving and Blade clutch levers in the "on" Position.

Belt tension adjustment.

- When pushing the center of the belt with your finger (to the extent that the tension pulley starts to move), adjust the engine position and adjust the wire adjustment nut so that the Drive belt loosens about 12 to 14 mm and the Middle belt loosens about 10 to 12 mm.

③ Belt retainer Adjustment



When replacing the belt, adjust the belt retainer referring to the diagram on the left.

Adjust when both Driving and Blade clutch levers in the "on" Position.

Belt retainer Adjustment

- Adjust the position of the belt retainer with the Middle belt.
- Under the belt is tensioned, adjust so that the space between it and the belt retainer is about 3 mm on the upper side and about 4 mm on the lower side.
- Be sure to reattach the covers removed for adjustment.

⚠ Caution

- 1) Make sure to tighten the lock nut after adjustment.
- 2) Be sure to reattach the covers removed for adjustment.
- 3) After adjustment, be sure to check the "on" and "off" operation of each clutch lever.
- 4) The belt has some initial stretch, so please adjust it again after operating for 2 to 3 hours from new.
- 5) The belt is a consumable item. If it is abnormal, replace it with a new one. Adjust for the first 20 hours and then every 100 hours.

5.3.3 Adjustment of tire pressure

- Check tire pressure according to the table below.
 - If the air pressure of the left and right tires is not even, The handle may be pulled during work.

	Tire Size	Air Pressure (kPa)
Tire	16×7.00-8	140

5.4 Inspection, replacement and installation of Blade.

■ For safety, Please check the Blade condition before going to work. ■

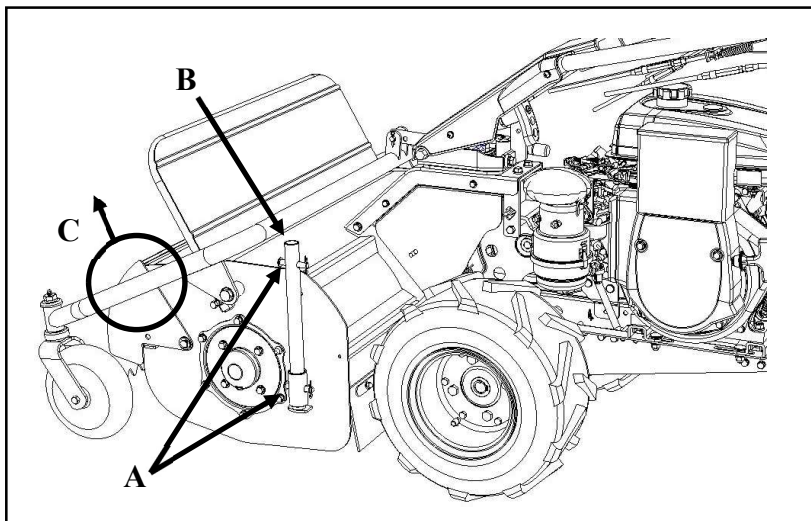
Warning

- 1) When replacing the Blade, be sure to specify it as a genuine part from the manufacturer. Not only that use of external Blade is dangerous, the warranty does not cover damage or accidents caused by their use.
- 2) Before starting work, check if the Blades hit the curbstone or root of the tree during the previous work, and the Blades is not bent or broken, or the Set bolt is loosened.
- 3) If you continue to work while leaving the Blade worn, cracked, bent, chipped, etc., the Blade may break and jump out during the work, causing serious injury or damage to the machine.
- 4) The knife rotates at high speed. If even one knife is chipped or broken, it will cause vibration. Not only is it dangerous to continue working while vibrating, but vibration may cause cracks and cracks in various parts of the machine, which can significantly shorten the life of the machine. Also, vibration may cause a fire from the engine.
- 5) Be sure to replace all Blades at the same time. Partial replacement may cause the Blade to lose balance and cause vibrations.
- 6) To avoid injury, wear sturdy gloves or wrap the Blade tip with a piece of cloth before inspecting or replacing.

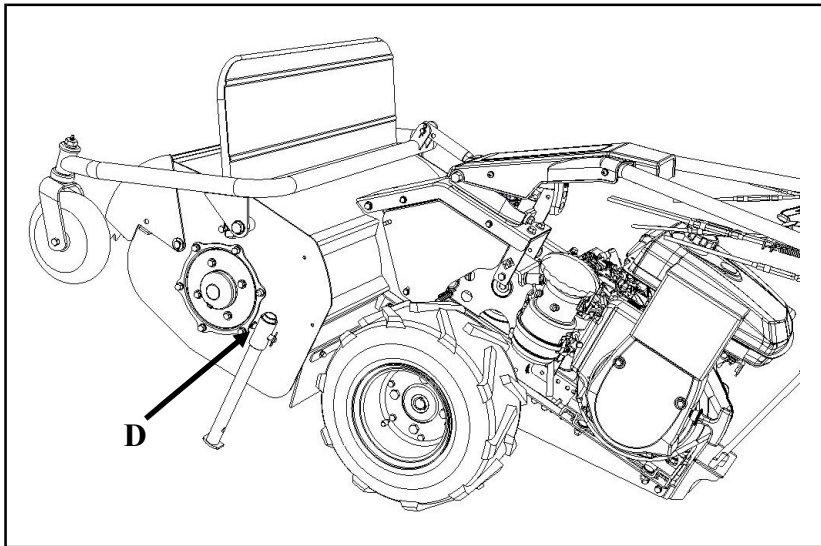
Caution

- 1) Blades replacement work must be done by a person with appropriate tools and maintenance skills.
- 2) The Blade setting bolts and nuts will also be worn. For safety, be sure to replace the Blade set bolts and nuts at the same time when you replace the Blades, and never use other bolts or nuts for replacement.
- 3) When working, be careful not to slip your hands.
- 4) Mixing old and new Blades may cause abnormal vibration.

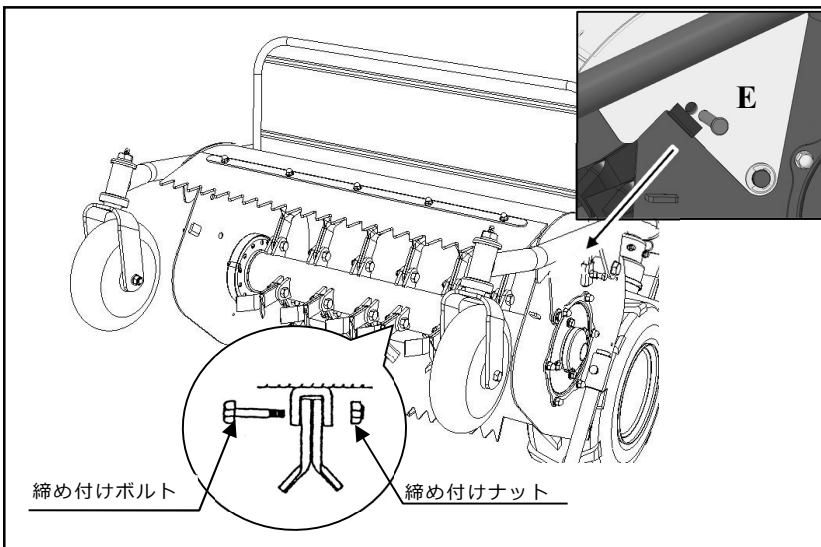
5.4.1 Check and replace Blades



- ① Stop the engine and remove the spark plug cap just in case.
- ② Pull out 2 pins of A and lower the cutting blade replacement stand of B.
- ③ Hold the part C and lift the rotary cover up.



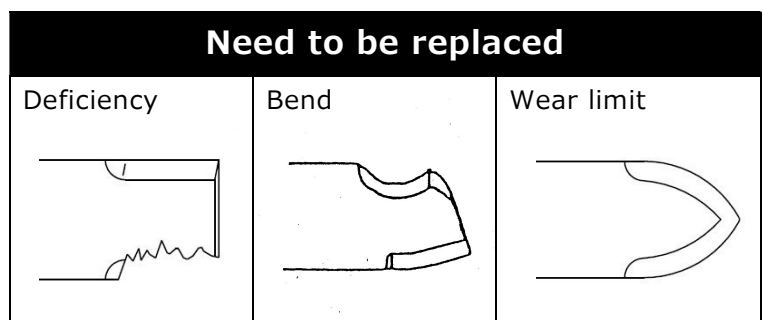
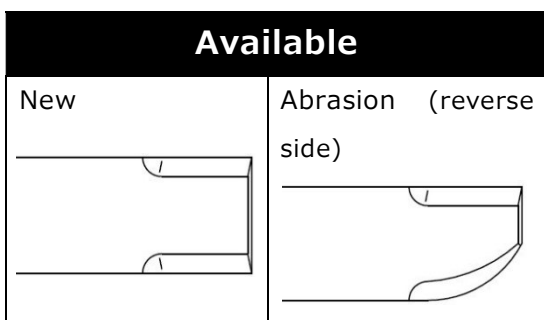
④ Insert the pin at the position of D and fix the rotary cover in the lifted state.



⑤ Open the front cover and fix it with the pins removed in ② to prevent it from falling (E).

⑥ Check the Blade and the Blades installation. Check Blade for cracks, bends, and wear

⑦ If it is in an abnormal state as shown below, replace the front and back of the Blades to use or replace it.



Reference ;

- 1) Blades wears quickly when used in a place containing Dry soil or sand, so check frequently.
- 2) We recommend that you purchase spare Blades in advance and keep it at hand.
- 3) Shaking of the Blade drum also causes vibration. The Blade drum cannot be modified, so it will be replaced with a Blade drum assembly.
- 4) Since the Blade is double-edged, you can replace it with the back blade if the Blade on the side you use becomes worn, but when replacing it, be sure to perform all Blades.

5.5 Long-term storage

5.5.1 Preparation for long-term storage

- Long-term storage with fuel left in the fuel tank or carburetor,

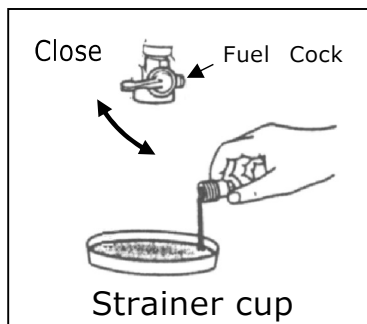
→It may cause troubles such as poor starting or reduced output.



Danger

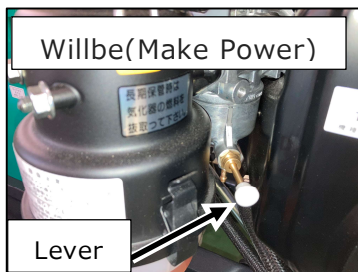
- 1) When removing the fuel, be sure to set it in a well-ventilated place, be careful of the smoking and open flame, and be careful when handling the removed fuel.
- 2) Make sure that the engine and muffler are cool before removing the gasoline in the fuel tank or putting the cover on the machine.

- 1) When the machine is not used for more than 30 days, drain the fuel from the fuel tank and carburetor to prevent starting failure or operation failure due to fuel deterioration.



① Fuel in the fuel tank.

Remove the strainer cup, place a container underneath, then turn the fuel cock to the "OPEN" position to drain the fuel.

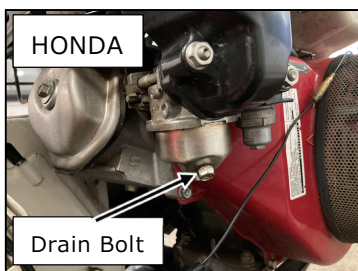


② Fuel inside the carburetor.

Willbe (MEiKi Power) Engine

Pull the lever shown in the figure to drain the fuel.

After draining the fuel, be sure to close the fuel cock.



HONDA Engine.

Remove the drain bolt shown in the figure to drain the fuel.

After draining the fuel, be sure to close the fuel cock.

- 2) Thoroughly clean each part. In particular, remove accumulated dirt and dust around the recoil starter, air cleaner, muffler, vaporizer, and inside the belt cover by blowing air, etc., and remove rust at the rusted parts and apply anticorrosive paint.



Warning

If you continue to work with grass and dust accumulated, the engine may overheat due to clogging with grass debris, which may cause burn out or fire.

Reference ;

The mud and grass debris that has adhered to the inside of the knife cover can be washed off relatively easily by cleaning with water pressurized with a hose before it dries.

At this time, be careful to cover the electrical components of the engine, the carburetor, the air cleaner, and the muffler exhaust port so that water does not splash on them.

- 3) Lubricate each part and repair any defective parts.
- 4) Keep the machine in a flat place in a well-ventilated and non-humidity place.
- 5) Put a cover etc. on this machine to prevent it from getting dust. During storage, check the tire pressure regularly and add air if necessary. (* This machine cover is not included)

5.5.2 Precautions for next use



- 1) Use fresh fuel.
- 2) Please make an inspection before using.
- 3) Make sure that each control lever operates properly. (At the beginning of every work)
- 4) Check that the bolts and nuts on each part are not loose and fall off.
- 5) Move the machine slightly and check for abnormal noise and overheating.
- 6) Please avoid any unreasonable work for the first 2-3 hours in order to fully familiarize each part.

6. Attached list

6.1 Specification sheet (Reference number)

Name		Bull Mower		
Model		H R 6 6 5		H R 8 0 5
L×W×H (mm)		1,670×810×930		1,670×960×930
Width (mm)		650		800
Weight (kg)		135		155
Cutting width(mm)		20~80		
Number of Blade		Free Blade × 3 8		Free Bladex 4 6
Belt (Pcs)	Drive	L A 4 6 × 1	L A 4 7 × 1	S A 4 6 -W 8 0 0 × 1
	Mid	L B 6 2 × 1	L B 6 3 × 1	S B 6 2 -W 8 0 0 × 1
	Blade	L B 3 9 × 1		S B 3 9 - W 8 0 0 × 1
Tire Size (Pcs)		1 6 × 7 . 0 0 - 8 (Φ 4 0 0) × 2		
Handle		Up-Down (4 steps) 、 R & L (2 steps on each side)		
Brake		Parking, Blade brake equipment		
Speed (km/h)	Forward	① 0.95, ② 1.99, ③ 3.50		
	Reverse	① 0.95		
E N G I N E	NAME	Willbe (MEIKI POWER)	Honda	Willbe (MEIKI POWER)
	Model	GB290PN-406	GX270T2-SHPJ	GB300PN-406
	Displacement	296	270	296
	EG Oil (ℓ)	1.0	1.1	1.0
	Starter	Recoil starter		
	Sparke Plug	BP5ES	BPR6ES	BP5ES
	Fuel Tank (ℓ)	5.4	5.3	5.4

※This specification is subject to change without notice for improvement.

6.2 Tool bag · Included item

No.	Name of parts	CODE No	Qty	Remarks
1.	instruction manual		1	
2.				
3.	Engine tools		1	Engine included
4.	Double-ended spanner	0015-99100	1	
5.	Double-ended spanner	0015-99200	1	
6.	Protective eye glasses	0328-76100	1	
7.	Engine instruction		1	

6.3 Consumable item

No.	Name of parts	CODE No	Qty/uni	Remarks
1.	Free Blade	80-1610-821-00	38/46	HR665 / HR805
2.	Blade bolt set	83-1610-835-00	19/23	HR665 / HR805
3.	Drive Belt	89-6122-004601	1	LA46 (HR665) Willbe
4.	Middle Belt	89-6123-006200	1	LB62 (HR665) Willbe
5.	Drive Belt	89-6122-004701	1	LA47 (HR665) HONDA
6.	Middle Belt	89-6123-006300	1	LB63 (HR665) HONDA
7.	Drive Belt	89-6122-004602	1	SA46-W800 (HR805)
8.	Middle Belt	89-6123-006202	1	SB62-W800 (HR805)
9.	Blade Belt	89-6123-003900	1	LB39 (HR665)
10.	"	89-6123-003902	1	SB39-W800 (HR805)
11.	Throttle Wire	0226-70300	1	
12.	Drive · Blade Wire	83-1614-932-10	Each 1	
13.	Brake wire	83-1614-938-10	1	
14.	Steering clutch wire	0253-70110	2	
15.	Handle up / down / left / right wire	0285-72110	Each 1	
16.	Parking brake shoe set	85-1711-318-00	1	
17.	Blade brake	0231-37100	1	
18.	Air cleaner cover	0285-78100	1	
19.	HR warning label	0282-70630	1	消耗品の交換時は…
20.	maintenance warning label	0328-75400	1	エアクリーナ、…
21.	Blade warning label	0334-71800	2	手や足を近づけたり…
22.	Cutting height caution	0334-73500	1	刈高調整はローターが…

7. Check list

7.1 Periodic inspection table





★ Failure to perform inspection or maintenance may result in an accident or malfunction. Please perform inspection by referring to this "Periodic inspection table" so that normal functions can be exerted and always in a safe state.

★ Make annual inspection a year, monthly inspection a month, and start-up inspection every time before work.

item		Inspection items	Items to check	Check	S	M	Y
Braking device	Brake	Parking brake effectiveness	Is there no drag, or is it not lose?	Brake shoe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Brake rod Joint	Is there deformation or backlash?	Rod	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
				Joint	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		U Nut , W Nut	Is it loose or missing?	U Nut, W Nut	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Split pin	Is it missing?	Split pin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Cutting device	Cover	Cover condition	No bends, cracks or corrosion. Is the flapper rubber attached properly?	cover	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
				flapper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Rotating part	Blade & Stay (Knife) and installation	Is there any warp or wear? Is the bolt / nut loose, worn, or dropped?	Blade	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
				Blade stay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Blade brake	Braking effect (Stop within 5 seconds)	Brake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Engine	Main body	Acceleration, exhaust, choke operating status.	Acceleration is smooth, exhaust color and odor are normal, and choke operation is smooth?	Acceleration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
				Exhaustion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
				Chock	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Muffler, Battery	Setting is loose or not corroded Is the state of charge of the battery good?	Muffler	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Battery			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	Engine body	Is the engine mounted loose and cracked?	Mounting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	Air Cleaner	Is it dirty, clogged, torn or scratched?	Air Cleaner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	Oil	Engine oil, oil filter	Check for quantity, quality, leakage, and foreign matter. Is replacement time appropriate? 【Engine oil: 5H for the first time, change every 50H thereafter, and every 100H filter】	OIL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
				Filter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Oil line	Fuel tube, Filter	Check for fuel leaks, deterioration, deformation, or clogging	Tube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
				Filter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Ignition system	Spark plug	Is there any crack in the insulator or carbon accumulation?	Plug	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		High-voltage cord, plug cap	Is there deterioration, cracks, or cracks in the cap?	Cord	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Cooling	Engine housing	Is there any accumulation of grass debris in the housing?	Inside Cover	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wiring	Harness	Is it loose or damaged?	Harness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Transmission system	Belt	Drive, Blade Belt	Check for tension, cracks, damage, and significant dirt.	Drive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
				Blade	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Deceleration	Mission oil	Quantity, quality, oil leakage, foreign matter (water, air) mixing 【Mission oil: 20H for the first time. After that, exchange at 100H】	M-OIL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Hydraulic	HST Oil (Applicable products)	Quantity, quality, oil leakage, foreign matter (water, air) mixing 【HST oil (equivalent to VG46): First time "Refer to each instruction manual". After that, 200H or exchange once a year. (Replace the HST oil filter at the same time)】	H-OIL	<input type="radio"/>	<input type="radio"/>
movable part	Movable state of levers, wires, etc.	Is the operation smooth? Check for sticking or rust.	Diff-lock	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
			Cutting part	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
			Sub Change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Speed change	Shift lever	Operation, N position is proper, lose or loose	Lever	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Driving part	Tire (Crawler)	Is the air pressure proper and is there no damage or uneven wear?	Tire	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	Setting state	Check the bolts and nuts for looseness and dropped out.	setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Handle	Installation state	Check the bolts and nuts for looseness and dropped out.	Handle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Instrument	Hour meter (Applicable products)	Is the display time applicable and is the operating status appropriate?	Hour meter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Label	Warning label and nameplate	Adhesion is proper (peeling), damage, dirt	Label	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

7.2 Engine malfunction and how to deal with it

If the engine is not in good condition, check it according to the table below and take appropriate action.

phenomenon	Cause	treatment
If it is difficult to start. (If not started)	The throttle lever is not in the "start" position.	Move the throttle lever to the "start" position.
	Not pulling the choke lever.	Turn the choke lever to the position  when the engine is cooling.
	Fuel does not flow.	Inspect the fuel tank and remove any impurities or moisture that may have settled. Remove the strainer on the fuel cock to remove the deposit in the cup and the dust that has adhered.
	Air or water is mixed in the fuel line system.	Remove foreign matter, inspect the tightening band, and if damaged, replace with a new one.
	When the engine is cold, the viscosity of the oil is high and the engine rotation is heavy.	Use different oil depending on the temperature.
	Defective ignition coil or unit.	* Replace the ignition coil or unit.
	Spark plug malfunction.	Check and adjust the gap between the spark plug electrodes. Replace with a new spark plug
When output is insufficient.	Lack of fuel.	Refuel.
	Clogged air cleaner.	Clean the element.
	Poor fuel quality.	Replace with good fuel.
	The choke is not completely open.	Put the choke lever back completely.  Position.
	The cooling system is clogged.	Clean around the recoil starter.
In case of sudden stop	Out of fuel.	Refuel.
	The fuel cock is closed.	Open the fuel cock.
If the exhaust color is abnormally black	Poor fuel quality.	Replace with good fuel.
	Too much engine oil was inside.	Adjust to the proper amount of oil.
Evacuate black smoke and the output drops	Clogged air cleaner element.	Clean the element.
	The choke is not completely open.	Put the choke lever back completely.  Position.
Emits blue and white smoke	Too much engine oil was inside.	Adjust to the proper amount of oil.
	Cylinder / piston ring wear.	* Replace ring.
Engine RPM is not stable (does not increasing)	The choke is not completely open.	Put the choke lever back completely.  Position.
	Poor fuel quality.	Replace with good fuel.
It will be stalled after a while.	Defective ignition coil.	* Replace the ignition coil.
	The fuel filter is clogged.	Clean the fuel filter.
Exhaust has a pungent odor.	Poor fuel quality.	Replace with good fuel.

※ Mark of * , Please consult your dealer. However, it will be charged.

7.3 Self-diagnosis table

If any of the following problems occur, refer to the instruction manual and take appropriate action.

Phenomenon	Cause	Treatment
The grass is not discharge well	The grass is wet.	Work after the grass has dried.
	The grass is long.	Increase the cutting height and cut twice.
	The cutting height is low.	Increase the cutting height.
	The engine speed is low.	Set to the maximum speed.
	Working speed is fast.	Reduce working speed.
There is left uncut part.	Working speed is fast.	Reduce working speed.
	The engine speed is low.	Set to maximum RPM.
	Worn or damaged Blade.	Replace with a new Blade.
	Accumulation of grass debris in the Blade cover.	Clean the inside of the Blade cover.
	The grass is long.	Mowing twice.
Soil cutting occurred.	The cutting height is low.	Increase the cutting height.
	The turning speed is fast.	Reduce the turning speed.
	The terrain has undulations.	Change the mowing pattern (mowing direction).
	There are many undulations on the terrain.	Increase the cutting height.
	Bending of the blade.	Replace with a new Blade.
Belt slips.	Belt tension is low.	Adjust the belt tension.
	There is a foreign object inside the Blade cover.	Clean inside the Blade cover.
	Accumulation of grass on pulley.	Clean the pulley.
	Belt wear out.	Replace with a new belt.
Dose not change the shift	The shift position is incorrect.	Adjustment of gear shift guide position and gear shift wire.
	Mission failure.	Mission repair.
Vibration is large.	The Blades is out of balance.	Replace Blades. (All Blades)
	Damaged Blade.	Replace with a new Blade.
	The knife drum is bent.	Replace the knife drum assembly.
	Damaged belt.	Replace with a new belt.
	A mixture of old and new Blades.	Do not mix old and new blades.
	Grass is wrapped around the knife drum.	Remove what is wrapped around the knife drum.
Mowing work load is heavy.	The engine speed is low.	Increase engine speed.
	Work speed is fast.	Reduce working speed.
	Grass has accumulated or wrapped around the Blades shaft.	Clean the knife.
	The grass is long.	Increase the cutting height and cut twice.
	The cutting height is low.	Increase the cutting height.
Tires and crawlers slip.	The field is weak.	Stop working until the field is dry.
Oil inlet plug jumped out during work.	Too much mission oil inside. (Excessive increase in internal pressure)	Adjust to the proper amount of oil.

※If you have any questions, please contact the dealer shop where you purchased the product.