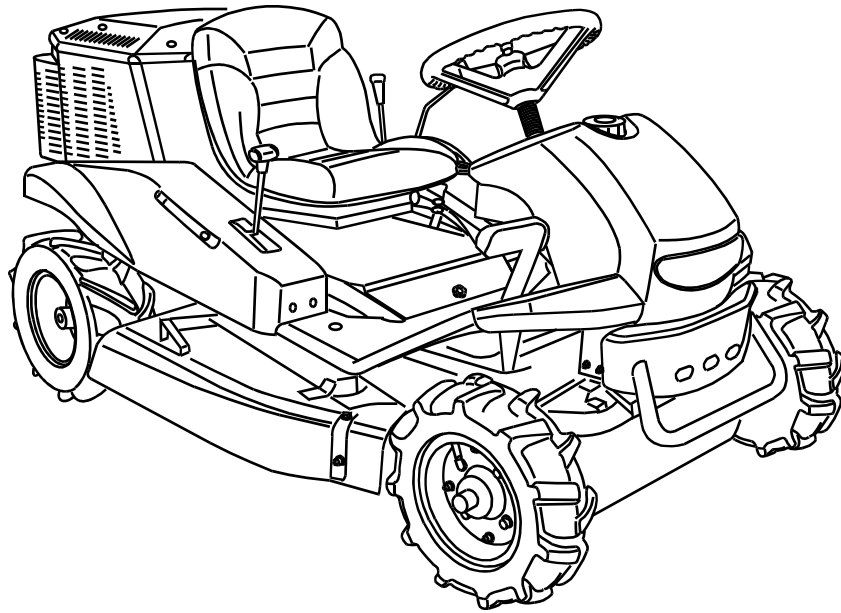


# ATEX Ride-on Bush Cutter



## Operation Manual

**A R 9 5 0 F**


**A R 9 5 0**



## Important Safety Precaution for Ride-on Bush Cutter

1. When using on slope or bumpy area, be sure to avoid sudden taking off, sudden stop sudden turning and U-turn.
2. Be sure to inspect your Ride-on Bush cutter before use. In particular, service the important safety parts (such as the brake ) to keep them in a good condition.
3. When using your Ride-on Bush Cutter on the road shoulder or soft ground, exercise due caution without fail, otherwise it may fall down.
4. When operating or working on your Ride-on Bush Cutter, confirm that the protective covers are installed.
5. Be sure to stop the engine and apply the brake before cleaning, inspecting, adjusting or refueling the machine.
6. When working with other person(s), use verbal cues to confirm safety around the Ride-on Bush Cutter

Recite the above points every time you use the machine.

The above lists the key safety precautions to which you must pay attention so as to ensure safe operation. There are other instructions you should observe, which are indicated by the symbol  **Important** and explained in the relevant sections of the main text. Read these instructions carefully and observe them without fail.

# Important Notes

- Start by reading carefully this [User's Manual]. This is the first step of safety work.
- This Operation Manual describes the basic information on safety the user must pay attention to when using the Ride-on Bush Cutter, as well as the technical and other instructions on correct operation, adjustment and maintenance that must be followed to keep the Ride-on Bush Cutter operating in its best condition.
- Before operating your Ride-on Bush Cutter for the first time, and also during and before day-to-day operation and handling, read this Operation Manual carefully and gain a full understanding of the instructions provided herein so as to use your Ride-on Bush Cutter.
- Keep this Operation Manual in a safe place so that you can access it for reference whenever necessary.
- Use this product as a Ride-on Bush Cutter. Don't modify or use it for any purpose not originally intended. Modifying your Ride-on Bush Cutter or using it for any purpose not originally intended will void the warranty. (Refer to the Warranty Standards for details)
- ATEX & CO., LTD. (herein after referred to as ATEX) shall assume no responsibility for any loss or injury arising because of failure to observe the instructions mentioned at this operation manual or operation without caution to be required normally or modifying Ride-on Bush Cutter.
- It is impossible to predict all possible dangers you may encounter during the handling of your Ride-on Bush Cutter. Accordingly, the instructions provided in this Operation Manual or cautionary information displayed on you Ride-on Bush Cutter does not cover all dangers. For this reason, it is necessary to pay enough attention to prevent accidents, in addition to observing the instructions provided in this Operation Manual and cautionary information displayed on your Ride-on Bush Cutter, when operating your Ride-on Bush Cutter or performing its daily inspection.
- Needless to say, the performance, propensity for breakdown and durability of each Ride-on Bush Cutter varies depending on its original design, proper user of materials and workmanship of manufacturer. On the other hand, we cannot ignore the impact of how the Ride-on Bush Cutter is handled and maintained at daily use.
- This Ride-on Bush Cutter is designed for use in Europe, and accordingly its suitability or certification under safety standards are effective in Europe. ATEX shall be released from any responsibility whatsoever, either direct or indirect, for any compensation or other problem arising out of or in connection with an accident or other unwanted outcome of using your Ride-on Bush Cutter in country outside Europe and Australia.

## Important Notes

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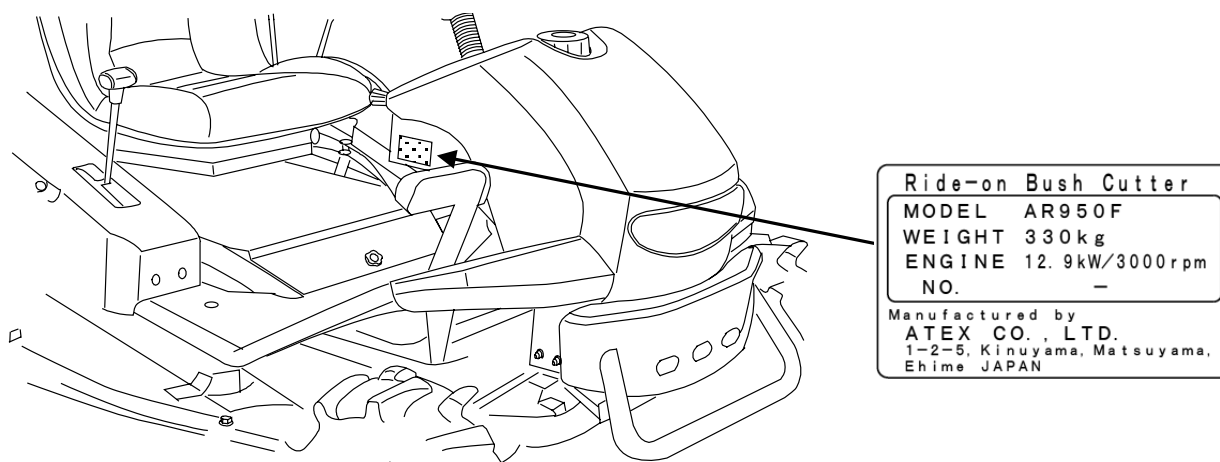
- To prevent injury, don't use your Ride-on Bush Cutter for any purpose not originally intended or operate or maintain it in any way not described in this Operation Manual.
- When lending or transferring your Ride-on Bush Cutter to a third party, have the applicable user/new owner fully understand the content of this Operation Manual and pass this Operation Manual together with the Ride-on Bush Cutter after transferring ( or reselling ) your Ride-on Bush cutter, hand over all attached documents and keep no copy thereof.
- Information provided in this Operation Manual is subject to change without prior to notice for the purpose of improvement of the Ride-on Bush Cutter.
- Your Ride-on Bush Cutter may differ from the illustrations provided in this Operation Manual. Also note that some illustrations have been simplified to explain the interior of the Ride-on Bush Cutter more clearly.
- This Operation manual is copyrighted. Any reproduction, copying, or transferring to any electronic device or machinery in a retrievable manner of this Operation Manual is strictly prohibited without a prior consent of ATEX whether in whole or in part.
- If the Operation Manual was lost or damaged, contact the “dealer from which you purchased your Ride-on Bush Cutter” and order a new copy without delay.
- If you require any detail information, or having any question or need any clarification, contact the “dealer from which you purchased you Ride-on Bush Cutter”.

# Applicable Model

This Operation Manual covers different models in the same series.

Check the model of your Ride-on Bush Cutter on the identification plate attached to its chassis and read the portions applicable to the particular model.


## ■ Position of identification plate







## ■ Specifications

Model	Specifications of installed engine	Cutting width	Driving system
AR950F	Type : Air-cooled, V-type, 2-cylinder OHV gasoline engine Model : Kawasaki FS691V Maximum output : 17.9kW (24.0ps) Net: 15.3kW (20.5ps)	950mm	4WD
AR950	Displacement : 726cc		2WD

# Warning Symbols

In this Operation Manual,  **Important** symbols represent important safety or handling precautions. Read these precautions carefully and observe them without fail.

Symbol	Definition
 <b>Danger</b>	This symbol together with the words Danger indicates a potentially hazardous situation that, if not avoided, will result in DEATH OR SERIOUS INJURY.
 <b>Warning</b>	This symbol together with the words Warning indicates a potentially hazardous situation that, if not avoided, may result in DEATH OR SERIOUS INJURY.
 <b>Caution</b>	This symbol together with the words Caution indicates a potentially hazardous situation that, if not avoided, may result in INJURY.
 <b>Important</b>	This symbol together with words Important indicates a information user should know to demonstrate the performance of the product. Read information carefully to draw the maximum performance out of your machine.

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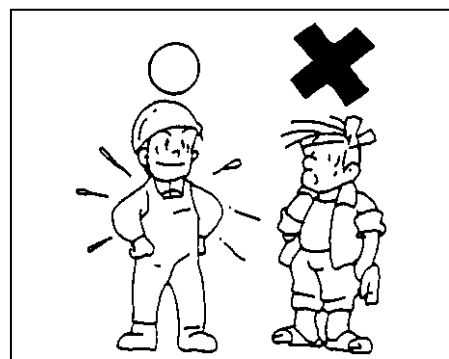
# Point on Use

## Precations for Use

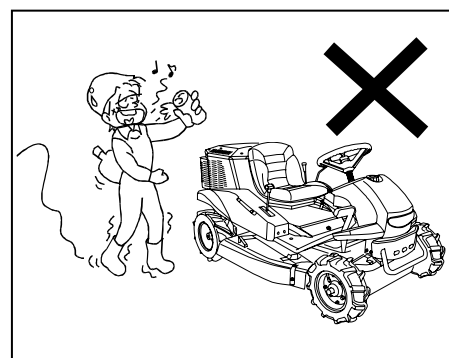
This chapter explains the items the user must pay attention to in order to use the machine efficiently and safely. Read the information provided below and work safely.

### ■ Operator Conditions

1. Wear clothes suitable for working on the Ride-on Bush Cutter . Loose clothes may be dragged into the rotating parts, while improper shoes may slip, creating a very dangerous situation. Also wear a helmet and appropriate protective gears.



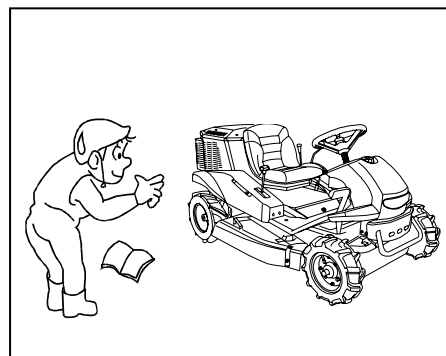
2. Anyone under the influence of alcohol or tired from overwork or pregnant woman, child or any other inexperienced person shall never be allowed to operate the Ride-on Bush Cutter. Doing so may result in an unexpected accident. Only a person with a healthy mind and body should operate the Ride-on Bush Cutter.



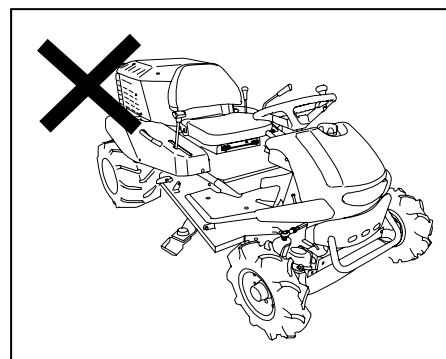


## ■ Preparation

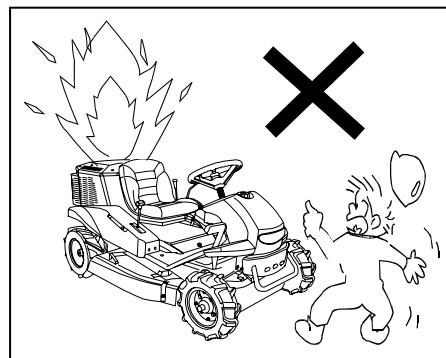
1. As a preparation, be sure to perform the necessary inspections by referring to <List of Periodic Inspection and Maintenance Locations > in this manual.(Refer to p. 49~52 of this manual)



2. Check if any of the protective covers is still removed. Starting the engine or operating the machine when all of the covers are not installed will create a very dangerous situation as the dangerous parts will remain exposed.



3. Be sure to stop the engine before refueling or adding/charging lubricant. Keeping a lit cigarette in your mouth or using any fire source nearby is strictly prohibited. Failure to observe this instruction may result in fire.

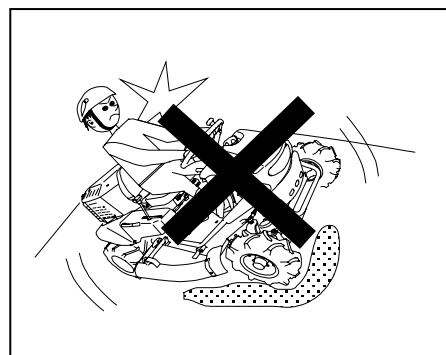


4. Check the condition of the slope of the field, and don't drive or work in the steep slope that exceeds the maximum slope angle, causing fall down. Drive in bumpy area at low speed.

● Maximum slope angle

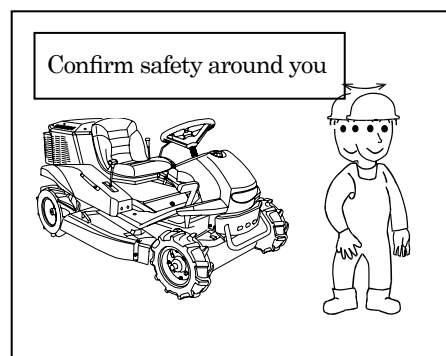
AR 950 : 15 °

AR 950F: 25

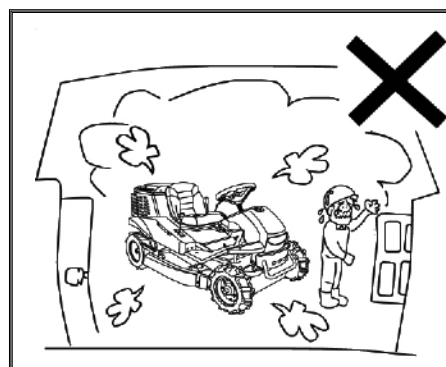


### ■ Starting and Taking Off

1. Confirm safety around you before starting the engine. Before operating the machine, confirm the position of each lever and safety around you, and then start slowly. Sudden start and stop may bring danger and damage on the machine, so avoid sudden start and stop.

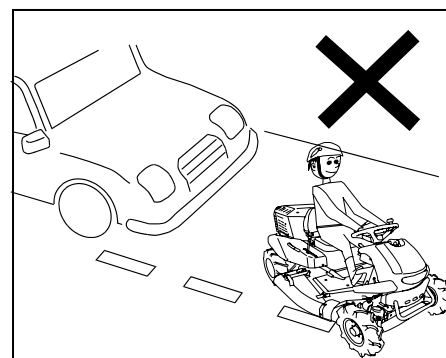


2. When starting the engine indoors, open the windows and doors to get sufficient ventilation. Poor ventilation may cause exhaust gas poisoning and do major harm to the human health.

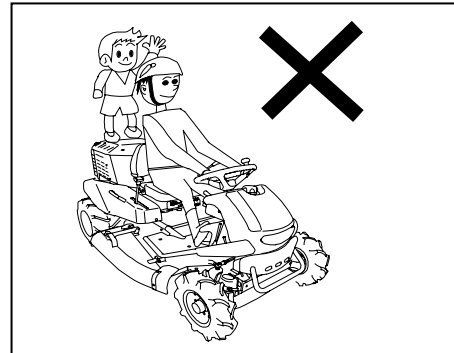


### ■ Traveling

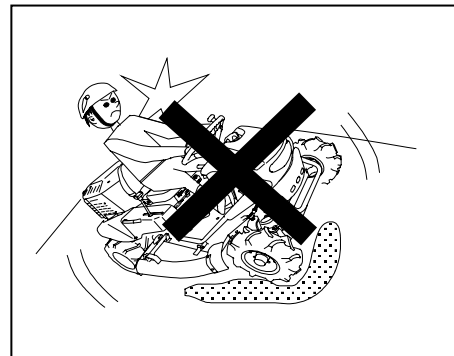
1. This product is designed as a work vehicle used in field. It cannot be operated on public roads. You may punished by law if you drive on public roads.



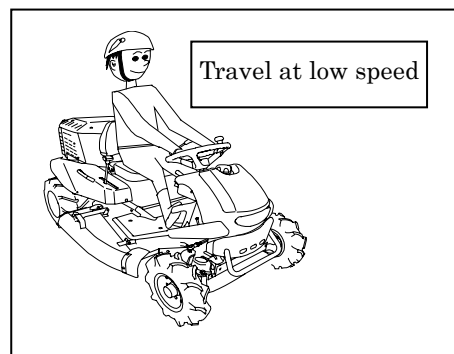
2. This machine has the seating capacity of one person. A person riding on the machine other than operator on the seat may fall and get injured when the machine takes off suddenly because the center of gravity of the machine moves. The operator must never carry any other person on the machine.



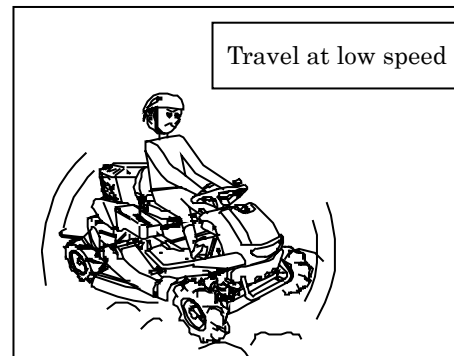
3. Turning around on slope at high speed may cause the machine to fall down or create a very dangerous situation. In particular, the change of the center gravity in bumpy area may cause the machine to fall down or create a very dangerous situation. Be sure to drive on slope at low speed.



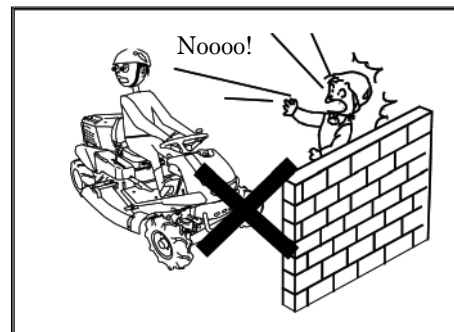
4. When traveling on slope, use engine brake and travel slowly at low speed. Also note that the brake on this machine is intended as the parking brake. Applying the brake while traveling will not only damage the brake itself, but it may also cause slipping or reduce the brake effect, which result in a very dangerous situation. Avoid using the brake unless there is an emergency, and adjust the speed using the HST lever instead.



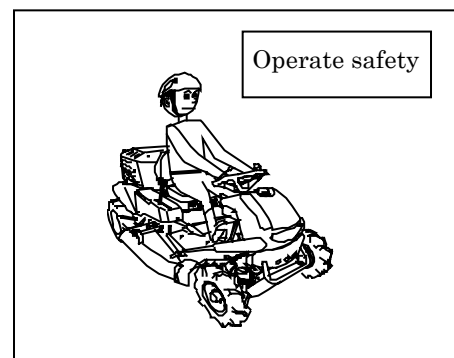
5. Don't travel at high speed on the bumpy road. Travel at a safe speed is suitable for the surface condition of the road. Failure to pay attention to this instruction may result in an accident involving crash or fall-down.



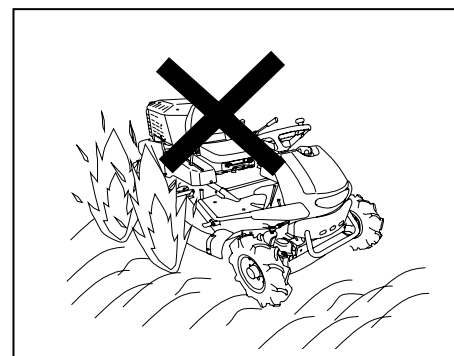
6. Don't operate the machine carelessly or in an unnatural situation. Check the moving direction and confirm safely around you and exercise due caution.



7. Avoid sudden take-off, sudden acceleration, sudden turning around or sudden braking, and operate the machine safely. Be sure to confirm safety around you before taking off, and never turn around or stop suddenly on soft or wet ground because it may cause the machine to slip or fall down, which result in a dangerous situation



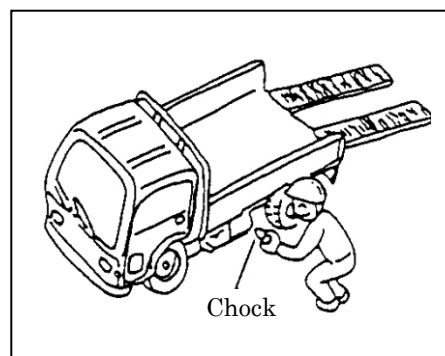
8. Don't park the machine on dry grass, straw or any other combustible. Heat from the exhaust pipe or exhaust gas may cause the combustible to ignite and flame up.



## ■ Loading and Unloading

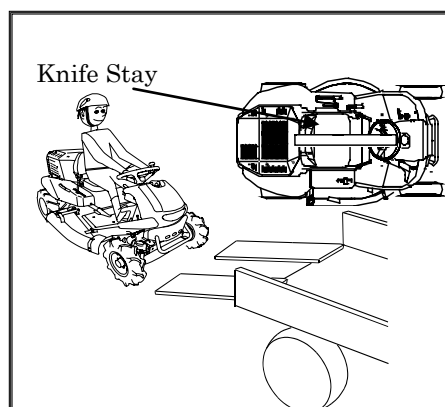
1. When loading or unloading the machine onto/from a truck, stop the engine of the truck. Apply the parking brake, and put chocks (wheel Stop) underneath the wheels of the truck.

Failure to do so may cause the truck to move while loading/unloading the machine, which result in an Accident involving a fall.



2. When loading/unloading the machine, use foot boards with sufficient strength, width, length and non-slip surface. When loading/unloading the machine, move straight at very low speed with the knife blade of the machine aligned in the longitudinal direction.

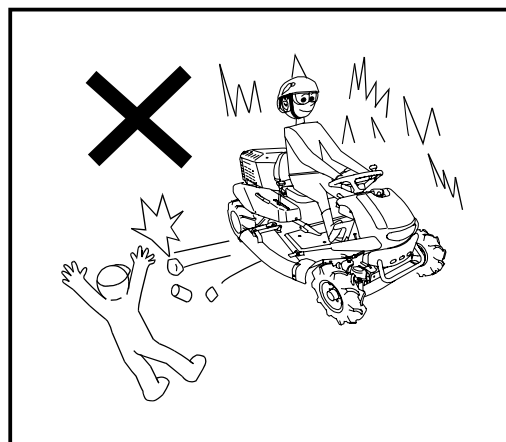
Don't change direction on the foot boards, as it may cause the machine to fall down or create a very dangerous situation.



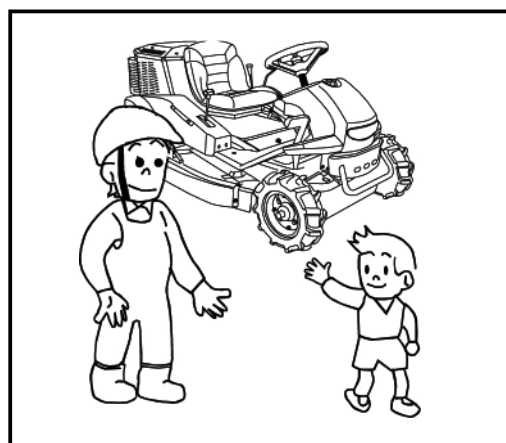
Footboard References	
<ul style="list-style-type: none"> <li>● Length...At least 4 times the height of the cargo carrying platform of the truck</li> <li>● Width...At least 1.5 times the width of the wheel of the machine</li> <li>● Strength...At least 1.5 times the gross weight of the Machine (per foot board)</li> <li>● Anti-slip treatment on the surface.</li> </ul>	<p>A line drawing of two footboards. Dimensions are labeled: 'Length' (the length of the footboard), 'Width' (the width of the footboard), and 'Height of the load-carrying platform' (the height of the platform the footboard is resting on).</p>

■ During Work

1. Small stones and foreign matters scatter while cutting bush. Before commencing work, be sure to confirm that no person, building, vehicle etc. is standing/positioned close enough to be hit by these scattering stones or foreign matters.

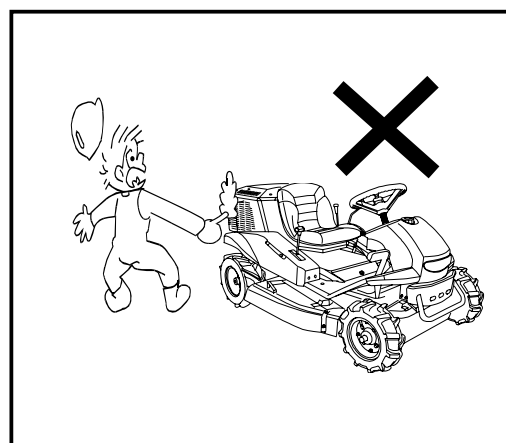


2. Keep people, especially children, away from the machine during work. Anyone coming close to the working machine may be injured or otherwise exposed to a very dangerous situation.

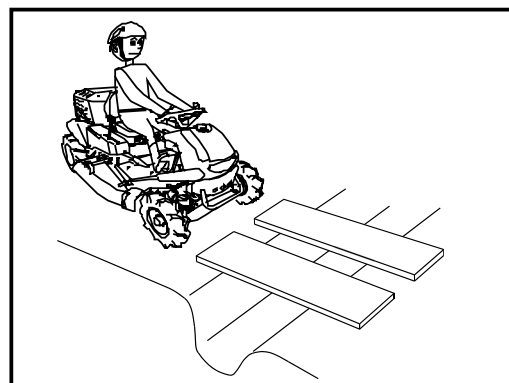


3. Don't let your hand or body touch any of the rotating parts, hot parts (engine, muffler, etc.) and other dangerous parts while the machine is operating. Your hand or body may be injured or otherwise exposed to a very dangerous situation. Small stones and foreign matters scatter while cutting brush.

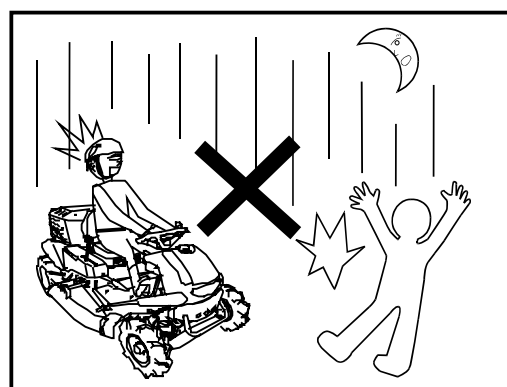
Before commencing work, be sure to confirm that no person, building, vehicle etc. is standing/positioned close enough to be hit by these scattering stones or foreign matters.



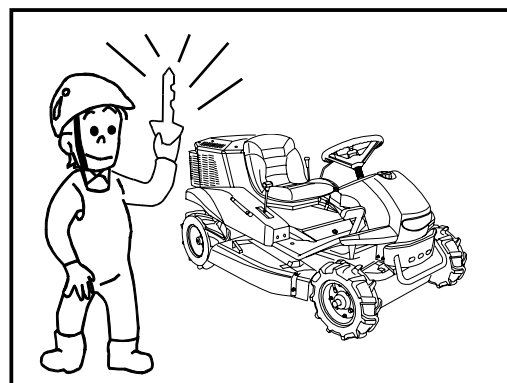
4. When crossing a ditch or going over a furrow, be sure to pass foot boards over the ditch/furrow at right angles and drive on the foot boards slowly at very low speed. Failure to do so may lead to a wheel(s) going off the foot board or slipping, thus causing the machine to fall down, which result in a very dangerous situation.



5. Never work at night or in any environment where visibility of the surroundings is low, because the machine may crash, fall down etc. and cause death or create a very dangerous situation. Particularly when moving in twilight hours, travel at low speed. (Use the headlight on the Machine while moving)

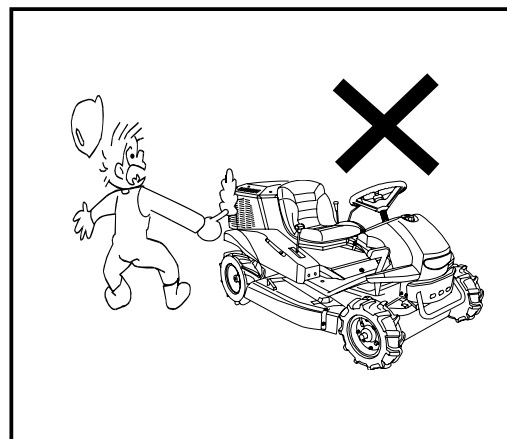


6. When leaving the machine, park the machine on a flat, firm ground, put the cutting-blade clutch lever in the “OFF” position. Then, apply the parking brake, stop the engine, and remove the ignition key.

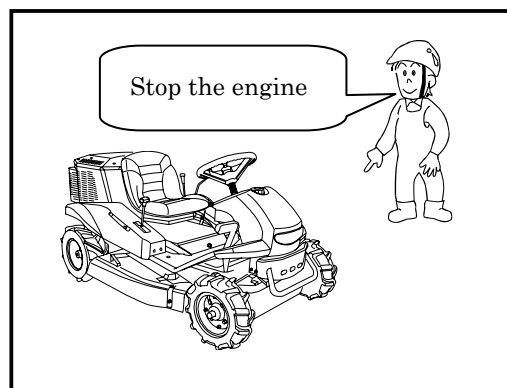


■ Inspection and Maintenance

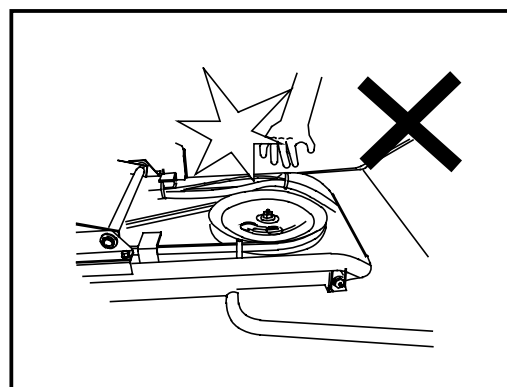
1. Don't start inspection/maintenance immediately after stopping the engine. Wait for the engine and other hot parts to cool sufficiently. Failure to do so may result in burning, etc.



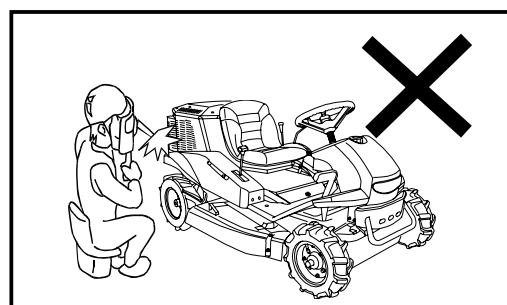
2. When cleaning, inspecting or maintaining the machine, be sure to stop the engine and apply the parking brake. Failure to do so may result in an unexpected accident.



3. Be sure to put back to their original positions the protection covers you have removed for the purpose of inspection/maintenance. If all of the covers are not installed, rotating parts and overheated parts may be exposed which cause injury and a very dangerous situation.



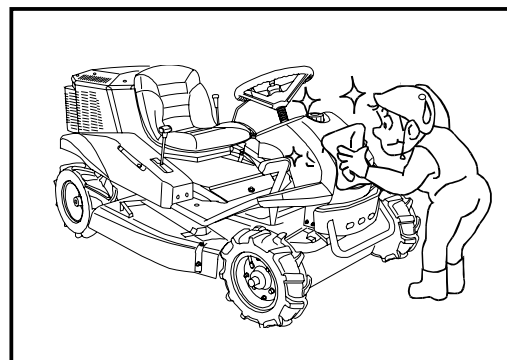
4. Never modify the machine. Modifying the machine may cause a machine breakdown or accident, which create a very dangerous situation.



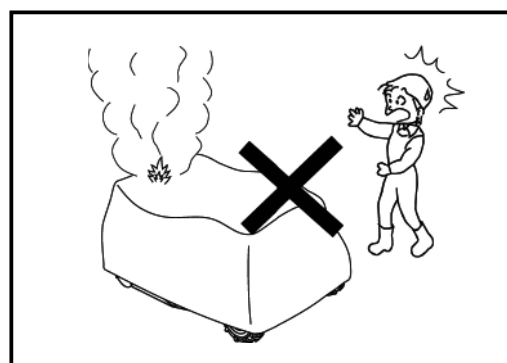


■ Keeping/Storage

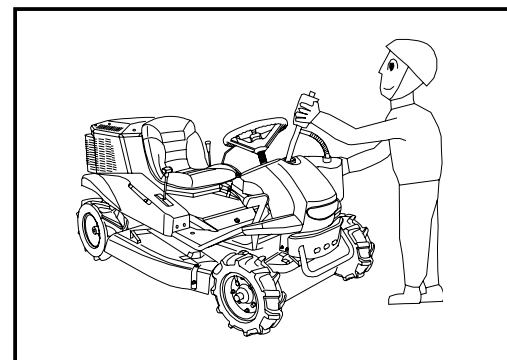
1. Stop the engine and thoroughly clean mud and other foreign matters attached to the machine. In particular, be sure to remove foreign matters from the muffler and other components around the engine, as they may cause fire.



2. Put a cover on the machine or put it in a storage shed to keep the machine away from children, etc. When putting a cover on the machine, wait until the hot parts cool down completely. If a cover is put on while any part of the machine is still hot, it may cause a fire.



3. If the machine will be stored for a long period of time, drain fuel from the fuel tank and carburetor. If fuel remains in the machine, the fuel will not only degrade, but it may also ignite and cause fire, which create a very dangerous situation.

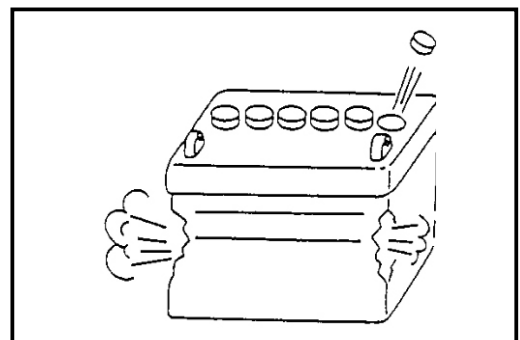
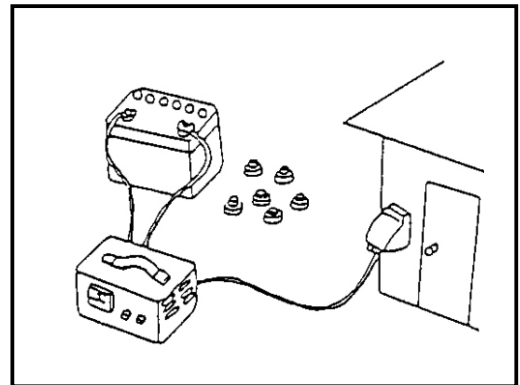
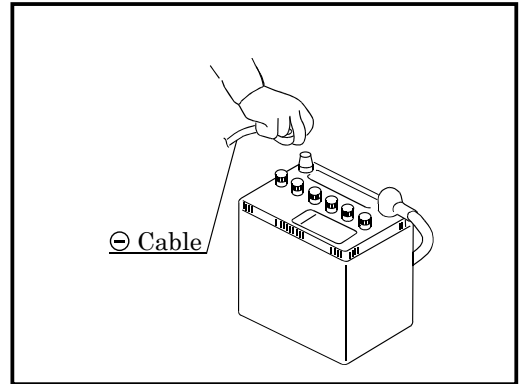


4. If the machine will be stored for a long period of time, unplug the battery cable. If not, the cables may be bitten by rats, etc., and cause short-circuiting and ignite, which cause fire and create a very dangerous situation.



## ■ Handling of Electrical Components

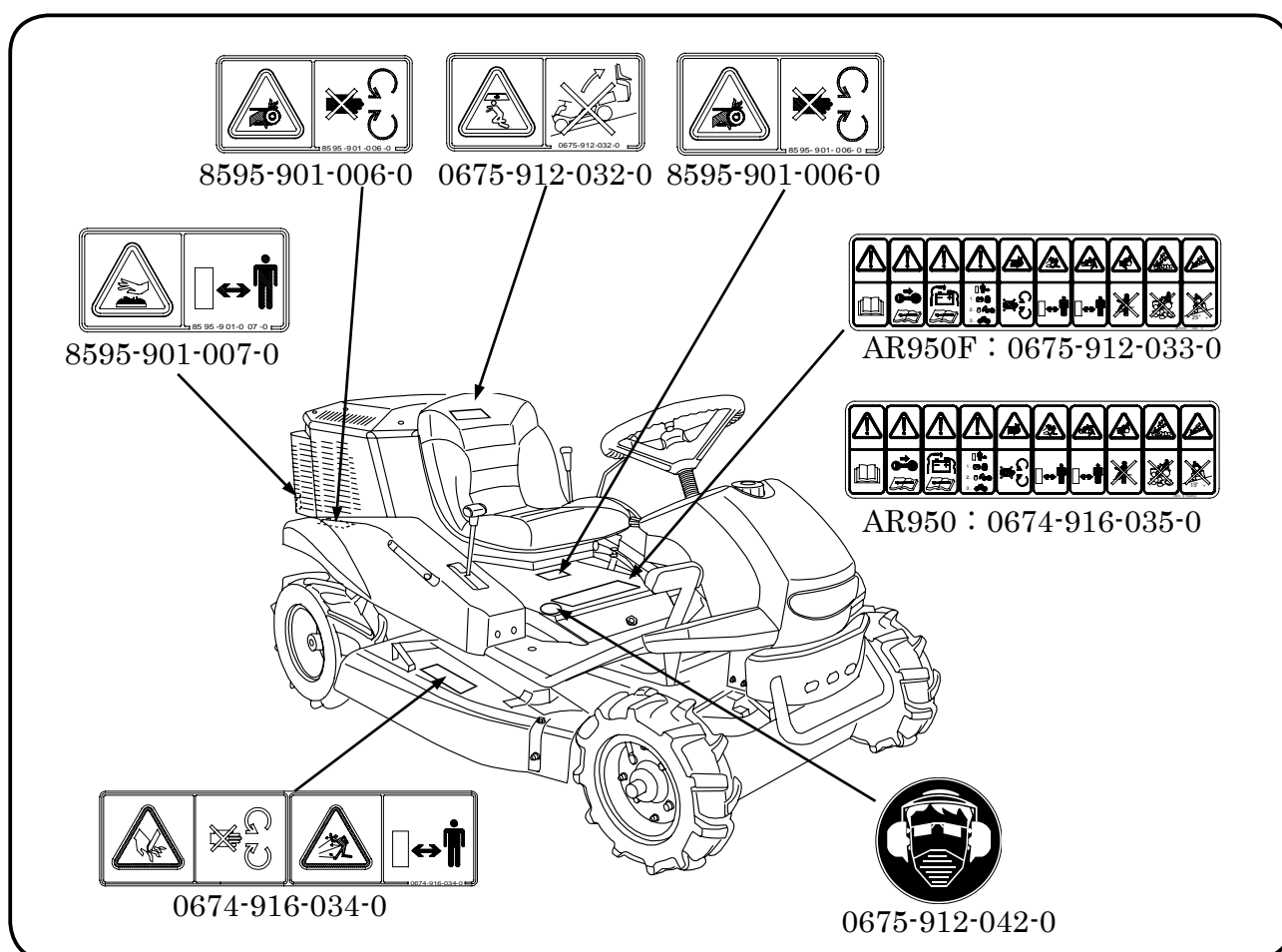
1. When inspecting the electrical wirings or wiring connections, be sure to stop the engine, remove the ignition key, and unplug the (-) battery cable. Otherwise, sparks may cause an electric shock or unexpected accident.
2. When handling the battery, do not short-circuit the cables or otherwise cause sparks to generate, and do not smoke a cigarette or bring any other fire source closer. Charge the battery in a well-ventilated place with the water refilling cap on the battery removed. Failure to do so may cause the battery to ignite and explode, which create a very dangerous situation.
3. The battery fluid (electrolyte) is diluted with sulfuric acid. As it is a deleterious substance, keep the battery fluid away from your body or clothes. If the battery fluid enters your eye or contacts your skin, loss of eyesight or burning may result. Should the battery fluid contact skin, wash the affected area with an ample amount of water. If it enters your eye, wash the eye with water and undergo medical check.
4. Charge an appropriate amount of battery fluid. If the battery is used (charged) continuously with the fluid level remaining below the lower limit, various parts of the vessel will deteriorate quickly and the battery may die prematurely or burst (explode), which create a very dangerous situation.



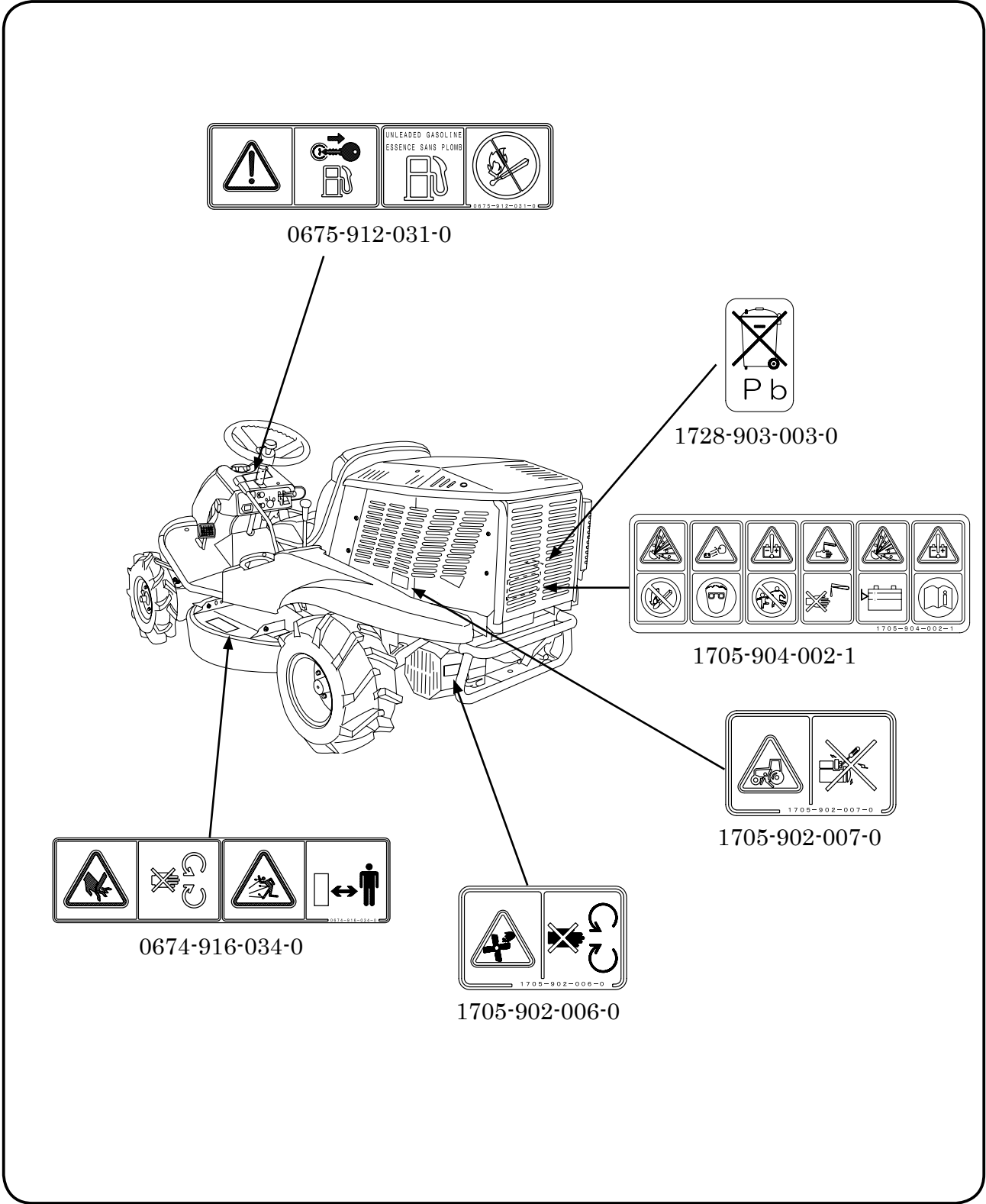
## Warning Labels

- Warning labels are attached on the machine to ensure work safely. Be sure to read these Labels and pay attention to the precautions.
- If any of the warning labels got damaged, lost or otherwise became illegible, replace them with new labels. You can order new warning labels from the “dealer from which you purchased your Ride-on Bush Cutter”.
- Wipe clean any dirt of the warning labels so that the information on the labels remain legible at all time.
- To replace a part on which a warning label is attached, order the warning label, together with the part, from the “dealer from which you purchased your Ride-on Bush Cutter”.
- Don't apply water jets directly onto the warning labels when washing the machine.

### Positions of Warning Labels

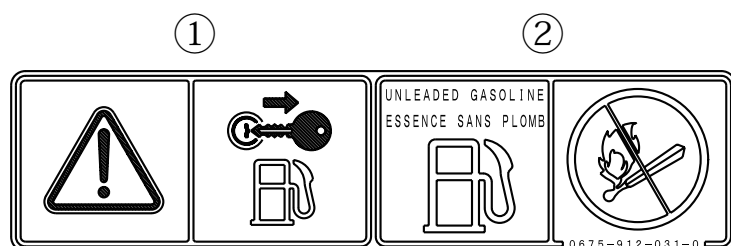


Positions of Warning Labels



## Explanation of Picture Labels

### ●0675-912-031-0



① When refueling, stop the engine, remove the key.

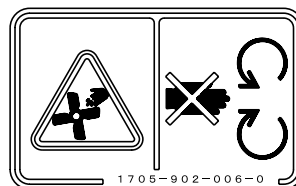
② Fuel : Unleaded gasoline  
Don't bring a fire source closer, as the fuel may ignite.

### ●0675-912-032-0



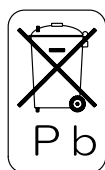
The cover may suddenly close due to gravity, pinching parts of your body and causing injury.  
Don't open the engine cover on slope.

### ●1705-902-006-0



The HST fan is operating .  
Don't bring your hands and feet close by while the engine is running.

### ●1728-903-003-0



Do not throw the battery into a trash can.  
Recycle the battery according to the rules specified by the local government.

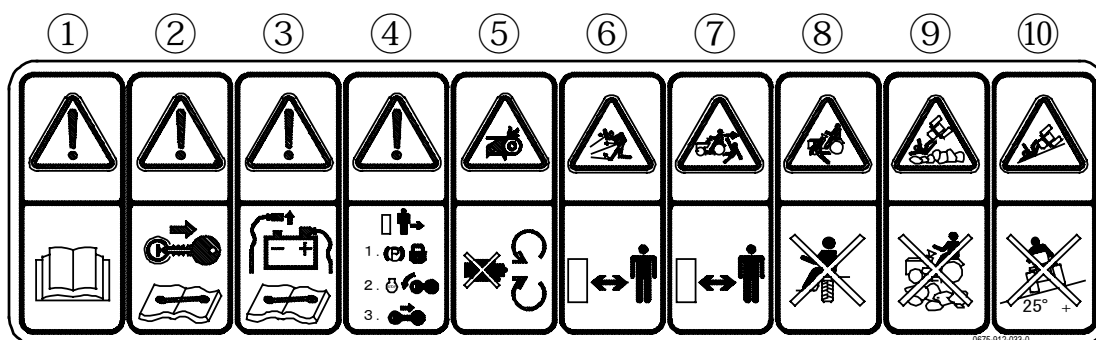
### ●0674-916-034-0



① The blade is turning.  
Don't bring your hands and feet close by while the engine is running.

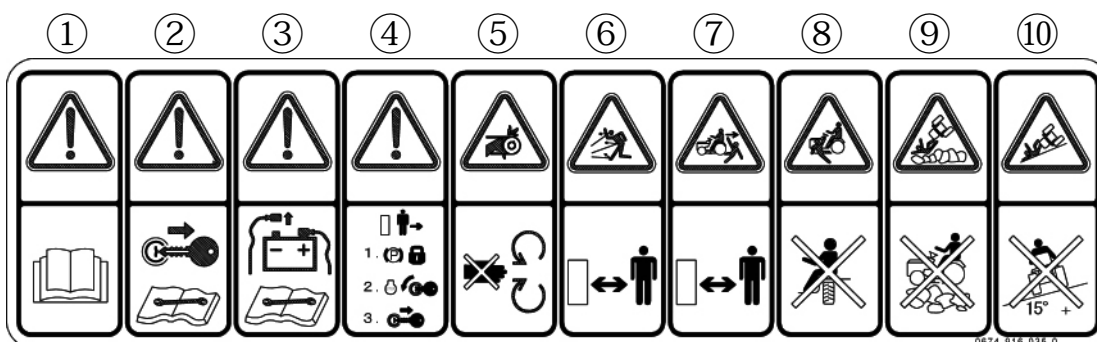
② Bush and stones scatter during work.  
Keep people away from the machine.

## ●AR950F 0675-912-033-0



- ① Read the Operation Manual before using this machine.
- ② When conducting inspection or maintenance, stop the engine. Then remove the ignition key, referring to the Operation manual.
- ③ When inspecting or maintaining any of the electrical components or the battery, unplug the negative battery terminal and refer to the Operation Manual.
- ④ When leaving the machine temporarily, apply the parking brake and stop the engine. Then, remove the ignition key.
- ⑤ Don't touch any rotation part while the machine is operation, as it may cause injury.
- ⑥ Bush and stones scatter during work. Keep people away from the machine.
- ⑦ When reversing, confirm safety around you and keep people away from the engine.
- ⑧ This machine has a seating capacity of one person. A person riding on the machine in a position other than the seat may fall and get injured.
- ⑨ Don't travel on very bumpy terrain. The machine may fall down and cause injury.
- ⑩ Don't work or travel on slope inclined at more than 25 degrees.  
The machine may fall down and cause injury.

## ● AR950 0674-916-035-0

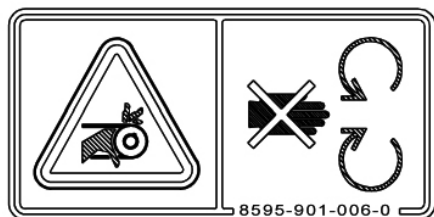


①～⑨ are refer to AR950F.

- ⑩ Don't work or travel on slope inclined at more than 15 degrees. The machine may tip over and cause injury.

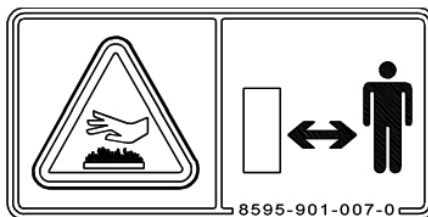
## Points on Use

### ●8595-901-006-0



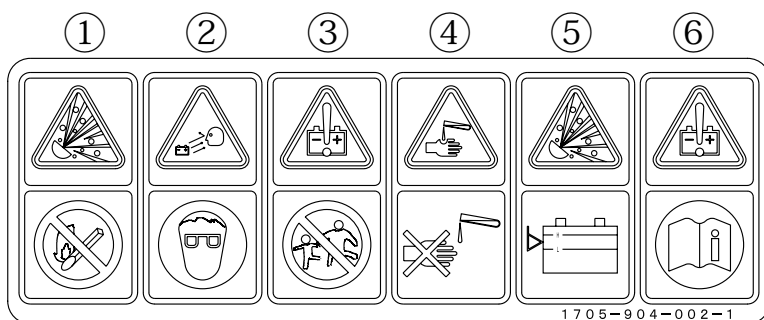
Don't touch any rotating part while the machine is operating, as it may cause injury.

### ●8595-901-007-0



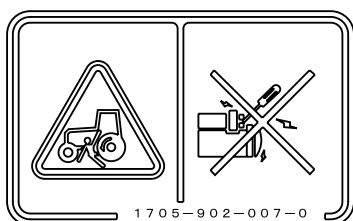
Don't touch the muffler to prevent burns.

### ●1705-904-002-1



- ① Don't bring any fire source closer, as it may cause explosion
- ② The battery fluid is sulfuric acid. You may lose eyesight if battery fluid gets into your eye. Wear protective goggles.
- ③ Keep the battery out of reach of children.
- ④ The battery fluid is sulfuric acid. Contact with battery fluid on the body may cause burning. Don't let the battery fluid come in contact with your skin or clothes. If the battery fluid contacts with your skin, wash the affected area with plenty of water.
- ⑤ If the battery is used continuously with the fluid level remaining below the lower limit, the battery may explode. If the fluid level exceeds the upper limit, battery fluid may leak. Make sure battery fluid remains at an appropriate level during operation of machine.
- ⑥ To charge the battery, follow the instructions in the Operation Manual for the charger

### ●1705-902-007-0



When start the engine, make sure to sit on the seat. Then, turn on the engine switch.

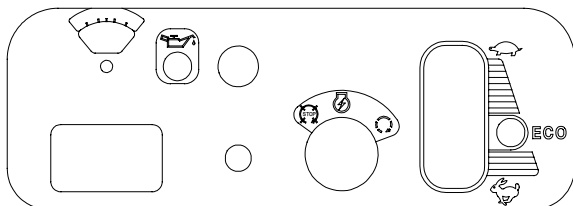
### ●0675-912-042-0




When working, make sure to wear protective equipment, such as a mask, a goggle, a helmet and earmuffs.


● AR950F 0675-912-012-1,


AR950 0675-913-012-0




## • STARTER SWITCH

 OFF position: the engine stops and all electric circuits are turned off.


 ON position: the key returns to this position after starting the engine and remains there during operation.


 START position: the starter motor is switched on.

## • OIL PRESSURE LAMP

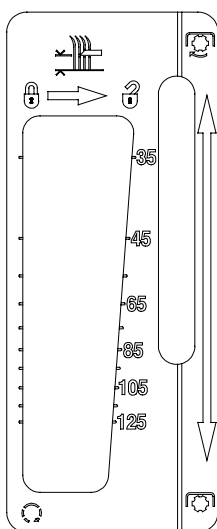
 The lamp flashes when the engine oil pressure is not circulating normally. It also flashes when the key returns to the ON position or the START position while the engine stop, but it turns off when the engine starts.

## • THROTTLE LEVER


 Turn this lever towards the “turtle” mark, to decelerate.



 Turn this lever towards the “rabbit” mark, to accelerate.


● 0675-912-013-0




## • Cutting-height adjustment lever


 This lever is used to adjust cutting-blade height.

  When the lever is moved to arrowed side, it is possible to adjust cutting-blade height by leashing the lock. When return the lever, the cutting-height will be locked.

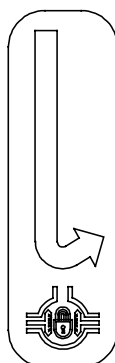
 Only when the cutting-height lever is in this position, the engine can be started.

## • Cutting-blade clutch lever


 When cutting-blade clutch lever is in this position, the cutting-blade starts rotating.

 When cutting-blade clutch lever is in this position, the cutting-blade is stopped.

● 0675-912-014-0



## • Differential lock lever

 When this lever is moved to arrowed side, differential gears are locked. When returned, differential lock is released.



# Warranty and Servicing

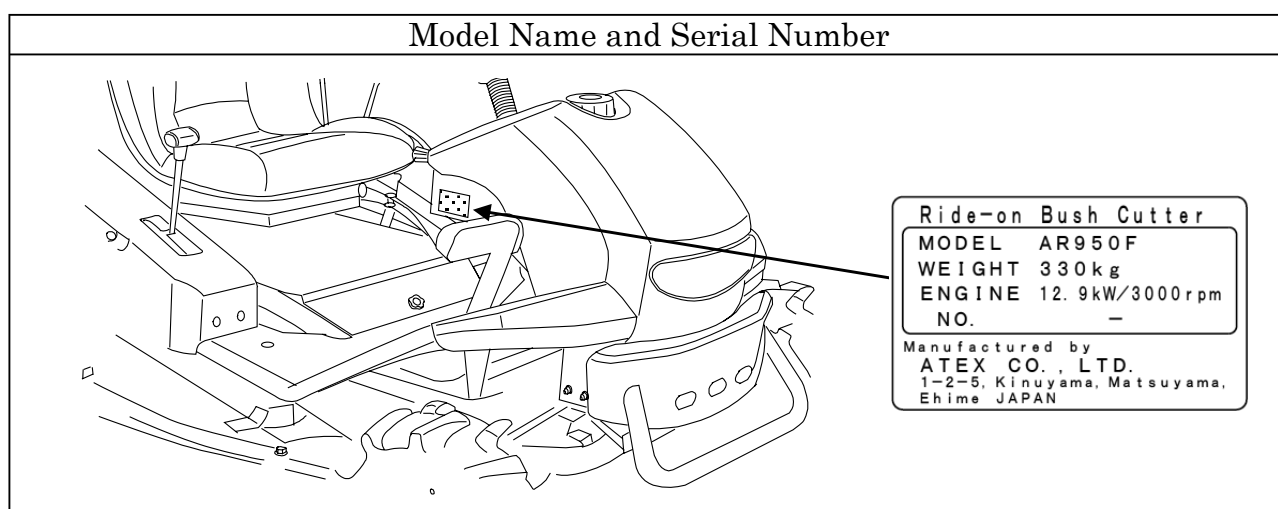
## ■ Warranty for New Machine

This product is in conformity with an ATEX warranty standards. Refer to the Warranty Standards for details.

## ■ Service Network

If the machine breaks down or you wish to service your machine, feel free to contact the “dealer from which you purchased your Ride-on Bush Cutter”.

When contacting the dealer, inform the model name and serial number of your Ride-on Bush Cutter.



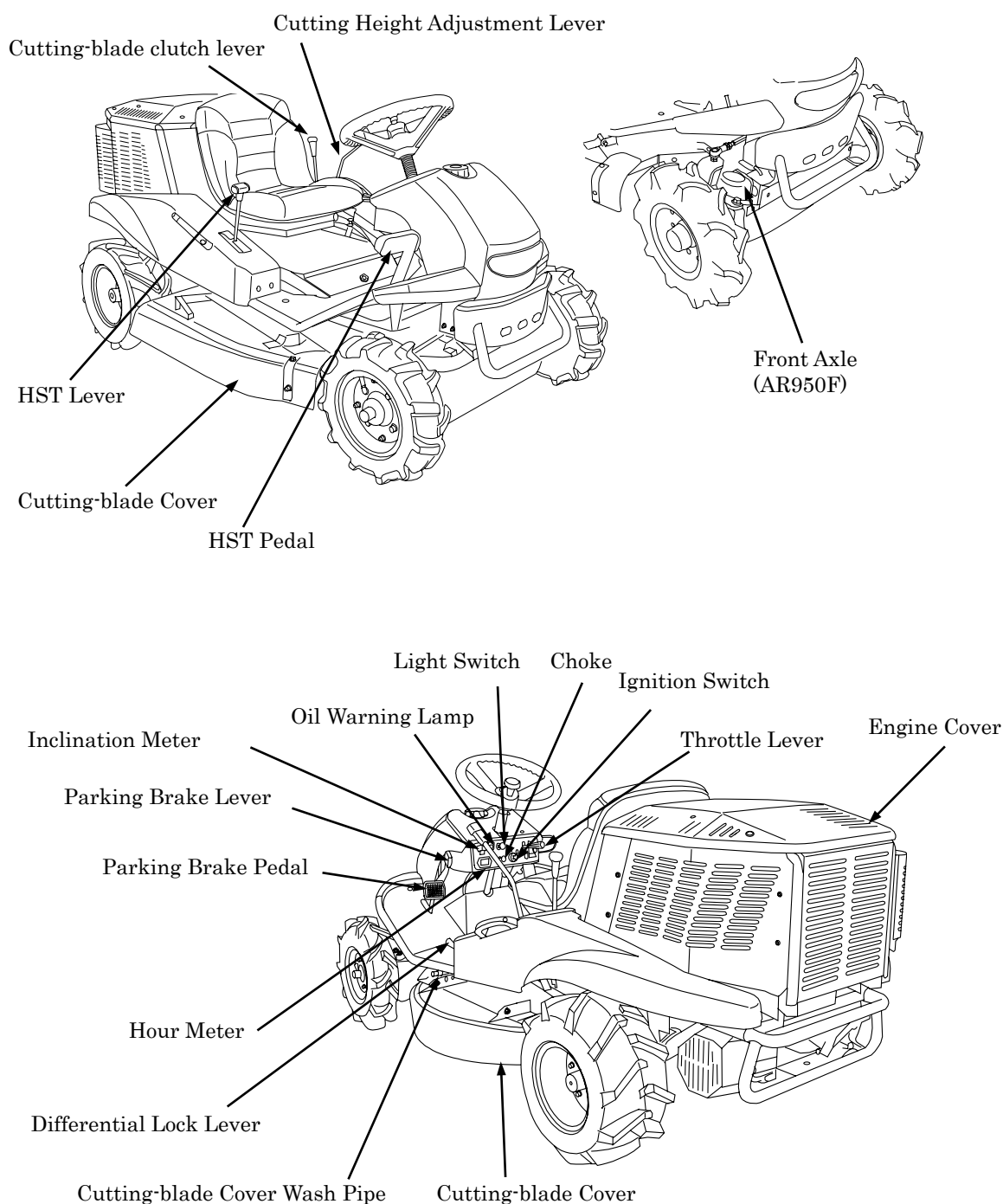
## ■ Supply Period for Spare Parts

In principle, spare parts for this product will be supplied for 10 years after the product has been discontinued. Even during this supply period, however, we may make special arrangement for the delivery lead time and other conditions regarding the supply of special parts after consulting the customers.

Supply of spare parts will cease at the end of the above period. However, feel free to contact the “dealer you purchased your Ride-on Bush Cutter from” if a need arise.

# Name and Function of Each Part

## Name of Each Part





(Figure AR950)



## Function of Each Part

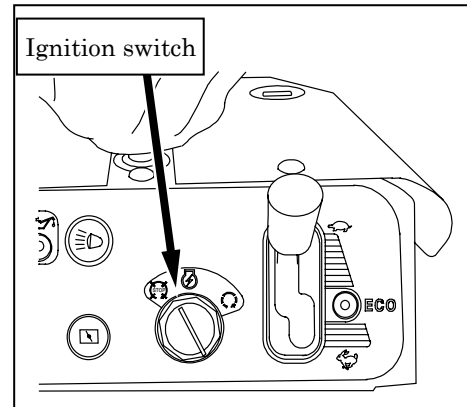
### ■ Ignition Switch

Ignition switch is used to start and stop the engine.

 position --- When the ignition switch is in this position, the engine stops and the ignition key can be removed or inserted.

 position --- The engine is running when the ignition switch is in this position.

 position --- Turning the ignition switch in this position to start the engine. When released, the switch automatically returns to the “” position.



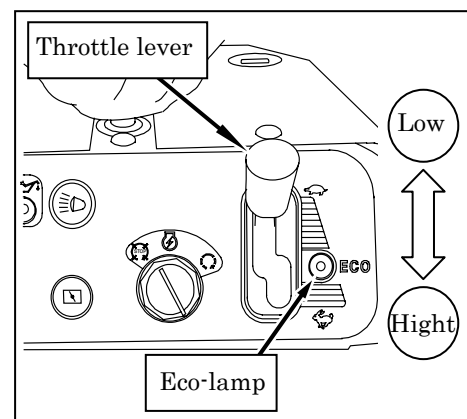
- If the machine will not be used for a while and will remain in storage, be sure to remove the ignition key.
- Refer to p.30~33 of this manual for information on starting and stopping the engine.

### ■ Throttle Lever

The throttle lever is used to raise/lower the engine speed.

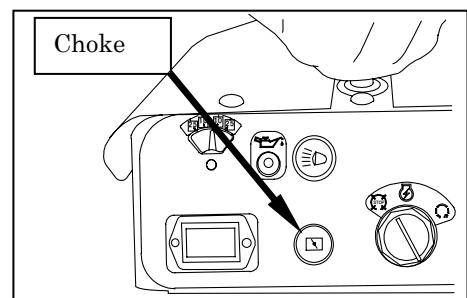
The maximum horsepower (power) is available at the maximum engine speed.

In the Eco-drive mode, the engine speed drops to the level at which the amount of fuel is economically consumed and the Eco-lamp remains lit. Since the horsepower decreases by 10% compared to horsepower at full-throttle, use the Eco-drive mode as necessary according to the load. (Refer to p.45 of this manual)



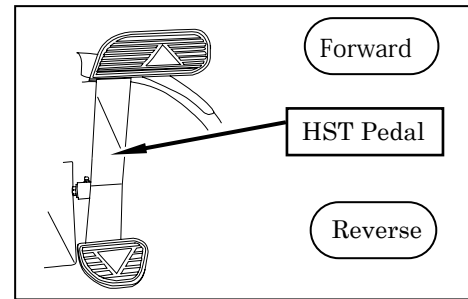
### ■ Choke

Pulling the choke lever closes the choke valve, while returning it opens the valve. Pull the choke when starting the engine (in case of cold start, etc.) and be sure to returning it once the engine has started. (Refer to p. 32 of this manual)



### ■ HST Pedal

Depress the Forward pedal to move forward, or depress the Reverse pedal to move backward. The traveling speed can be adjusted steplessly by adjusting the pedal angle.

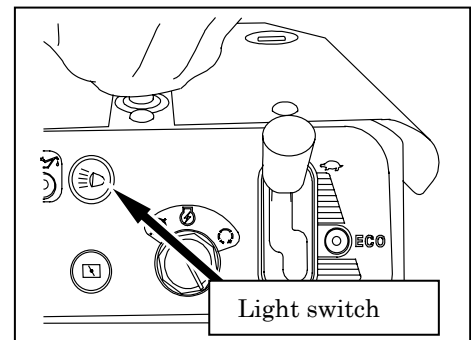


### ■ Light Switch

The light switch is used to turn the headlight in “On” or “Off”.

#### **Important**

- Use the headlight when operating.



### ■ Inclination Meter

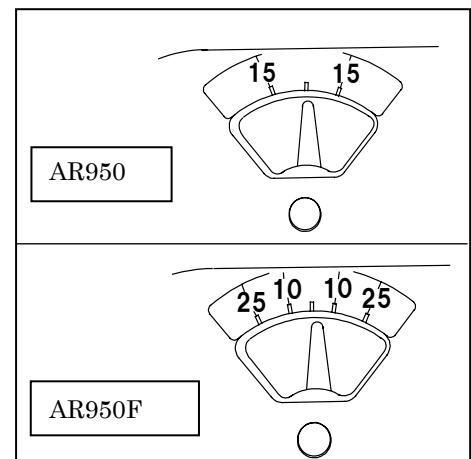
Display the angle of left and right of the machine.

Travel on slope at low speed.

- AR950 : Do not travel over the angle 15 °
- AR950F: Do not travel over the angle 25 °

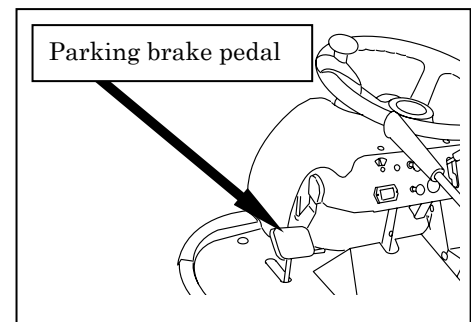
#### **Important**

- Because the display of inclination meter is guidelines, be sure to measure the inclined angle before working.



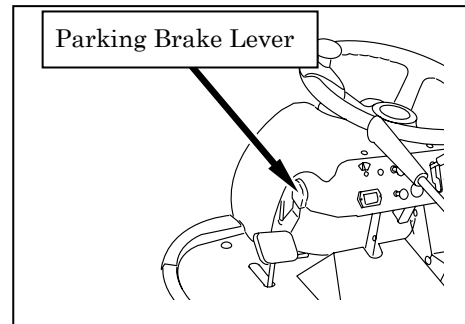
### ■ Parking Brake Pedal

The parking brake pedal is normally used to apply the parking brake. In case of emergency, depressing this brake pedal puts a brake on the rear wheels. To stop the traveling machine, do so after returning the HST lever and HST pedal to the “Neutral” position.



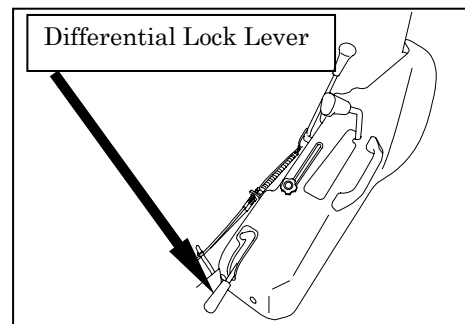
### ■ Parking Brake Lever

Depress the brake pedal and pull this parking brake lever, and then the brake pedal will be “Locked”, so the parking brake will remain effective. To release the parking brake, depress the brake pedal again to “Unlock” this lever.



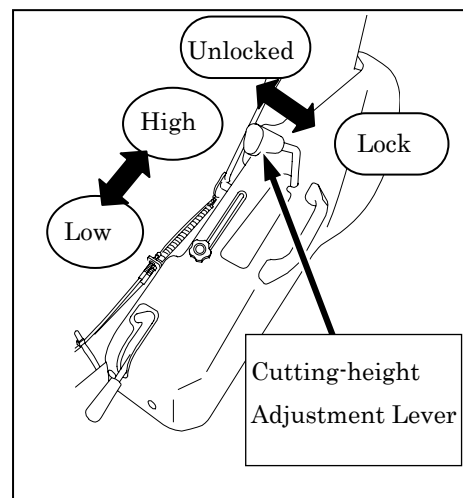
### ■ Differential Lock Lever

The differential lock lever is used when one of the rear wheels gets stuck in the mud, etc. and the machine cannot be pulled out because the wheel is slipping. Shifting the lever to the “On” position locks the differential, while shifting it to “Off” position unlocks the differential. When traveling in a normal condition, be sure to keep the lever in the “Off” position.



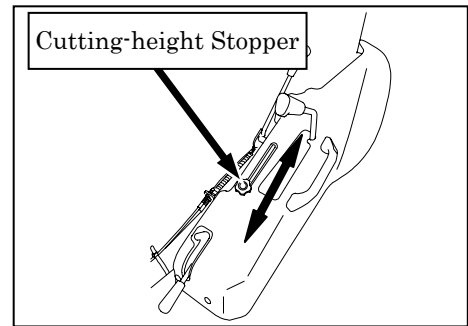
### ■ Grass Cutting-height Adjustment lever

The grass cutting-height adjustment lever is used to adjust the height of the cutting blade. Tilting the lever toward the seat unlocks the adjustment mechanism so that you can adjust the height. After the adjustment of grass cutting height, tilt the lever outward to “Lock” the cutting height.



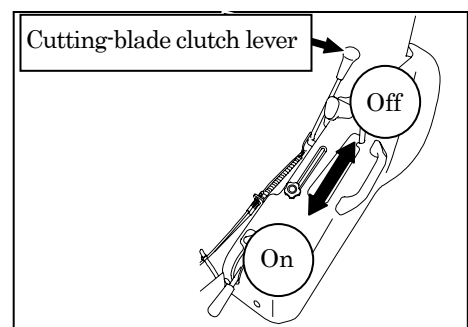
### ■ Grass Cutting-height Stopper

The grass cutting-height stopper is used to set the lower-limit position of grass cutting height. Loosen the knob bolt, adjust the cutting-height stopper position and tighten the knob bolt. Then, the bolt will function as a stopper for the cutting-height adjustment lever.



### ■ Cutting-blade Clutch Lever

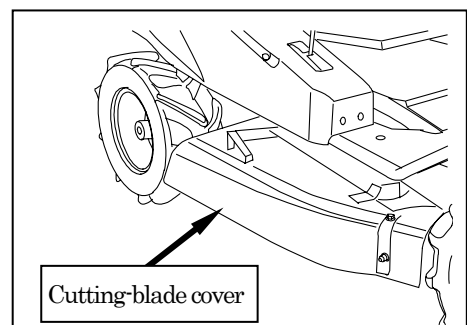
The cutting-blade clutch lever is used to turn on/off the power of the cutting blade. Shifting the lever to the 'Off' position activates the interlocked brake on the cutting blade to stop the cutting blade. The cutting-blade clutch lever cannot be shifted to the "On" position while the cutting-height adjustment lever is in the "Start Engine" position.



### ■ Cutting-blade Cover

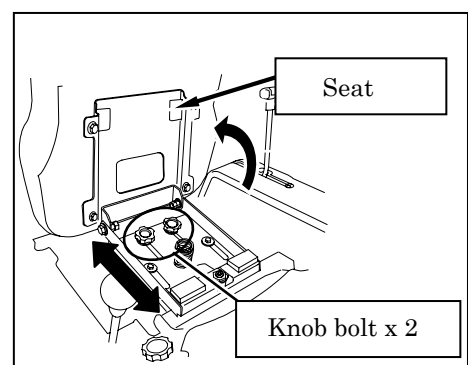
The cutting-blade cover is used to prevent small stones and foreign matters from scattering during work. It can be removed by loosening one bolt when replacing blade or servicing.

(Refer to p.78 of this manual)



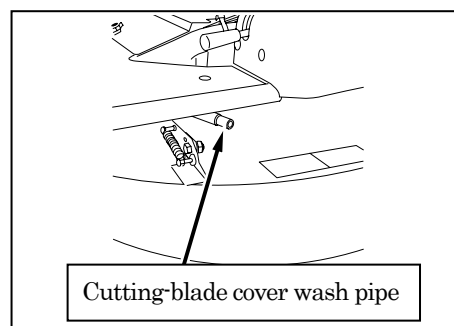
### ■ Seat

This is the seat only for the operator. Tilt the seat forward, loosen the knob bolts at the back of the seat. Then, slide the seat forward and backward to adjust it at suitable position, according to body size of the operator.



### ■ Cutting-blade Cover Wash Pipe

Connect a water hose to this pipe when washing the interior of the cutting-blade cover after work.



### ■ Engine Cover

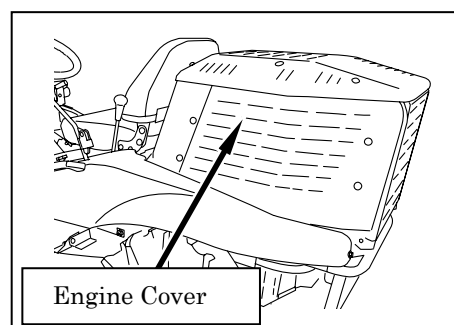


#### Warning

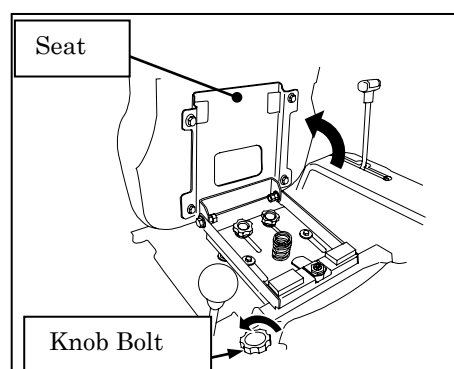
- The operator or any other people may cause injury sandwiched between the engine cover.

When opening the engine cover, be sure to do it on flat ground without being blown by strong wind.

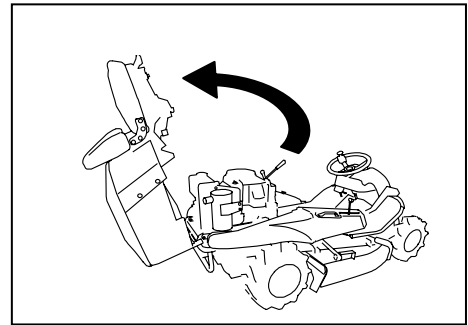
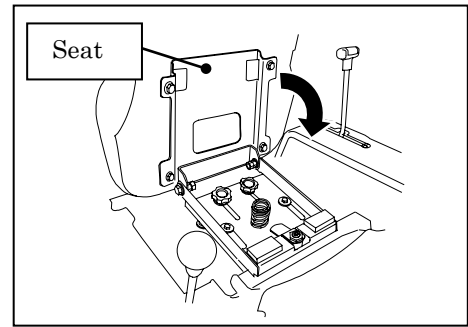
Open the engine cover for easy access to the engine for cleaning, inspection and maintenance.



1. Tilt the seat forward and remove the knob bolts at the rear left-hand corner of the seat.
2. Return the seat to the original position and by holding the front part of the seat, open the engine cover slowly toward to rearward.

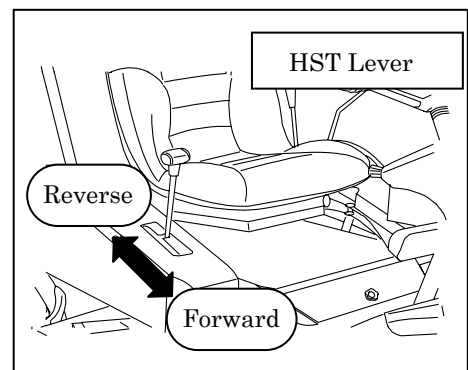


3. Follow the same steps in reverse order to close the engine cover. Be sure to tighten the knob bolt.



### ■ HST Lever

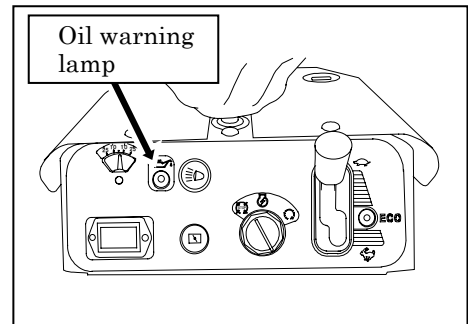
Tilt the lever forward to move forward, or tilt it backward to move rearward. The traveling speed can be adjusted steplessly by adjusting the lever angle.





### ■ Oil Warning Lamp

If the engine oil quantity drops while the engine is running, the warning lamp flashes to warn any potential engine seizure caused by low engine oil. When the warning lamp flashes, stop the engine right away and refill engine oil.

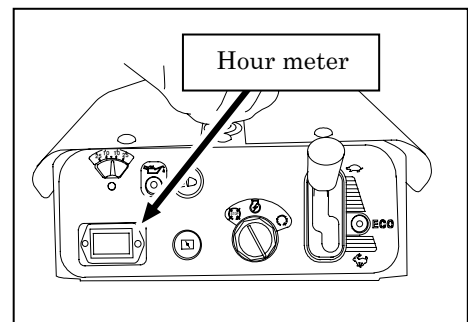


### Important

- While the engine stops, the warning lamp flashes when the engine switch is in the “On” position. If the warning lamp does not flash then, there is defective electrical part. Inspect and repair the defective part.

### ■ Hour Meter

The hour meter is helpful to roughly determine when to change oil or conduct other inspections of the parts of machine.



# Preparation for Work

## Inspection before Use

### ■ Startup Inspection



#### Caution

- Be sure to conduct inspection/maintenance before use.
- At the time of inspection, maintenance, refueling, be sure to stop the engine, and cutting blade completely.
- Be sure to check whether all of covers/caps in original position, then operate the machine.



#### Warning

- Be sure that there are chipping nor cracks on the blade before use.

To prevent breakdown, it is important that you always keep the good condition of the machine. For this reason, you should conduct the startup inspection everyday without fail.

Follow the inspection steps below.

1. Conduct maintenance on the locations that showed malfunction the day before, if any.
2. Inspect the items indicated by a “O” in the “startup” table under “Inspection timing” in <List of Periodic Inspection and Maintenance Locations>(Refer to p.49 to 52 of this manual)

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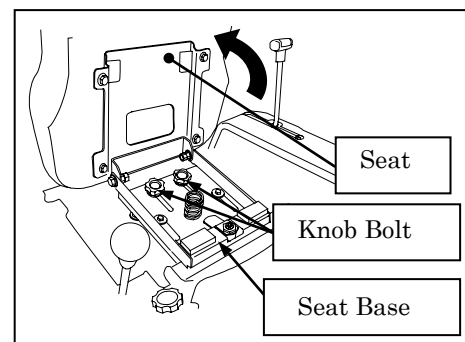
### Preparation before use

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#### ■ Adjusting the Forward/Backward Position of the Seat

The seat can be adjusted forward and backward according to the body size of operator. Adjust the seat to a suitable position so that the levers and pedals can be operated properly.

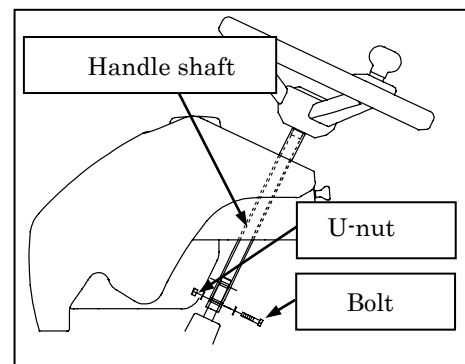
1. Tilt the seat forward and loosen the knob bolts (2 pcs) under the seat, or adjust the seat base forward or backward.
2. Sit on the seat and confirm that you can operate the levers and pedals properly.
3. Tilt the seat forward and securely tighten the knob bolts (2 pcs) under the seat to lock the seat base.



#### ■ Adjusting the Steering Wheel Height

The height of the steering wheel can be adjusted at one of three different positions according to the body size of the operator. Adjust the height at a position where the steering wheel can be operated properly.

1. Remove the bolt and U-nut before moving the handle shaft.
2. Move the handle shaft up and down to adjust the height.
3. A loose handle shaft will bring a very dangerous situation, so securely tighten the bolt and U-nut.



### ■ Refueling



#### **Danger**

- Fuel may ignite. Any fire source nearby to the fuel tank is strictly prohibited.
- Refueling while smoking a cigarette in your mouth or while using any fire source nearby is strictly prohibited. Fuel may ignite, which causes explosion or fire.
- When refueling, park the machine on flat ground and be sure to stop the engine
- Don't park the machine on slope. The fuel may overflow if the fuel is put fully in the fuel tank.
- Wait until the engine and muffler cool down before refilling fuel.
- Don't refill fuel excessively. If fuel is refilled excessively, it may overflow and cause fire.
- If fuel overflows, wipe it off immediately.

#### **Important**

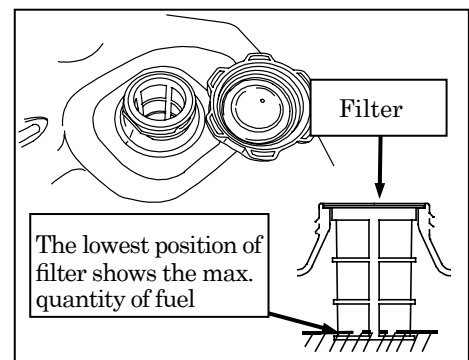
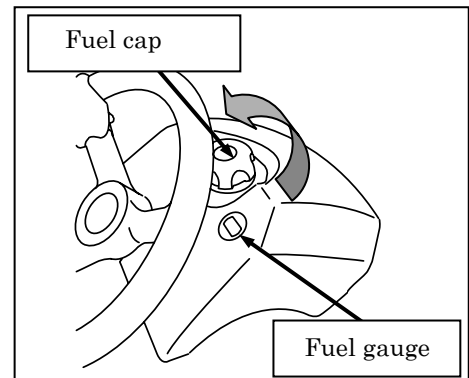
- Don't use poor quantity of fuel or fuel containing dust or other impurities. It may cause any malfunctions to the engine.

1. Remove the fuel cap
2. Refill unleaded gasoline.

#### **Important**

- Don't refill the fuel exceeding the lowest position of the filter. The fuel may overflow on slope or bumpy area.  
When the fuel gauge indicates "E" position closely, refuel immediately.

3. Securely tighten the fuel cap after refueling.



# How to Work

## Operating Procedures

### ■ How to Start the Engine



#### Danger

- When starting the engine, sit on the seat and check whether each lever is located suitably, and also confirm safety around you. In particular, don't start the engine while the HST lever is in operation because the machine may move suddenly or otherwise cause an accident.



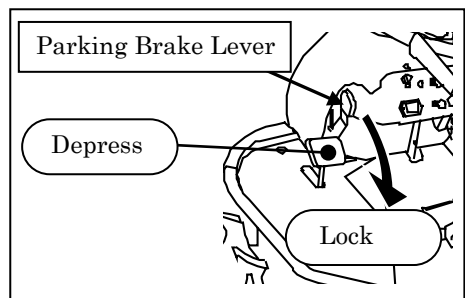
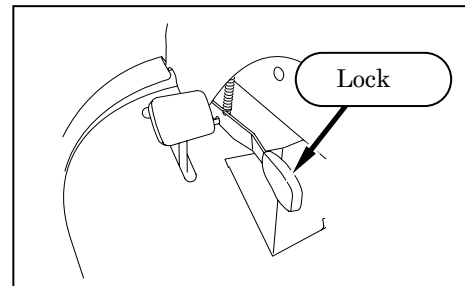
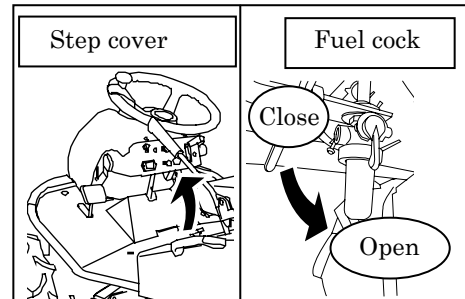
#### Caution

- Don't start the engine in a closed room without ventilation, exhaust gas will damage the health of people.

1. When checking quantity of fuel, lift the rear side of step cover under the handle, then remove the step cover. Open the fuel cock in the step cover.
2. Sit on the seat and confirm that the parking brake pedal is "Locked"

#### Important

- If the parking brake pedal is not in the "Locked" position, the safety switch will activate, so the engine will not start.



3. If the parking brake pedal is not locked, pull the parking lever while operating the brake pedal to lock the pedal.



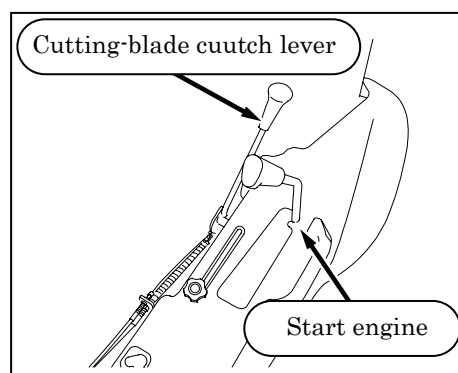
### Caution

- To start the engine, confirm the safety around you. Ride on the machine, and put the cutting-blade clutch lever to “Off” position. Put the cutting-height adjustment lever to “Engine Start” position. Put the HST lever to “Neutral” position, and then start the engine while depressing the brake pedal.
- Sudden taking off is dangerous. Take off slowly.

4. Shift the cutting-blade clutch lever to the “Off” position and shift the cutting-height adjustment lever to the “Start Engine” position.

### Important

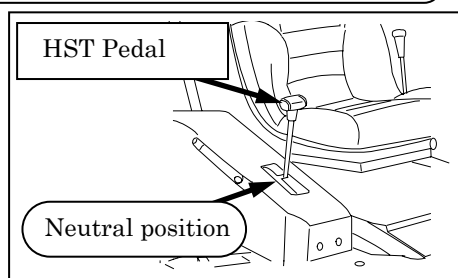
- Unless the cutting-height adjustment lever is in the “Start Engine” position, the safety switch will activate, so the engine will not start.





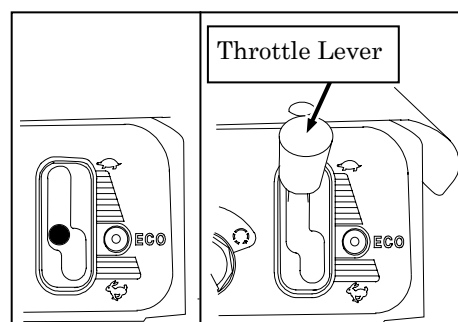
### Danger

- Sudden taking off may cause collision or falling down. When starting the engine, make sure that the HST lever is in “Neutral” position.

5. Release the foot from the HST pedal.  
6. Shift the HST lever to the “Neutral” position.



7. Shift the throttle lever to a position between “” and “”.

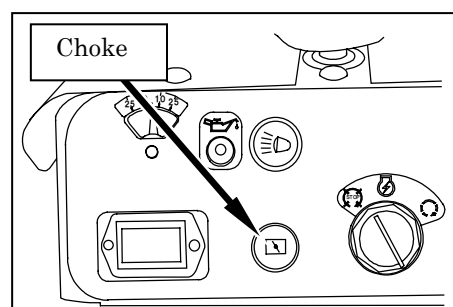



## 8. Operate the choke

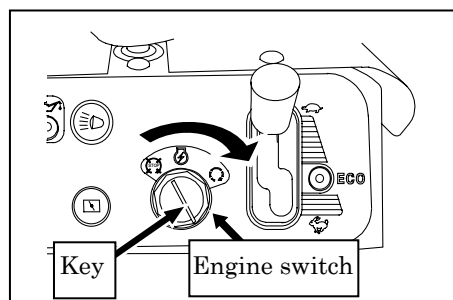
When the engine is cold: Pull the choke fully

When the engine is hot: Pull the choke by a half



\* Once the engine has started, be sure to return the choke to the original position.




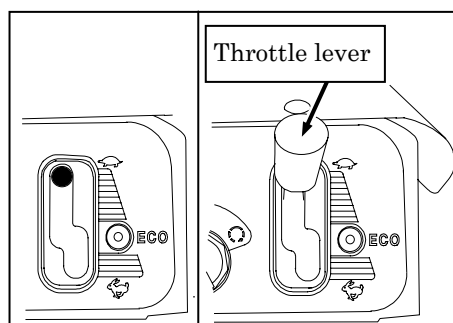
9. Insert the ignition key and turn the engine switch to the “” position to start the engine. Once the engine has started, immediately release your Hand from the engine switch.



### Important

- The engine starter motor consumes a lot of electrical current, so avoid using it continuously for 5 seconds or more.
- If the engine does not start within 5 seconds, return the ignition key to the “” position and wait for at least 10 seconds, and then try again.
- Don't put the ignition key to the “” position while the engine is running. The starter motor may be damaged.
- When operator is not sitting on the seat, a safety device is activated and the starter motor turns but the engine never starts.

10. Once the engine has started, return the throttle lever to the “” position and warm up the engine for 5 minutes or more.



### Important

- Warming up the engine has the effect of extending the service life of the engine, HST, etc.



### Warning

- Be sure to keep the brake pedal in the “Locked” position while the engine is warming up; otherwise, the machine may move suddenly and cause an unexpected accident.

### ■ How to Stop the Engine



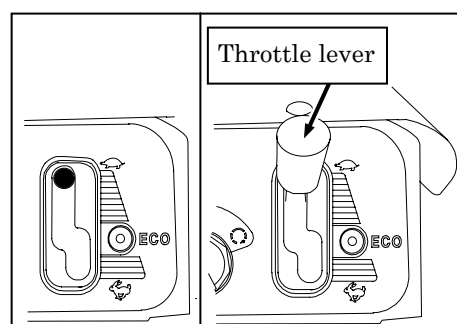
#### Warning


- Touching the engine may get burned. After the engine has stopped, do not touch the engine, muffler and other parts while hot.

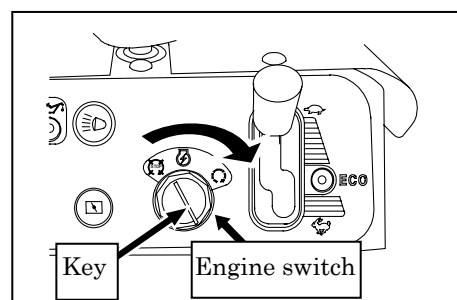
#### Important

- Use the engine switch to stop the engine. If the cutting-height adjustment lever is in a position other than “Start Engine”, standing up from the seat activates the safety switch to stop the engine. If the machine is left after the engine stopped in this manner, the battery will be consumed and eventually die.

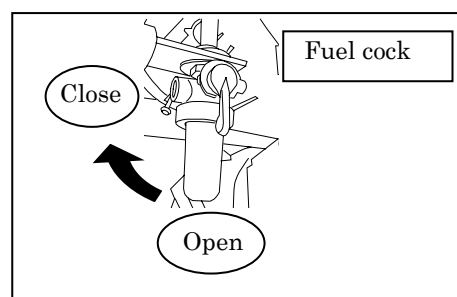
1. Shift the throttle lever to the “” position.




2. Turn the ignition key to the “” position to stop the engine. And then remove the ignition key from the engine switch.



3. Turn the fuel cock to the “closed” position.



4. If the engine does not stop after turning the engine switch to the “” position due to a failure, etc., turn the fuel cock to the “Closed” position. Monitor the engine until it stops.



### ■ How to Stop the Engine



#### Danger

- Pay attention to driving near the road shoulder or on soft ground because the machine may drop from the road or fall down.
- Always make sure of safety in the moving direction to prevent crashing with an obstacle.



#### Warning

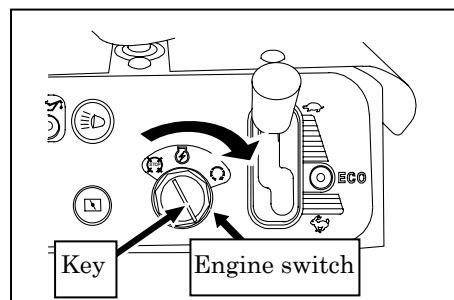
- Don't touch the rotating parts (belt, pulleys, etc.) while the machine is in operation, otherwise the rotating parts may cause injury.



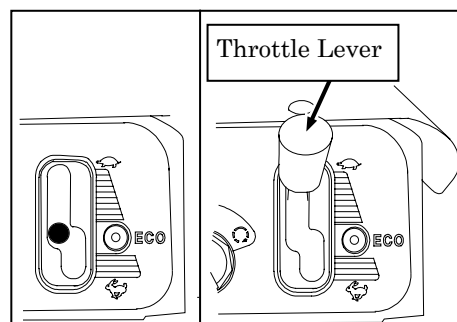
#### Caution

- This machine has the seating capacity of one person. A person riding on the machine other than the operator on the seat may get injured. Don't give two persons ride on this machine.

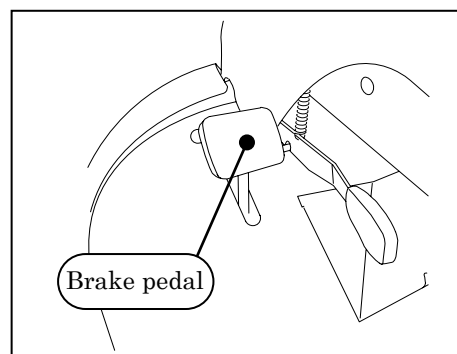
### 1. Start the engine(Refer to p.30~32)



### 2. Shift the throttle lever toward the “” side to raise the engine speed.

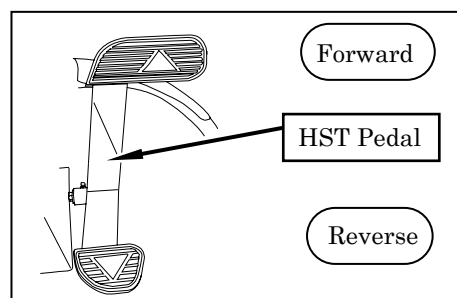


3. Depress the brake pedal to “Unlock” the parking brake lever.



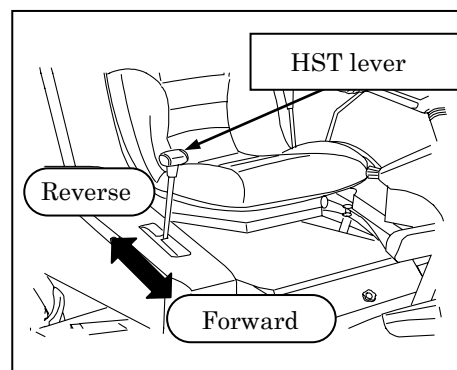
4. Travel on the machine by depressing the HST pedal forward or backward. The speed can be adjusted according to depressing amount of the HST pedal.

- Move forward: Depress the HST pedal forward.
- Move in reverse: Depress the HST pedal backward.



5. Travel on the machine by operating the HST lever forward and backward. The speed can be adjusted steplessly.

- Move forward: Tilt the HST lever forward.
- Move in reverse: Tilt the HST lever backward.



### Warning

- Don't operate the HST lever and HST pedal at the same time. Wrong operation may cause the machine to crash or fall down.
- Depressing the HST pedal in the wrong forward/reverse direction or tilting the HST lever in the wrong forward/reverse direction may cause the machine to crash or fall down. Pay attention to correct operation.

### Important

- When depressing the HST pedal, shift the HST lever to “Neutral” position.
- When shifting the HST lever, release the foot from the HST pedal.

### ■ How to Stop the Engine



#### Danger

- If the machine does not stop by shifting the HST lever or by depressing the parking brake pedal, turn the engine switch to the “Off” position to stop the machine.



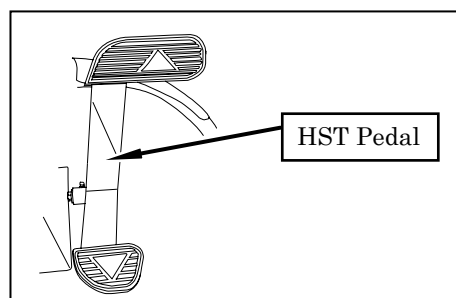
#### Caution

- To park the machine, depress the parking brake pedal, then pull parking brake lever to “Lock” on flat and solid ground. Then stop the engine and remove the ignition key. If the machine must be parked on slope, be sure to put chocks (wheel stops) underneath the tyres.

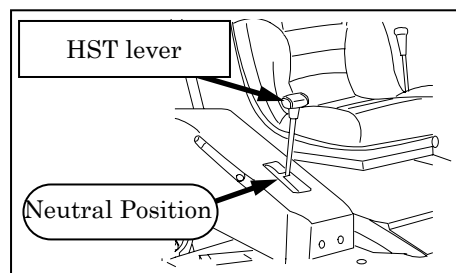
#### Important


- In case of emergency, depressing the parking brake pedal brings the machine sudden brake at the same time the HST lever returns to the “Neutral” position. In a normal condition, stop the machine by returning the HST lever to the “Neutral” position so as not to apply excess load on the gear box.
- Except in case of emergency, releasing the foot from the HST pedal stops the machine. If the brake pedal and HST pedal are operated at the same time, the brake will wear more quickly.

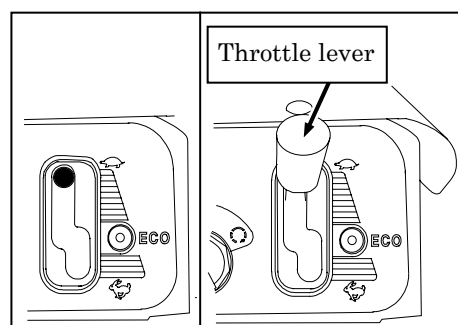
1. Stop the machine by releasing the foot from HST pedal.




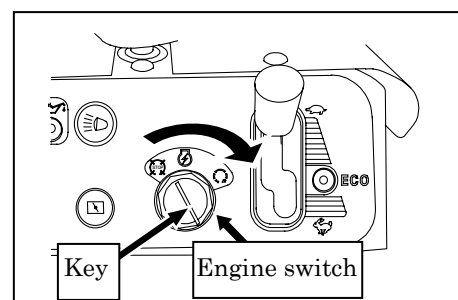
2. Stop the machine by returning the HST lever to the “Neutral” position.



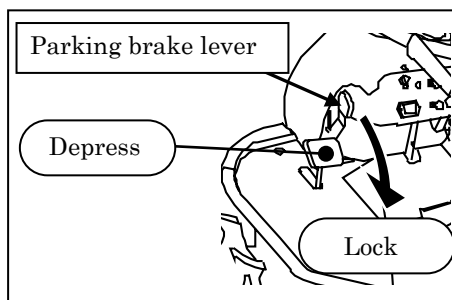
3. Shift the throttle lever to “” to lower the engine speed.



4. Turn the ignition key to the “” position to stop the engine, and then remove the ignition key from the engine switch.



5. Depress the parking pedal and pull the parking brake lever to lock the lever.



### ■ 4 wheel drive system (AR950F)



#### **Danger**

- Hydraulic devices are hot during or after working. Pay attention not to get burnt.
- The hot oil may blow out, so don't open the oil cap during working or after working.
- The oil blown out or leaked from oil tank may have high pressure or high temperature, so don't touch the oil. When stopping the engine, inspect the area around the engine after making sure of cooling down completely.

The driving system features on-demand four-wheel drive by the hydraulic control. This machine has the method of switching the two-wheel drive or four-wheel drive automatically by hydraulic control.

It can be switched either to four-wheel drive or two-wheel drive according to load condition and ground condition, etc.

#### **Important**

- When going down on the slope or traveling in slippery area, if take turn while traveling at high speed, the turning radius of left side may be 10~20 % bigger than right side, paying attention to operate the machine.

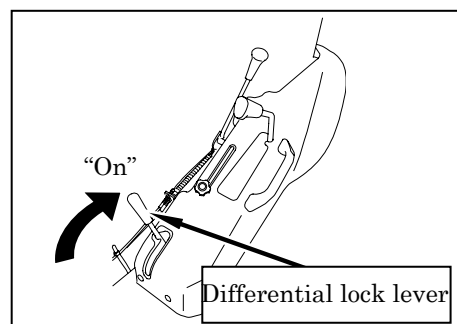
### ■ How to Operate the differential Lock Lever

#### **Important**

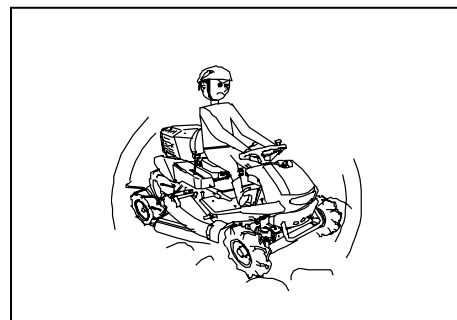
- Normally the differential lock lever must always remain in the “Off” position while traveling. Otherwise, it increases the turning radius, but it also causes the tyres to wear unevenly and various parts of the machine are heavily loaded, which may lead to a breakdown.

If the tyres slip in the mud or on a steep slope, etc., operate the differential lock lever to eliminate the differential revolutions of the rear wheels to prevent slipping.

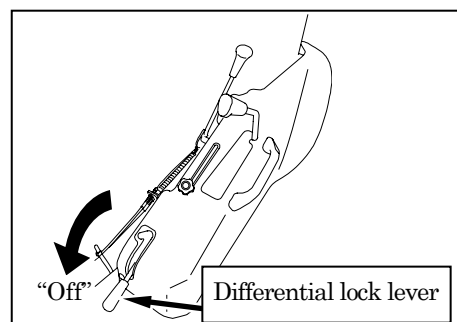
1. After keeping the machine stationary, shift the differential lock lever to the “On” position.



2. Move the machine slowly.



3. Once the machine gets out of the mud, stop the machine and return the differential lock lever to the “Off” position.



### ■ How to Cut Bush



#### **Danger**

- Don't put your hands and feet closer to the cutting-blade cover nor step on the cover while the engine is running.  
You may be seriously injured by the fast-turning cutting blade.
- Never work with the cutting-blade cover left open or removed.  
You may be seriously injured by the fast-turning cutting blade.
- If you find bush or any other combustible materials near the muffler or engine, remove it immediately to prevent fire.



#### **Warning**

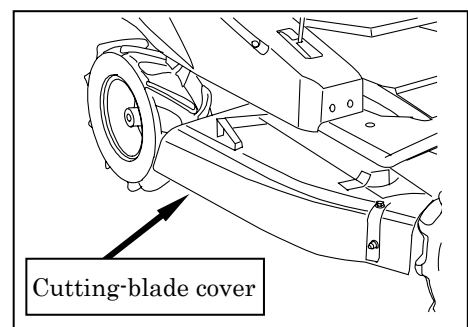
- Bush is ejected from the cutting-blade cover on the right side of the machine, but stones, wires, empty cans and other foreign objects may scatter from around the cutting part.  
Remove foreign objects before commencing work and pay attention to safety during work.
- While cutting bush, put a signboard saying that bush cutting work is underway. Stretch guard ropes or otherwise keep people (especially children), vehicles away from the work area, or specifically don't enter anybody within a 10 m radius of the machine.
- Don't cut bush on slope angle of 15° or more, bumpy ground, soft road shoulder or in other dangerous place.  
You may have to work in an abnormal situation, which leads to wrong operation or falling down.
- Before removing bush, wires and other foreign objects stuck to the cutting blade, make sure that engine stops and cutting blade is no longer turning.
- If you heavily hit on any obstacle during work, immediately stop the engine and quickly repair any broken parts. If work is resumed without repairing the machine, unexpected accident may result.



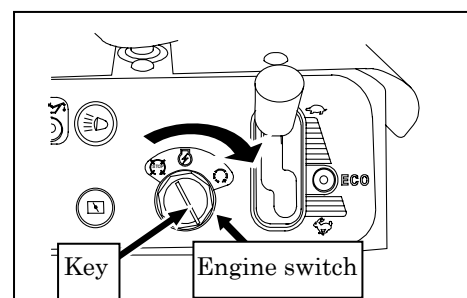
### Caution

- Wear a cloths with long sleeves and long pants with tight bottoms during work. Make sure to put on safety shoes with anti-slip soles, helmet, protective, goggles, protective mask and earmuffs.
- While working under a tree, travel at low speed and pay attention to injury caused by hitting to tree branches, etc.
- When using this machine for the first time, operate the machine on flat ground free from stones and other foreign objects, and cut bush slowly and straight by overlapping the cutting line straight.
- When cutting bush around a tree, pillar or any other obstacles should be kept on the left side of the machine at all times. If the obstacles are located at right side of the machine, objects coming out of the rotating blade may spread and hit you, which creates a very dangerous situation.
- Operate the machine on slope and bumpy area at low speed.


1. Make sure that the cutting-blade cover is closed.



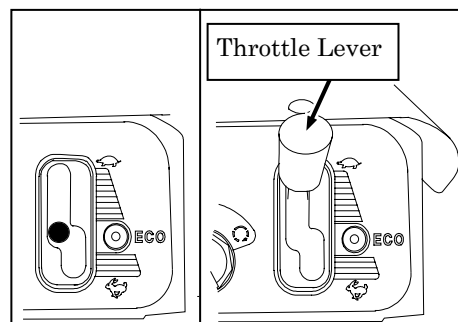
2. Start the engine. (Refer to p.30~32 of this manual)



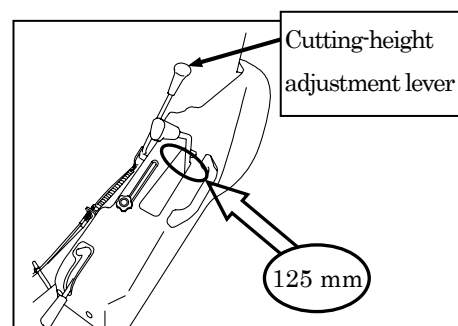


3. Put the throttle lever in “” to raise the engine speed.

Use the ECO-drive mode if it is not the heavy duty work. (Refer to p.45 of this manual)



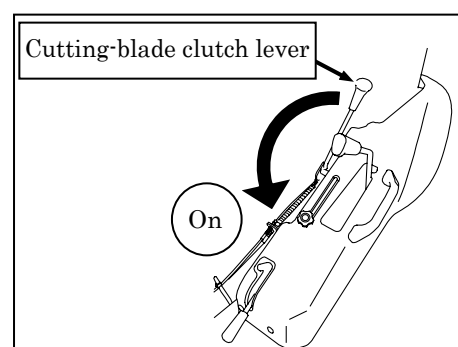
4. Adjust the cutting-height adjustment lever to the position of “125 mm” cutting height.



### Important

- Before shifting the cutting-height adjustment lever up and down, make sure to tilt the lever toward the seat to “Unlock” the lever. If the lever is operated by force while the lever is still “Locked”, the machine may break down.

5. Slowly tilt the cutting-blade clutch lever into the “On” position, and the cutting blade will start to turn.



### Important

- The cutting-blade clutch lever cannot be operated while the cutting-height adjustment lever remains in the “Start Engine” position. If the cutting-blade clutch lever is operated by force in this condition, the machine may break down.

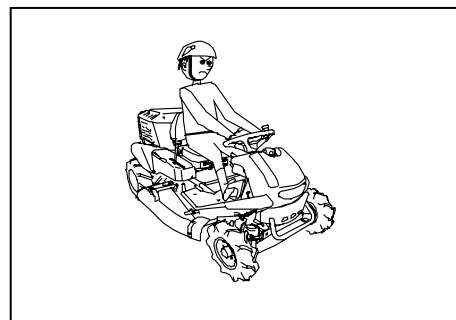
6. If necessary, operate the cutting height adjustment lever to change the cutting height.

### Important

- While the cutting blade is rotating, its height is different from when the cutting blade is stationary (height is higher while rotating). Also note that the cutting height varies depending on the condition of the ground. The right-hand table indicates the cutting height on each cutting-height adjustment lever position.

Cutting-height adjustment lever position	Cutting height (reference)
125	125mm
105	105mm
85	85mm
65	65mm
55	55mm
45	45mm
35	35mm

7. By depressing HST pedal or shifting HST lever, start working at the low traveling speed.



### Danger

- When cutting bush in bumpy or stony ground, remove stones or obstacles as much as possible before working.  
Then adjust the cutting-height at higher cutting height than usual for the safety. The blade may be broken, and the stones may scatter.



### Caution

- When the front wheel falls into groove or hole, do not pull the steering wheel or turn the steering wheel by force.  
Make sure to stop the engine and try to escape from the area by lifting the machine. Otherwise the machine may break down.

8. If loading to the engine is too high (a lot of bush were cut), lower the speed or cut the same area twice at different cutting heights.

9. To finish work, follow the aforementioned procedure (procedure to start work) in reverse order.



### Caution

- Before leaving the machine after work, stop the engine on flat and solid ground by locking the brake pedal. Then remove the ignition key.

- ① Stop traveling




- ② Put the cutting-blade clutch lever in the “Off” position.



- ③ Put the cutting-height adjustment lever in the “Start Engine” position.



- ④ Put the throttle lever in the “” position.



- ⑤ Keep the engine idle for the cool-down period, and then stop the engine.



### Danger

- The machine may move slightly. When leaving the machine, make sure to apply the parking brake.

### ■ How to Use ECO-Drive Mode

ECO-drive mode represents a mode of cutting brush using the most fuel-efficient rpm range of the installed Engine. In the ECO-drive mode, fuel consumption is approx. 20 % less than that at its maximum engine speed. Use ECO-drive mode when load to engine is low.

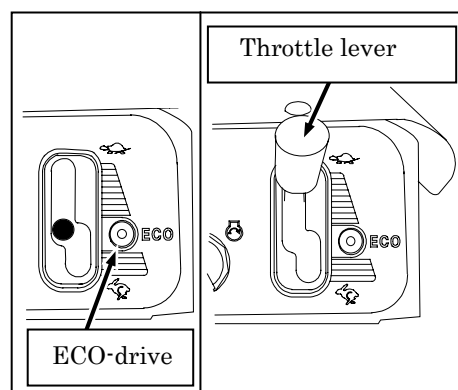
#### **Important**

- In the ECO-drive mode, the horsepower drops by approx. 10% compared to that its maximum engine speed.  
If the machine is working under the condition that the engine speed drops frequently or engine stalls in the ECO-drive mode, raise the engine speed to the maximum.

1. Start the engine. (Refer to p.30~32 of this manual)

2. Move the throttle lever to the position where the ECO-lamp turns on, to raise the engine speed.

The position where the ECO-lamp turns on represents the most fuel-efficient engine speed.



3. Cut brush according to the instructions. (Refer to p.40~44 of this manual)

### ■ How to Move in case of Emergency

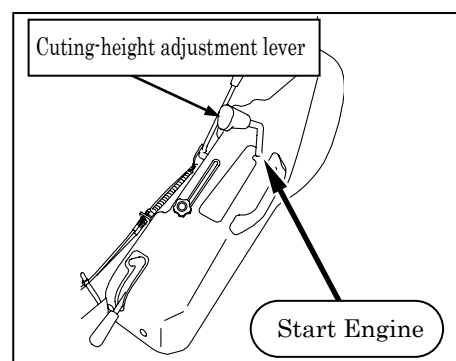


#### **Danger**

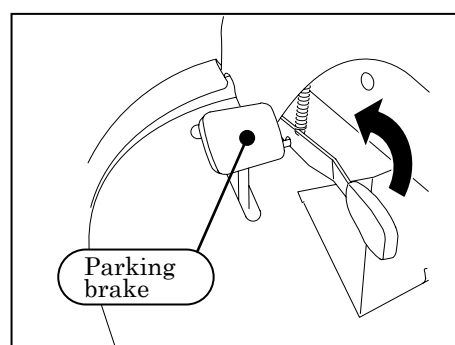
- Don't try to move the machine by pushing it on slope.  
The machine may move due to its deadweight, which creates a very dangerous situation.

If an engine trouble occurs or the machine can no longer move under normal operations, follow the steps below to move the machine.

1. Put the cutting-height adjustment lever to the “Start Engine” position.



2. Depress the parking brake pedal to release from the “Lock” position, and move the machine slowly.



#### **Important**

- The hydraulic circuit is connected. Because there is a hydraulic resistance, move the machine with the people.
- Don't tow this machine to move it. The hydraulic circuit may break down.

### ■ How to Wash the cutting-blade Cover



#### Danger

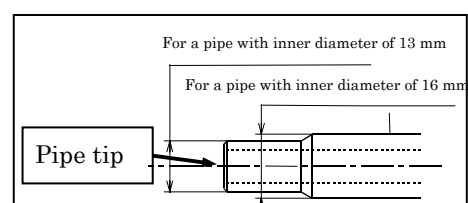
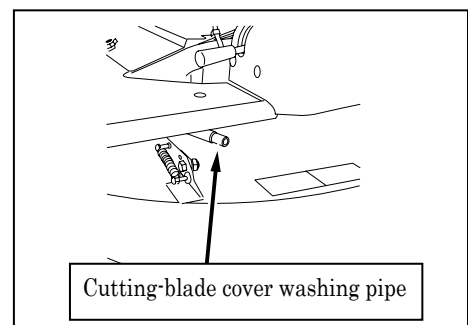
- Make sure of safety before washing the cutting-blade cover.
  - ① Make sure that the ground is flat and there are no obstacles nearby.
  - ② Keep the machine away from the people other than the operator, especially children.
  - ③ Be sure to close the cutting-blade cover.
  - ④ The operator should remain in the seat while washing the cutting-blade cover.



※ Do not wash the cutting-blade cover without making sure of safety first, as it may lead to an unexpected accident.

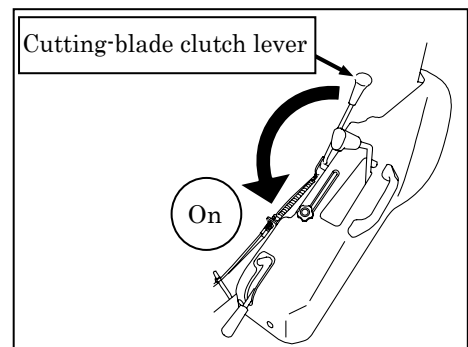
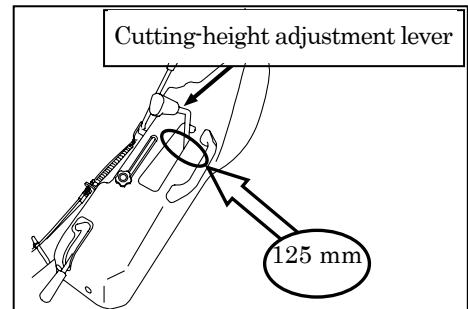
#### Important

- The machine is designed to easily wash inside the cutting-blade cover. However, the cover may not become completely clean depending on how dirty the inside of the cutting-blade cover is. If the cover is still dirty, wash the cutting-blade cover again or use a water hose.
- The cutting blade should smoothly rotate, so be careful not to let the water hose tangle up with the cutting blade.

1. Depress the brake pedal to the “Locked” position. (Refer to p.21,22 of this manual)
2. Connect a water hose to the cutting-blade washing pipe. The tip of the pipe has two steps. Connect the water hose with the tip of the pipe, or slide it further to the thicker portion, depending on the size of the water hose. If the water hose is loose, use hose bands, etc., to securely connect the hose.
3. Supply water through the water hose.



4. Start the engine and tilt the throttle lever toward the “” to raise the engine speed up to the maximum. (Refer to p.30 to 32 of this manual)
5. Adjust the cutting height to “125 mm”.
6. Shift the cutting-blade clutch lever to the “On” position. It is possible to wash the inside of the cutting-blade cover.
7. Keep supplying for approx. 3 minutes. Extend the washing time according to how dirty the interior of the cover is.
8. Shift the cutting-blade clutch lever to the “Off” position, and return the cutting-height adjustment lever to the “Start Engine” position. Then, shift the throttle lever to “”, and stop the engine.
9. Stop supplying the water and disconnect the water hose from the cutting-blade washing pipe.
10. If the cutting-blade cover is still dirty, clean it by using more water.



### Important

- After washing the cutting-blade cover, water still remains inside the washing pipe. Remove the water hose and run the cutting blade at high speed. It blows away moisture out of the washing pipe, which helps to extend the service life of the machine.

## Inspection/Maintenance



### Danger

- Make sure of safety before refueling or conducting inspection
- ① Park the machine in a flat and open space.
- ② Stop the engine and remove the ignition key from the key switch.
- ③ "Lock" the parking brake pedal

※ Conducting inspection or maintenance on the machine without making sure of safety may lead to an unexpected accident.

### Important

- Neglecting inspection and maintenance may lead to an accident.  
The machine should maintain its proper function and performance. As a result, you can operate the machine safely at all times. It is important that inspection and maintenance should be done according to <List of Periodic Inspection and Maintenance Locations>
- Conduct the annual inspection once a year, monthly inspection once a month, and daily inspection every day before commencing work.
- Some items in <List of Periodic Inspection and Maintenance Locations> require special knowledge or the specified tools or instruments. If you cannot inspect any of listed items by yourself, request the "Dealer from which you purchased your Ride-on Bush Cutter" to help you.

### <List of Periodic Inspection and Maintenance Locations>

Item		Detail of inspection	Inspection timing			Remarks	
			Start up	Monthly	Annual		
Machine/Engine	Startability	• Check if the engine starts promptly or generate any abnormal noise comes out	The engine shall start promptly without any abnormal noise.	○	○	○	
	Condition of engine revolutions	• Check the idling speed and maximum engine speed under no load. Also check if the engine revolution is smooth and continuous.	Each engine speed shall be in the specified range. The revolutions shall continue smoothly.			○	Ask the”dealer from which you purchased your ride-on bush cutter” to conduct this inspection.
		• Operate the throttle lever (idling to full-open position) and check if any resistance is felt on the throttle lever and if the engine stalls.	There is no resistance, and the engine shall not stall.	○	○	○	



<List of Periodic Inspection and Maintenance Locations>

Item		Detail of inspection		Inspection timing			Remarks
				Start up	Monthly	Annual	
Machine/Engine	Conditon of exhaust	•After the engine has sufficiently warmed up, check the clolor of exhaust gas and exhaust sound at speeds form the idling rpm to high rpm.	The color of exhaust gas and exhaust sound shall be normal.	○	○	○	
		•Check the exhaust pipe, muffler, etc., if there is leakage of gas.	There shall be no leakage of gas.		○	○	
	Air cleaner	•Check the case if there are cracks or deformation, and the cap and connection pipe if there is looseness.	The case shall remain free from cracks and deformation and the cap and connection pipe, from looseness.		○	○	
		•Check the form element and paper element if they are dirty or damaged, etc.	There shall be no significant dirt or damage.	○	○	○	Clean/ replace p.62
	Tightening	•Check the tightening points of the cylinder head and manifold if there are loose bolts and nuts. •If no gas or water is leaking from these points, this inspection may be skipped.	There shall be no looseness.			○	
	Valve clearance	•Check the valve clearance. •If the valve clearance is normal and there is no abnormal noise, and the engine is running smoothly, this inspection amy be kipped.	The valve clearance shall be normal.			○	Ask the "dealer from which you purchased your machine" to conduct this inspection.
	Compressive pressure	•Check the compressive pressure. •If there is no abnormal points in exhaust and idling and accelerating condition, this inspection may be skipped.	The compressive pressure shall be normal.			○	Ask the "dealer from which you purchased your machine" to conduct this inspection.
	Engine mount	•Check the engine base if there are cracks or deformation.	There shall be no cracks or deformation.	○	○	○	
		•Check the mounting bolts and nuts if there are looseness or detachment.	There shall be no looseness or detachment.	○	○	○	
	Engine	Lubrication devices	•Check the oil level and oil if it is dirt.	○	○	○	Inspect/ replace p.53 to 55
			•Check the head cover, oil pan, pipe, etc., if there is leakage of oil.	○	○	○	
		Fuel devices	•Check the fuel tank, hose, pipe, etc., if there is leakage of fuel.	○	○	○	
			•Check the fuel hose if there is damage or deterioration.	○	○	○	
			•Check the fuel cock if it is dirt or deteriorated.		○	○	Inspect/ clean p.63
Engine	Electrical device	Ignition plug	•Check the worn level of electrodes and whether carbon is deposited on them or not.			○	Inspect/ clean p.62
		Battery	•Check if the electrolyte level is within the specified range.		○	○	Inspect/add p.81
			•Check the terminals if they are looseness or corrosion.		○	○	
		Wiring	•Check the connections if there are looseness.		○	○	
			•Check the wiring if it is damaged.		○	○	

## How to Work

### <List of Periodic Inspection and Maintenance Locations>

Item		Details of inspection	Inspection timing			Remarks
			Start up	Monthly	Annual	
Transmission	V-belt	• Check the exterior if there is damage or dirt.		○	○	
		• Check the tension of V-belt.		○	○	Inspect p.64,66
	Transmission	• Travel forward and backward to check the condition of the transmission and if abnormal noise or abnormal heat found.	○	○	○	
		• Check the oil level in the transmission case.		○	○	Clean/replace p.57
	HST/front axle	• Check the oil level in the HST oil tank.	○	○	○	p.58
		• Check if the oil is dirty.		○	○	Inspect/replace p.58 to 60
		• Check around the case and hose if there is leakage of oil.	○	○	○	
Gear case	HST pedal/HST lever	Operate the HST pedal/lever while traveling to check if the machine works properly.	○	○	○	
		Check the HST lever/pedal mounting point if there is looseness or play.	○	○	○	
Driving system	Steering wheel	• Turn the steering wheel to the left and right while traveling to check if there is play and make sure that it works reliably.	○	○	○	
	Tires/wheels	• Check the tyre pressures and lug height.		○	○	Inspect p.64
		• Check the tires and wheels if there are cracks or damage or uneven wear.	○	○	○	
		• Check the surface of tire if there are sticking of metal pieces, stones or other foreign objects.	○	○	○	
		• Check the wheel bolts and hub nuts if there are looseness and detachment.	○	○	○	
		• Check the wheel bearing if there is play, abnormal noise or abnormal heat.		○	○	
Brake	Brake	• Check if the parking brake pedal play (cable adjustment) is appropriate.	○	○	○	Adjust. P. 69
	Rods, links, wires	• Check the rods, links and cables for damage and also check the mounting points if there is looseness.	○	○	○	
Body	Body, covers	• Check the body and covers if there are cracks or deformation. • Check the bolts and nuts if there are looseness or detachment.		○	○	

## How to Work

### <List of Periodic Inspection and Maintenance Locations>

Item		Details of inspection		Inpection timing			Remarks
				Start up	Monthly	Annual	
Light	Head light	•Start the engine and operate the light switch to check if the light turns on/off properly.	The light shall turn on/off properly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		•Check if there are damaged lens or entry of water, etc.	There shall be no damaged lens or entry of water, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Safety switch		•Check if the safety switch functions properly when starting the engine.	The switch shall function properly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Inspect/adjust. P. 73 to 75.
		•Check if the safety switch functions properly when the engine is running.	The switch shall function properly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Cutting blade	Knife (cutting blade)	•Confirm that the cutting blade is not broken or worn.	There shall be no breakage or abnormal wear.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Inspect/adjust. P. 76 to 80.
		•Check the degree of wear of the head of the cutting-blade mounting bolt.	The degree of wear shall not exceed the specified range.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		•Check the cutting-blade mounting nuts if they are loose.	There shall be no looseness.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	Knife blade	•Check the knife blade for deformation and cracks.	There shall be no deformation or cracks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		•Check the knife blade mounting bolts and nuts for looseness.	There shall be no looseness.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

### <Refuelling, Greasing, Lubrication and Fluid Makeup List>

Item	Recommended product	When to add (change)		Capacity	Reference page
Fuel	Unleaded automotive gasoline	As needed		14 liter	P. 29
Engine oil	Gasoline engine oil SAE 10W-30 API class SF or better	Add	Inspect every day. * Add if the oil level is low.	1.6 liter	P. 53 to 56
		Change	Initial: After 8 hours	1.8 liter when filter is replaced	
			Second and subsequent: Every 50 hours or every year, whichever arrives first		
Transmission oil	Gear oil SAE 80W-90	Change	Initial: After 50 hours	1.7 liter	P. 57
			Second and subsequent: Every 500 hours		
Fornt axle/ HST oil	Diesel engine oil SAE 10W-30 API class CD or better	Add	Inspect every day. * Add if the oil level is low.	AR 950F: 6.4 liter	P.58 to 60
		Change	Initial: After 50 hours	AR 950: 3.7 liter	
			Second and subsequent: Every 200 hours		
Each degreasing location	General lithium grease	Every 6 months * Grease as necessary		Appropriate amount	P. 60
Battery fluid	Distilled water	Inspect every month * Add if the fluid level is low.		Appropriate amount	P. 81

\* When replacing oil, dispose of waste oil properly according to local law.

### ■ Inspecting, Changing and Refilling Engine Oil

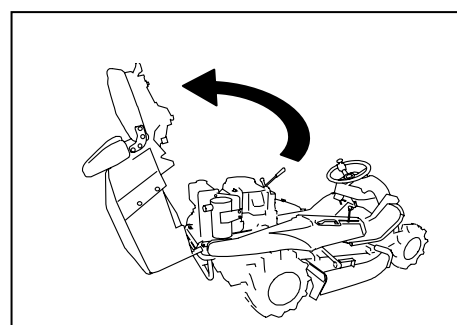
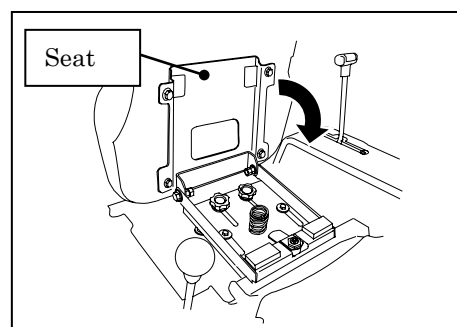
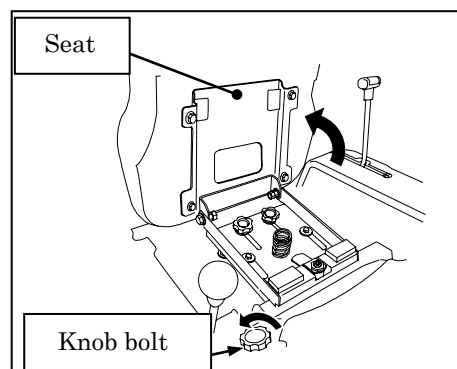


#### **Danger**

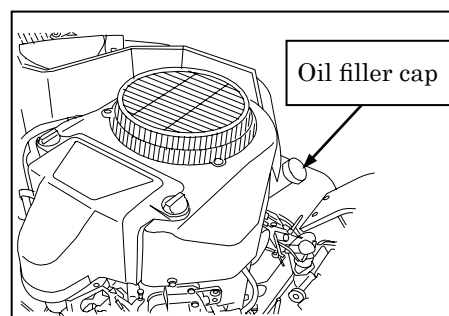
- Always open the engine cover on solid and flat ground without blowing wind. Otherwise, the engine cover may suddenly close and caught your body.

### ■ How to Inspect

1. Put the seat down forward and remove the knob bolts located underneath and rear-left corner of the seat.
2. Return the seat to the original position and hold the front portion of the seat, and turn the engine cover backward slowly .



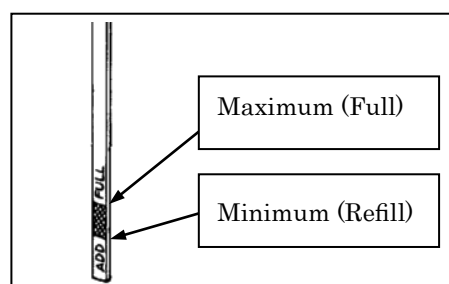
3. Remove the oil filler cap on the engine and use a clean cloth to wipe the oil level gauge attached to the filler cap.
4. Insert the oil filler cap and pull it back out.



### Important

- When inspecting the oil level, don't screw in the oil filler cap.

5. Inspect the level of engine oil and if oil quantity is low, refill the engine oil slowly until the "Full" position indicated on the oil level gauge.
6. Inspect the dirt of engine oil and if oil is significantly dirty, change engine oil.



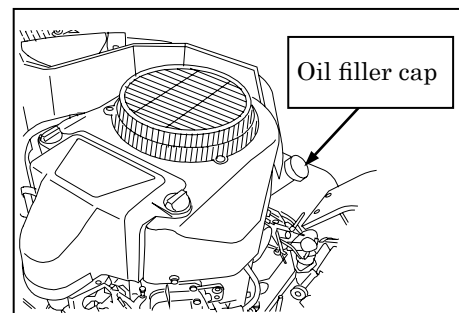
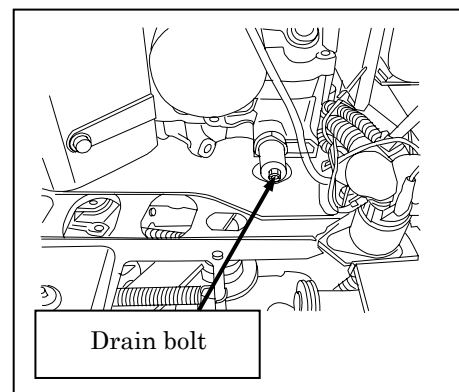
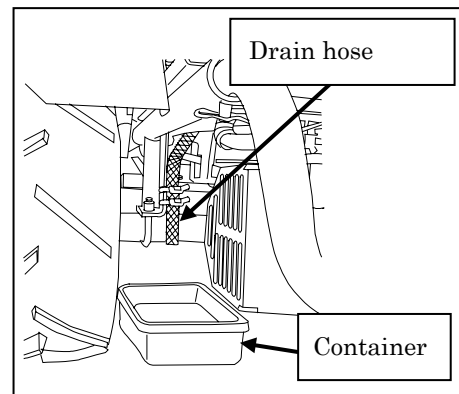
7. Close the engine cover by following the same steps in reverse order.

### ■ How to Change

#### Important

- As a rough guide, firstly change engine oil after 8 hours from initial start of engine and then every 50 hours of operation or every year, whichever arrives first, thereafter.

1. Prepare an appropriate container into which oil is drained. Put the container underneath the drain hose on the inside of the rear-left wheel of the machine.
2. Use a slotted screwdriver or 10-mm spanner to loosen the drain bolt located on the front left of the engine until two or three threads become visible, to discharge oil.
3. After oil has been drained away, put back the bolt and tighten it securely.
4. Remove the oil filler cap and refill the specified oil slowly until the “FULL” position indicated on the oil level gauge.
5. After refilling engine oil, securely tighten the oil filler cap so that oil cannot leak out of it.



### ■ Replacing the Engine Oil Filter

#### Important

- Change the oil filter every 100 hours or every year.
- Install the oil filter by hand without using tools.

1. Drain engine oil.(Refer to p. 55 of this manual.)
2. Put a plastic container underneath the location where the oil filter is connected.

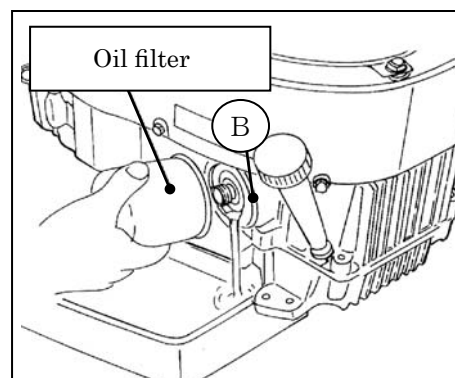
#### Important

- This container is placed above the electrical parts, so use a container made of non-conductive material and pay attention not to cause short-circuiting.

3. Turn the oil filter counterclockwise to remove it.
  - Use any filter wrench to remove the oil filter.

4. Apply clean engine oil on the sealing part (rubber gasket) of the new oil filter thinly.

5. Turn the new oil filter clockwise until the sealing part (rubber gasket) contacts the mounting surface (B), and then tighten further by three-quarters of a turn by hand.



6. Remove the oil filler cap and refill the specified oil slowly until the “FULL” position on the oil level gauge, and then securely tighten the oil filler cap. (Refer to p. 54 of this manual.)
7. Run the engine for approx. 3 minutes at low speed, and then make sure that the oil does not come off from mounting surface.
8. Stop the engine and wait for a while (approx. 10 minutes). Check the oil level again and refill oil.

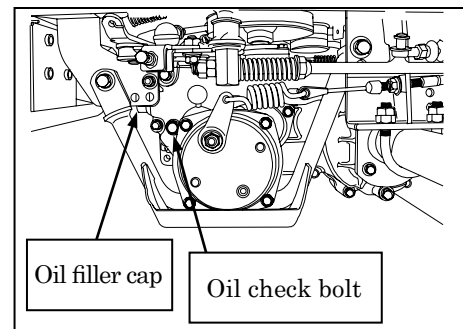
### ■ Inspecting, Changing and Refilling Transmission Oil

#### Important

- As a rough guide, firstly change transmission oil after 50 hours from initial start of engine and then every 500 hours thereafter.

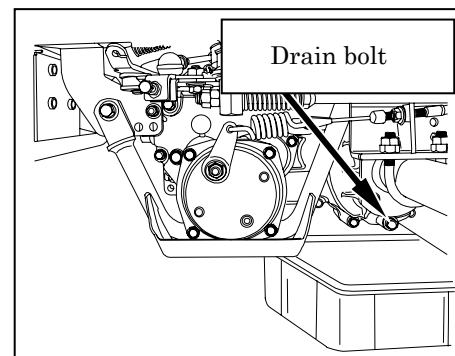
#### ● How to Inspect

1. Remove the oil check bolt at the rear left of the transmission case and check if oil is filled to the oil check hole (position of the oil check bolt).
2. If oil quantity is low, remove the oil filler cap and refill the specified oil to the oil check hole (position of the oil check bolt).
3. After refilling oil, securely tighten the oil check bolt and install the oil filler cap.



#### ● How to Change

1. Prepare an appropriate container into which oil is drained.
2. Remove the drain bolt and drain oil.
3. Securely tighten the drain bolt.
4. Remove the oil check bolt and oil filler cap, and refill the specified oil to the oil check hole (position of the oil check bolt).
5. After refilling oil, securely tighten the oil check bolt and install the oil filler cap.





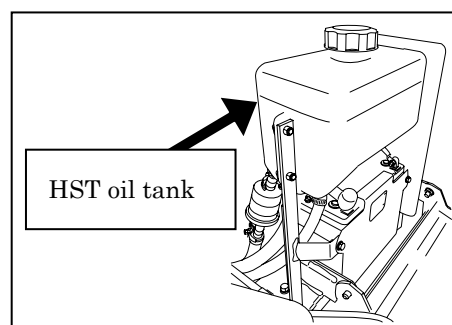
### ■ Inspecting, Changing and Adding HST Oil

#### Important

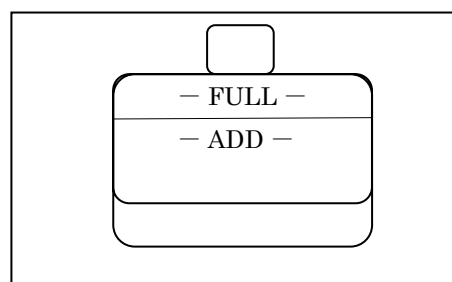
- As a rough guide, firstly change HST oil after 50 hours from initial start of engine and then every 200 hours thereafter.
- Be careful not to refill too much HST oil, as excess oil may overflow from the cap.
- Don't refill any HST oil other than the specified oil. If different oils are mixed, the machine may break down.

#### ● How to Inspect

1. Open the engine cover and remove the cap on the HST oil tank.



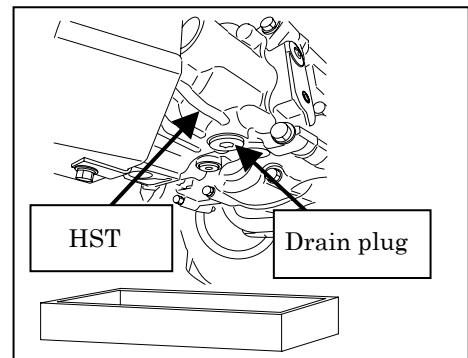
2. Inspect the oil level and make sure that oil up to 10 mm from the bottom of HST oil tank remains.



3. If the oil quantity is lower, refill the specified oil until the oil level reaches approx. 10 mm from the bottom of the HST oil tank.

### ● How to Change

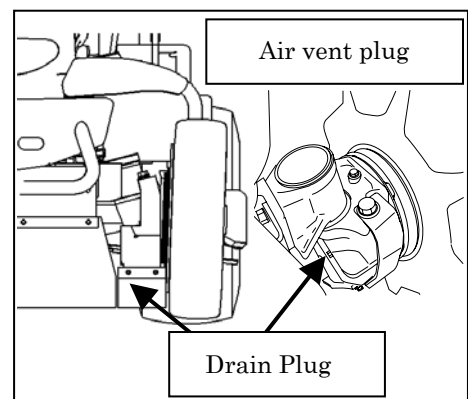
1. Remove the drain plug under the HST and drain HST oil.



2. Remove the air vent plug and drain plug on the front left/right hand axle, and drain the oil. (AR950F)

### Important

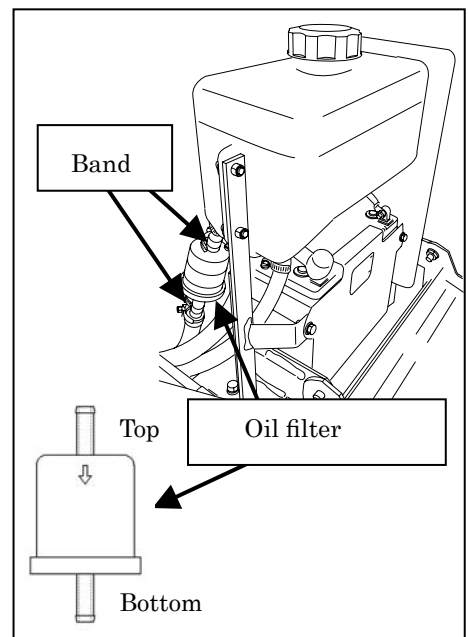
- Pay attention not to loose the seal washer on the plug.



3. Securely tighten the air vent plug and the drain plug on the HST and front axle.
4. Remove the band on top and bottom of the oil filter, then replace the oil filter.

### Important

- Install the oil filter to original position, paying attention to the top and bottom of oil filter location.

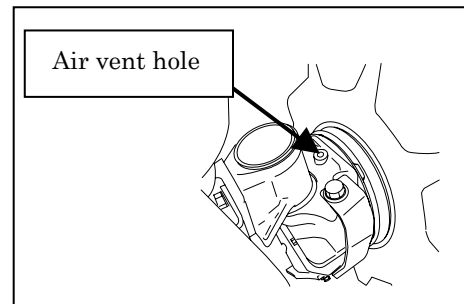


5. Refill the specified oil up to the “Full” position of oil tank.

After the oil is coming out of the air vent hole of front axle, tighten the air vent plug. It takes about 10 ~ 20 minutes for this operation.

6. Refill the specified oil up to the “Full” position again.

(AR950F)



7. Start the engine, and warm up the engine.
8. While the engine rotates at idling speed, apply the HST pedal/lever about 10 times forward and backward slightly.

### Important

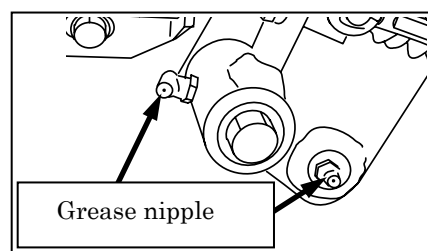
- If the oil does not rotate around in the entire hydraulic circuit, do not apply the HST pedal/lever fully or increase the engine speed. It may cause break down.
9. Raise the engine speed, then apply the HST pedal/ lever forward and backward about 10 times. If the oil is reduced in the oil tank, refill the oil up to the “ Full” position again.

## ■ Greasing Each Part

### Important

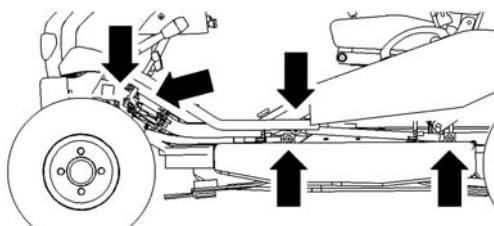
- Grease various parts periodically because lack of grease may cause these parts to seize or rust and stop turning or operating smoothly.

- Be sure to apply a grease on grease nipples periodically. stop turning or operating smoothly.

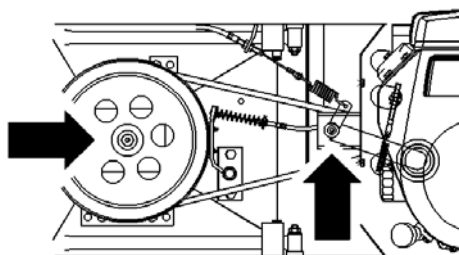


- Grease nipples are located as the following picture.

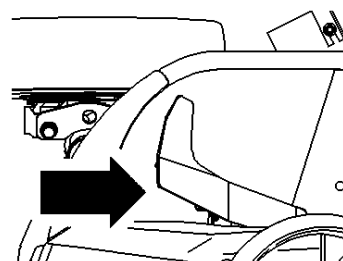
1. Cutting-blade up/down arm supports, brake pedal support (Total 9 locations on the left and right)



2. Cutting-blade tension pulley support, main pivot of cutting blade (total 2 locations)

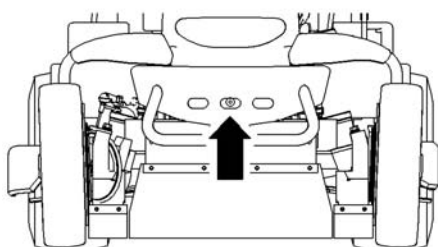


3. HST pedal support (1 location)



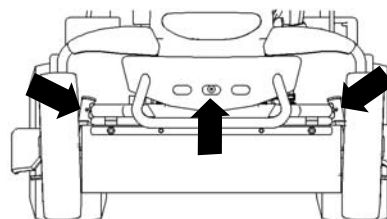
4. Center Pin (1 location)

: AR950F



5. Center pin, king pin

(total 3 locations) : AR950



## How to inspect, Maintain and Each Part

### ■ How to Clean the Air Cleaner and Intake Screen



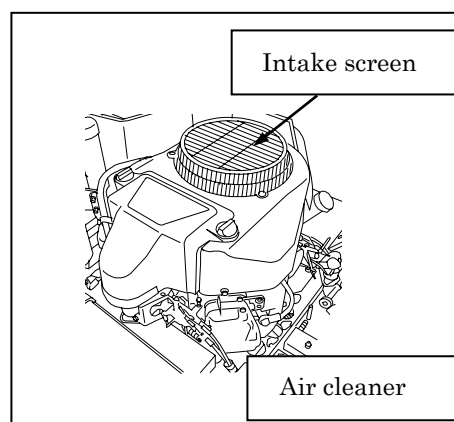
#### **Danger**

- If you continue to work with the air cleaner and intake screen clogged by pieces of bush or any other foreign substances, not only the output will drop and fuel consumption increase, but the exhaust gas temperature will also rise, which may cause the fuel to ignite and bring a very dangerous situation leading to explosion or fire. Be sure to clean the air cleaner and intake screen regularly.

#### **Important**

- Don't start the engine with the air cleaner removed. Dust and dirt may be sucked, which causes the engine to malfunction or parts to wear abnormally.

1. Open the engine cover. (Refer to p. 24 and 25 of this manual.)
2. Inspect, clean and replace the air cleaner and intake screen according to the instructions provided in the "User's Manual of Engine" attached hereto.

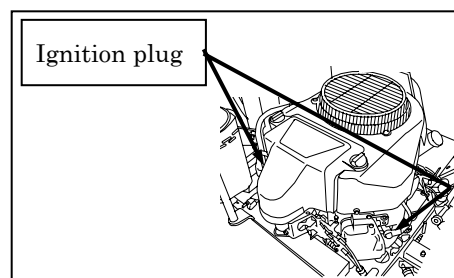


### ■ How to Inspect/Adjust the Ignition Plug

#### **Important**

- The machine is fitted with a V-type, 2-cylinder engine. Always inspect/replace two ignition plugs at the same time and do not clean or replace only one plug. Otherwise, it may cause the engine to malfunction.

1. Open the engine cover. (Refer to p. 24 and 25 of this manual.)
2. Inspect/adjust the ignition plugs according to the instructions provided in the "User's Manual of Engine" attached hereto.



### ■ How to Clean the Fuel Cock



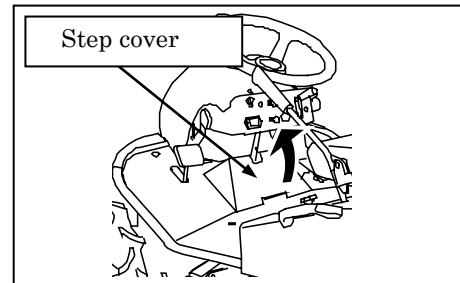
#### **Danger**

- Don't work, smoking a cigarette in your mouth or under the naked light. The fuel may ignite, which may cause explosion or fire.

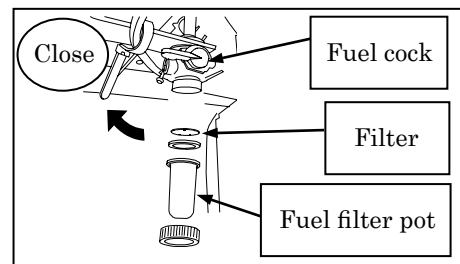
#### **Important**

- Clean the inside of the fuel cock after every 50 hours of use.
- When working, turn the fuel cock to the "Off" position.

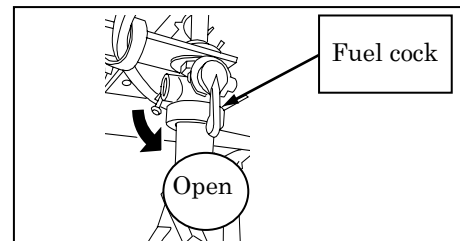
1. While lifting the rear side of step cover under the steering wheel, remove the step cover.



2. Turn the fuel cock to the "Closed" position and remove the fuel filter pot. Then, clean the inside of the fuel filter pot and the filter using kerosene or other solvent of low flash point, and blow and dry the fuel filter pot and filter.



3. Assemble the parts back in their original position and make sure that they are securely fixed to prevent leakage of fuel.



4. Turn the fuel cock to the "Open" Position.

### ■ Inspecting the Fuel Hose and HST Oil Tank Connection Hose

#### **Important**

- The fuel hose and other rubber products gradually deteriorate over time even if they are not used. If the fuel hose is found damaged due to wear and tear, replace the hose and hose band with new ones.

### ■ Inspecting/Adjusting the Tyres

1. Inspect the tyre pressures of the front and rear wheels on the right table, and adjust the pressure according to the table.
2. Inspect the lug heights of the tyres on the front and rear wheels and replace any tire of which lug height is less than 5 mm.

	Tyre size	Air pressure
Front wheel	4.00 - 7	120kPa 1.2kgf/cm <sup>2</sup>
Rear wheel	17 X 8.00 - 8	240kPa 2.4kgf/cm <sup>2</sup>

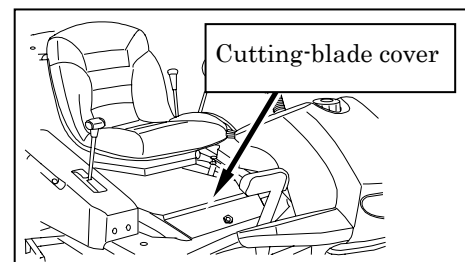
### Important

- If the lug height of the tyres on the front and rear is different, 4WD may not work effectively. When the lug of tyre is worn, replace the front and rear tyres at the same time. (AR950F)

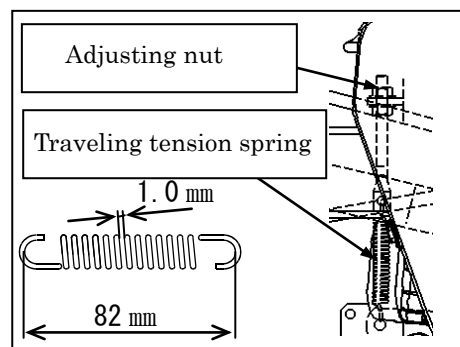
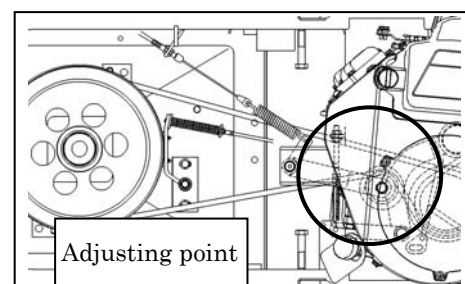
### ■ Adjusting the Tension of the Traveling V-belt

If the V-belt slips while traveling, adjust the V-belt according to the procedure below.

1. Open the engine cover (refer to p. 24 and 25 of this manual) and remove the cutting-blade belt cover.



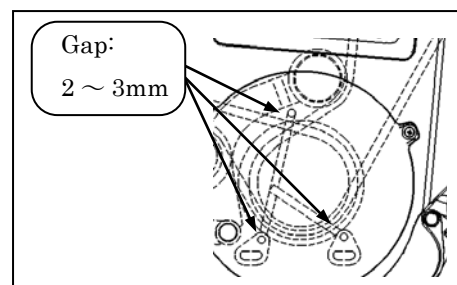
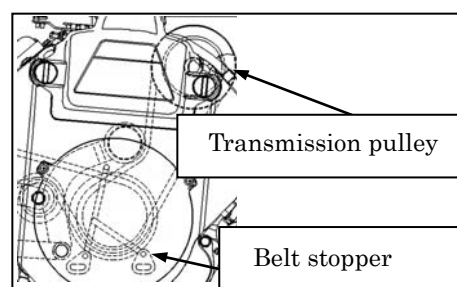
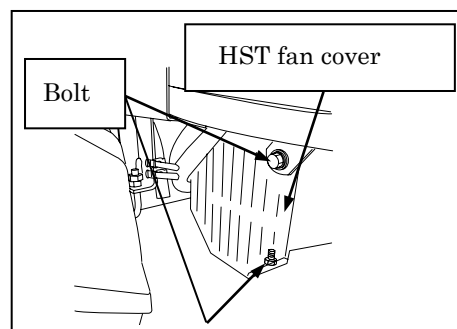
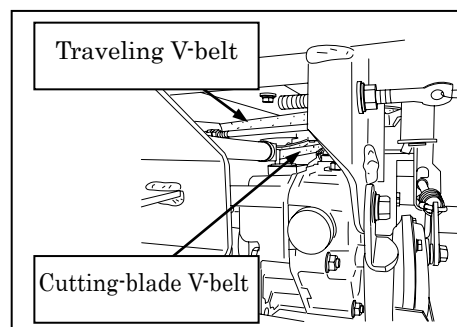
2. Turn the adjusting nut until the dimension of the traveling tension spring inside the hook becomes 82 mm (at a centre gap of 1.0 mm).



### ■ Replacing the Traveling V-belt

Check the traveling V-belt for damage. If the belt has cracks or worn, replace it with a new part according to the procedure below.

1. Check the traveling V-belt for damage by viewing it from the rear of the machine.
2. If the V-belt is damaged, remove the HST fan cover and take out the belt stopper on the engine pulley side.
3. Open the engine cover and remove the cutting-blade belt cover. (Refer to p. 64 of this manual.)
4. Loosen the adjusting nut to loosen the traveling tension spring, which is tensioning the traveling V-belt. (Refer to p. 64 of this manual.)
5. Remove the cutting-blade V-belt, and then remove the traveling V-belt by lifting it up from the transmission pulley groove.
6. Install a new traveling V-belt and then install the cutting-blade V-belt.
7. Adjust the tension of the traveling V-belt. (Refer to p. 64 of this manual.)
8. Adjust the position of the belt stopper until the gap between the belt stopper on the engine pulley side and the engine pulley becomes 2 to 3 mm.

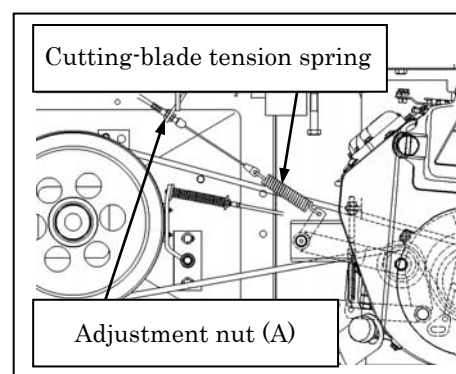




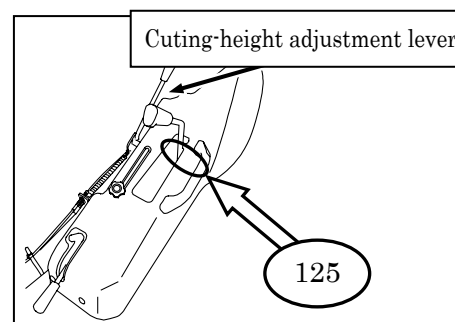
### ■ Adjusting the Cutting-blade V-belt

If the V-belt slips while cutting bush, make adjustment according to the procedure below.

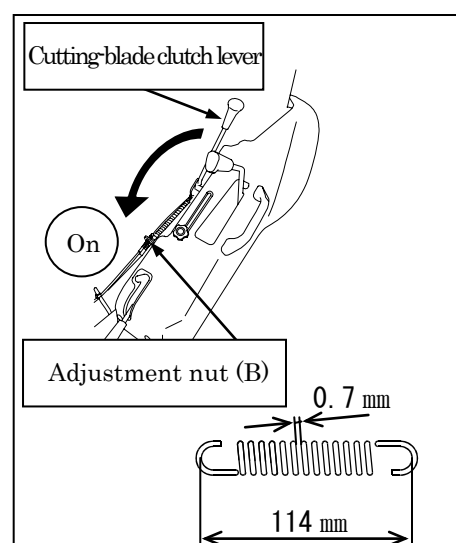
1. Open the engine cover (refer to p. 24 and 25 of this manual) and remove the cutting-blade belt cover.



2. Adjust cutting-height adjustment lever to the position of “125 mm” cutting height.



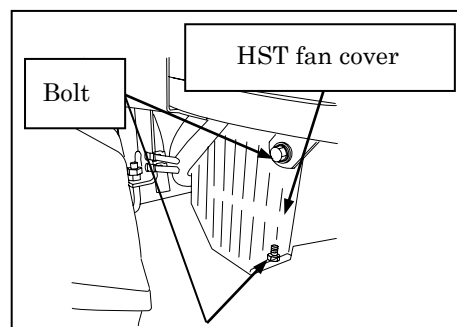
3. When cutting-height clutch lever is “On” position, adjust nut (A) or (B) so that the length of the cutting-blade tension spring inside the hook is 114 mm (at a center gap of 0.7 mm).



## ■ Replacing the Cutting-blade V-belt

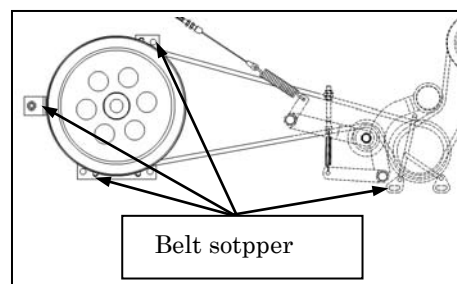
Check if the cutting-blade V-belt is damaged. If it has cracks or worn, replace it with a new part according to the procedure below.

1. Open the engine cover (refer to p.24 and 25 of this manual) and remove the cutting-blade belt cover.



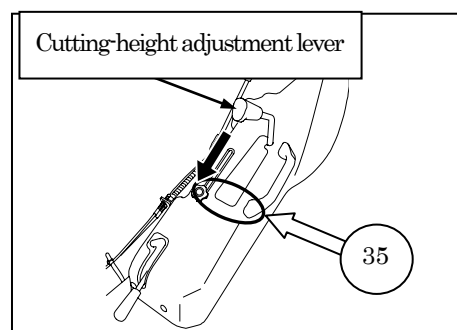
2. Check if the cutting-blade belt is damaged.

3. If the belt is damaged, remove the HST fan cover and take out each belt stopper, and replace the V-belt with the new one.

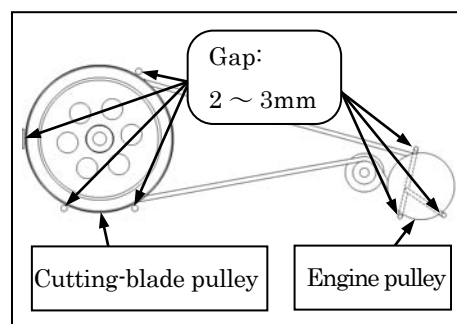


4. Adjust the tension of the cutting-blade V-belt. (Refer to p.66 of this manual)

5. Adjust the cutting-height adjustment lever to the position of “35 mm” cutting height.



6. Shift the cutting-blade clutch lever to the “On” position and adjust the position of the belt stoppers until the gap between each belt stopper and the pulley or V-belt become 2 to 3 mm.



### ■ Adjusting the Cutting-blade Brake

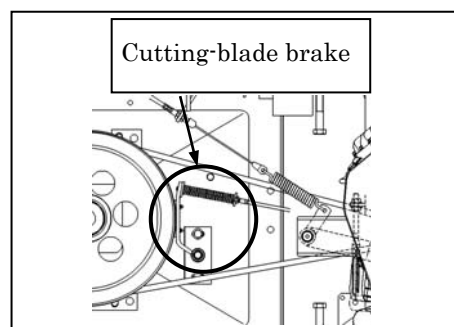


#### **Danger**

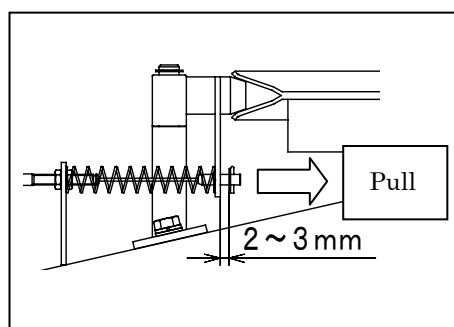
- If the cutting-blade brake is not working properly, the cutting blade may turn even when the cutting-blade clutch lever is put in the “Off” position. Such incident may lead to an unexpected accident .

The cutting blade should stop within 5 seconds after shifting the cutting-blade clutch lever in the “Off” position. If the blade does not stop within 5 seconds, make adjustment according to the procedure below.

1. Open the engine cover (refer to p. 24, 25 of this manual) and remove the cutting-blade belt cover.

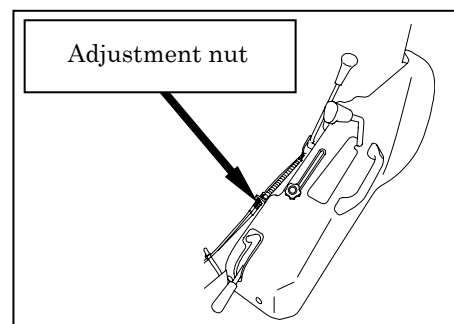


2. Shift the cutting-blade clutch lever in the “Off” position and turn the adjusting nut so that a gap of 2 to 3 mm exists when the tip of the wire is pulled by small force.



#### **Important**

- If the cutting-blade brake cannot be adjusted properly, it is the time to replace the brake shoe(Cutter). Contact the “dealer you from which you purchased your Ride-on Bush Cutter” for replacement as soon as possible.



### ■ Adjusting the Brake



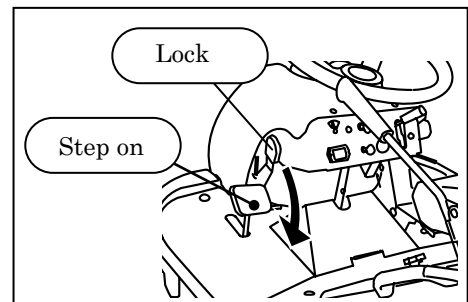
#### Danger

- There might be a situation where the brake does not work.

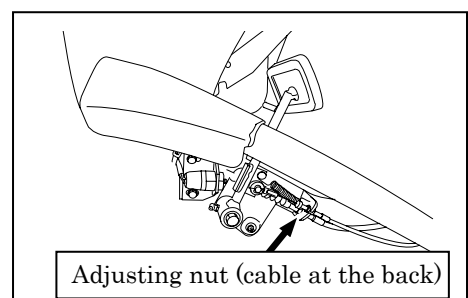
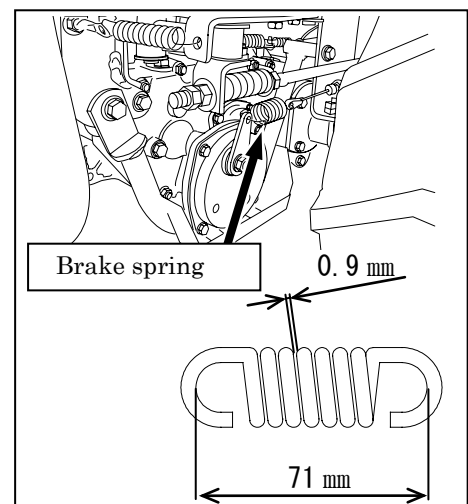
Be sure to check the parking brake pedal before commencing work.

If you find that there is much play on the parking brake pedal, make adjustment according to the procedure below.

1. Lock the parking brake.



2. Turn the adjusting nut until the length of the brake spring at the rear bottom of the machine becomes 71 mm. (at a center gap of 0.9 mm)



### ■ Replacing the Brake Shoe



#### Warning

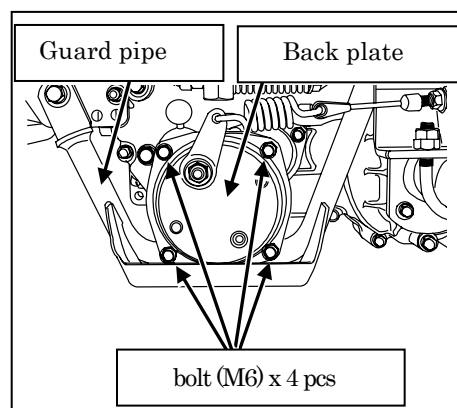
- If the parking brake remains ineffective after adjusting the brake or there is no longer an adjustment allowance, the brake shoe must be replaced. Replace the brake shoe immediately; otherwise, unexpected accident may occur.

#### Important

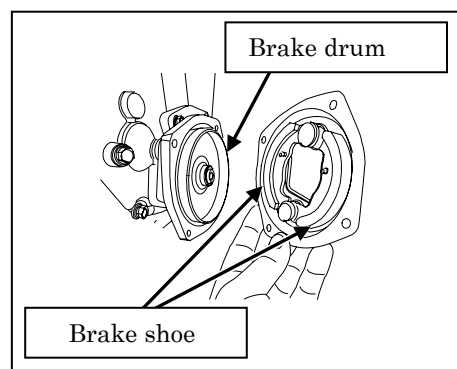
- When replacing the brake shoe, make sure to park the machine on flat and rigid ground. Then, stop the engine, and put chocks (wheel stops) underneath the tires.

1. Depress the parking brake pedal and “Unlock” the parking brake.

2. Remove the guard pipe and take out four bolts (M6) from the back plate.

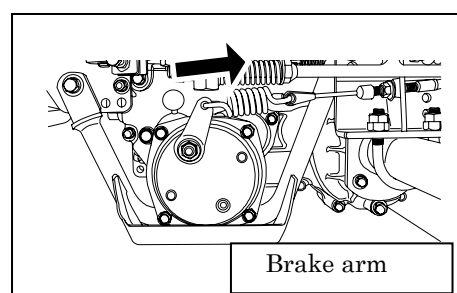


3. Remove the brake shoe from the back plate, and then replace it with the new one. If brake drum is replaced with the new one at the same time, the life time of brake shoe is longer.



4. Assemble the back plate and tighten four mounting bolts (M6) while applying a force to the arrowed direction.

5. Install the cable (brake) and adjust the brake. (Refer to p.69 of this manual)



### ■ Adjusting the Neutral Position of the HST Lever / Pedal



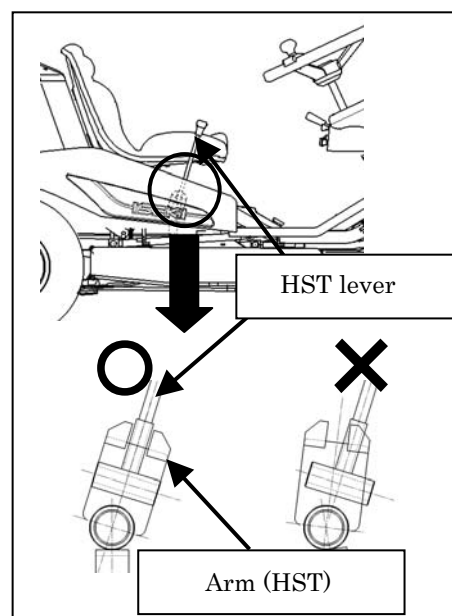
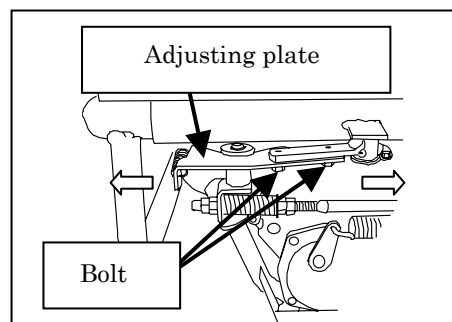
#### Danger

- If the machine moves slightly forward or backward on flat ground even when the HST lever/pedal is in the “Neutral” position, the neutral position of the HST lever/pedal should be adjusted. Adjust the neutral position of the HST lever immediately as you notice the above situation; otherwise, an unexpected accident may occur.

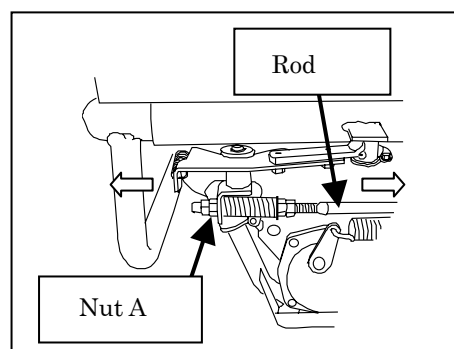
#### Important

- Adjust the neutral position on flat and rigid ground with chocks (wheel stops) put underneath the front wheels of the machine.

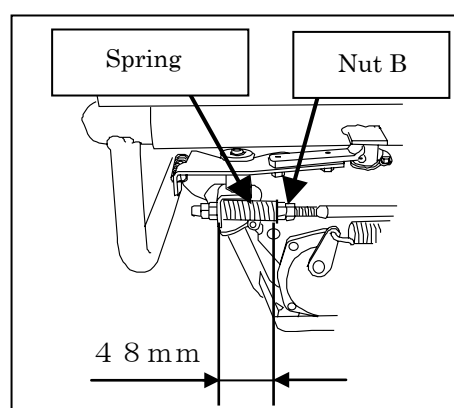
1. After starting the engine, check to which direction the machine moves slightly, forward or backward. Apply the parking brake.
  - machine moves forward slightly → Adjust forward
  - machine moves backward slightly → Adjust backward
2. Loosen 2 bolts fixing the adjusting plate, and then adjust the adjusting plate forward or backward. After adjustment, tighten up the bolts.
3. If the machine moves again slightly after releasing the parking brake, adjust the adjustment plate so that the machine cannot move slightly.
4. Make sure that the shift is located between HST lever and Arm (HST) as shown in the figure on the right.



5. If the HST lever and arm (HST) is not located in the shift as shown last picture, adjust the rod by turning the two pieces of nut A.



6. Adjust the length of spring to be 48 mm by loosening Nut B.



### ■ Inspection and Adjustment of the safety switch



#### Caution

- The safety switch is used “to make impossible to start engine” or “to stop the engine automatically” in case of wrong operation.  
Make sure to inspect each safety switch before commencing work.
- Make sure to remain seated while inspecting the safety switch.  
Otherwise, you may be injured if the machine works erroneously.



#### Warning


- Don't remove the safety switch or modify its wiring. Otherwise, it may cause unexpected accident because of malfunction of safety switch .

### ● How to Inspect

#### (1) Inspecting the safety switch for the parking brake pedal

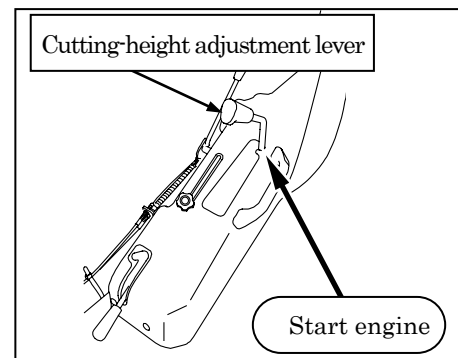
1. Inspecting the safety switch for the parking brake pedal .


While sitting on the seat, shift the cutting-height adjustment lever to the “Start Engine” position.

2. With the parking brake pedal in the “Unlocked” position, turn the engine switch to the “” position.

○ If the safety switch is working properly, the engine will not start.

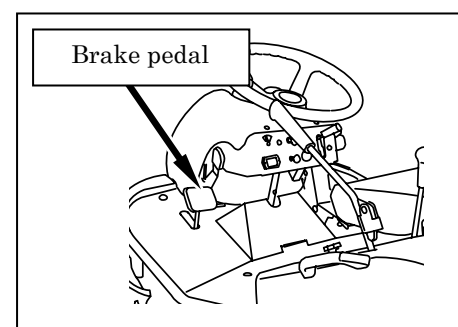
× If the engine starts, make the necessary adjustment.



3. With the parking brake pedal in the “Locked” position, turn the engine switch to the “” position.


○ If the safety switch is working properly, the engine will start.

× If the engine does not start, make the necessary adjustment.



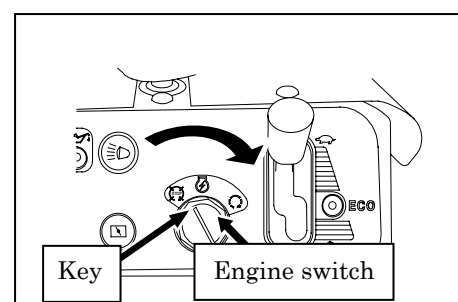
#### (2) Inspecting the safety switch for the cutting blade


1. While sitting on the seat, depress the parking brake pedal up to the “Locked” position.

2. With the cutting-height adjustment lever in a position other than “Start Engine”, turn the engine switch to the “” position.

○ If the safety switch is working properly, the engine will start.

× If the engine starts, make the necessary adjustment.



3. With the cutting-height adjustment lever in the “” position.

○ If the safety switch is working properly, the engine will start.

× If the engine starts, make the necessary adjustment.



### (3) Inspecting the safety switch for the seat



#### Caution

- To ensure safety, keep the parking brake pedal in the “Locked” position and cutting-blade clutch lever in the “Off” position.

1. Start the engine. (Refer to p. 30 to 32 of this manual.)

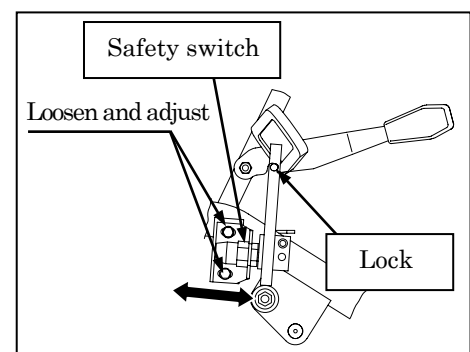
2. Get up from the seat.

- If the safety switch is working properly, the engine speed will drop immediately and the engine will stop.
- × If the engine does not stop, make the necessary adjustment.

### ● How to Adjust

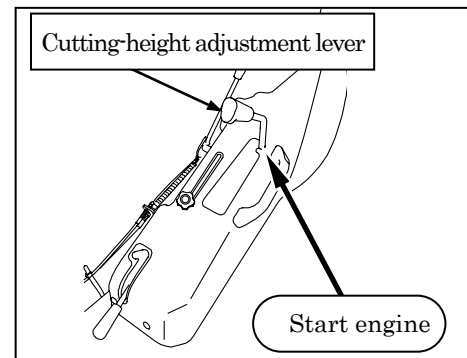
#### (1) Adjusting the safety switch for the parking brake pedal

1. Depress the brake pedal up to the “Locked” position.
2. Loosen the bolts and adjust the safety switch until the tip of the safety switch is pushed onto the nut surface. After the adjustment, tighten up the bolts to fix the safety switch.

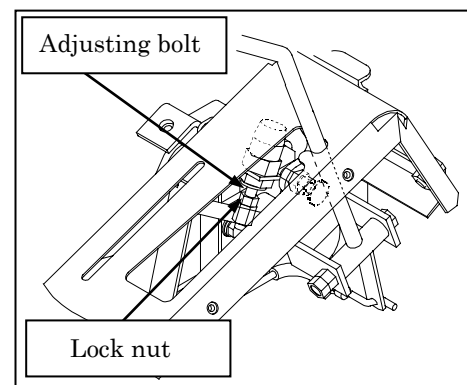


### (2) Adjusting the Safety Switch for the Cutting Blade

1. Shift the cutting-height adjustment lever to the “Start Engine” position.



2. Loosen the lock nut and turn the adjusting bolt until the tip of switch is pushed onto the nut surface. After the adjustment, tighten up the lock nut to fix adjusting bolt.

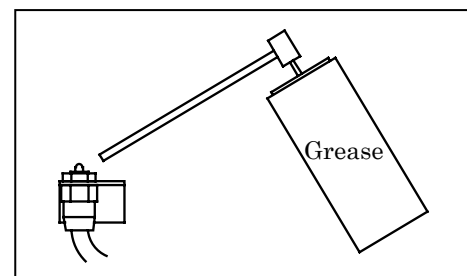


### (3) Adjusting the Safety Switch for the Seat

When the safety switch brakes down, ask the “dealer from which you purchased your Ride-on Bush Cutter” to inspect the machine and make adjustment.

### (4) Inspecting the Operation of Each Safety Switch

Check the movement of the tip of safety switch and if it is defective, apply spray grease on the moving part. If the movement is not smooth, replace the safety switch.



### ■ Inspecting/Replacing the Cutting Blade

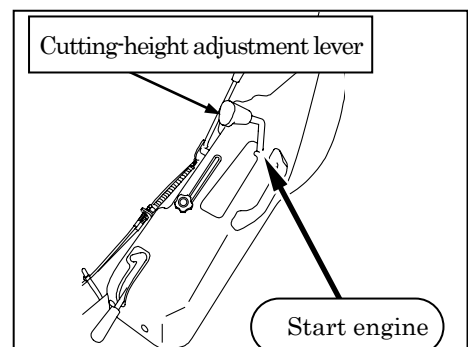


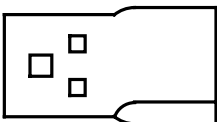
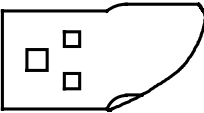
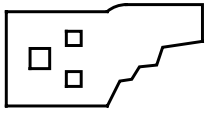
#### Warning

- Make sure to stop the engine before inspecting or replacing the cutting blade.
- When handling the cutting blade, wear thick gloves to prevent injury.
- When replacing the cutting blade, make sure to specify the manufacturer's genuine blade. The warranty does not cover any breakdown or accident resulting from use of a cutting blade other than manufacturer's genuine blade.
- Don't grind the cutting blade. The blade may break, which brings a very dangerous situation.

#### ● How to Inspect

1. Turn the ignition key to the "Off" position to stop the engine, and remove the key from the engine switch.
2. Shift the cutting-height adjustment lever to the "Start Engine" position.
3. Open the cutting-blade cover after making sure that the turning of cutting blade stops.
4. Inspect the cutting blade for breakage and wear.



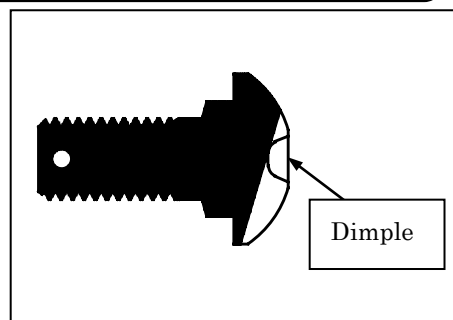
New blade	Must be replaced	
	<p style="text-align: center;">Worn blade</p> 	<p style="text-align: center;">Broken blade</p> 



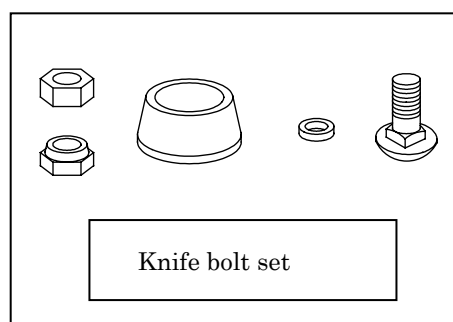
### Warning

- If the head of cutting blade attachment bolt is worn, it may cause a serious accident because of cutting blade flying apart. Replace the bolt soon if dimple on the head of bolt is lost.

5. Check the cutting-blade attachment bolts and if dimple on the head of bolt is lost, replace the bolt immediately. (refer to p.79, 80 of this manual)



6. When replacing the cutting-blade attachment bolt, replace it with “knife bolt set”. (Refer to p. 91 of this manual)



### Warning

- If an old nut is used, sand may enter and remain at the tightening point. It causes the nut to loosen, which may bring serious accident like broken blade spreads and hits people around the machine.

### ● How to Remove the Cutting-Blade Cover

The cutting-blade cover on the right side of the machine is designed for easy installation and removal to facilitate inspection and replacement of the cutting blade. If the cover does not need to be removed, use the lock bolt (M6) to lock the removal/installation lever.

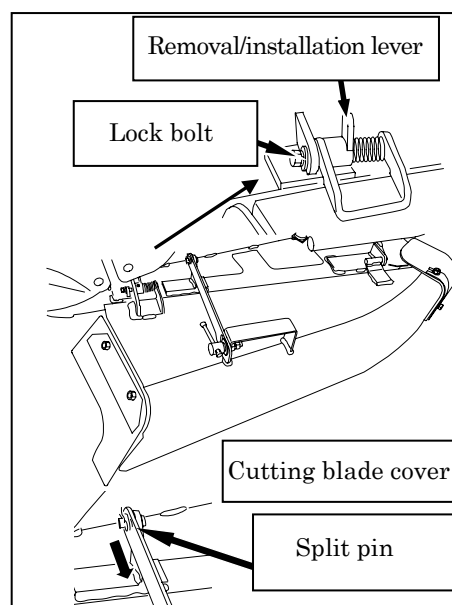


#### Warning

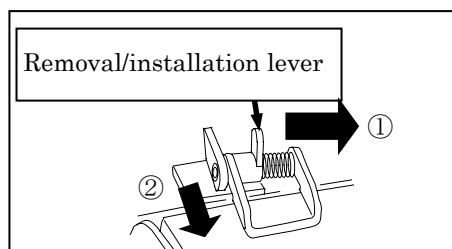
- When the inspection/replacement is completed, make sure to reinstall the cutting-blade cover on the machine. If the engine starts or machine works without the cover, the dangerous parts will remain exposed, which brings a very dangerous situation.

1. Remove the lock bolt (M6) which fixing removal/installation lever.

2. Move the cutting-blade cover to the “Closed” position and remove the split pin. Pay attention not to loose the removed split pin.



3. Move the removal/installation lever to the arrowed direction and remove the support on the rear side. Then, pull the cutting-blade cover and move the cutting-blade cover to backward, then, remove it.



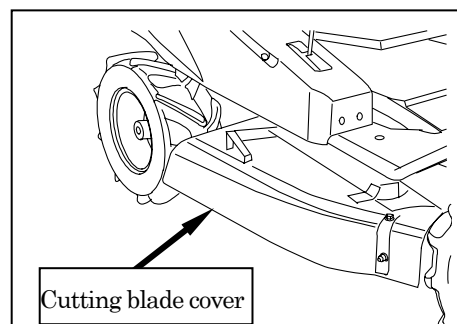
Install the cover by following the same procedure in reverse order.

### ● How to Replace

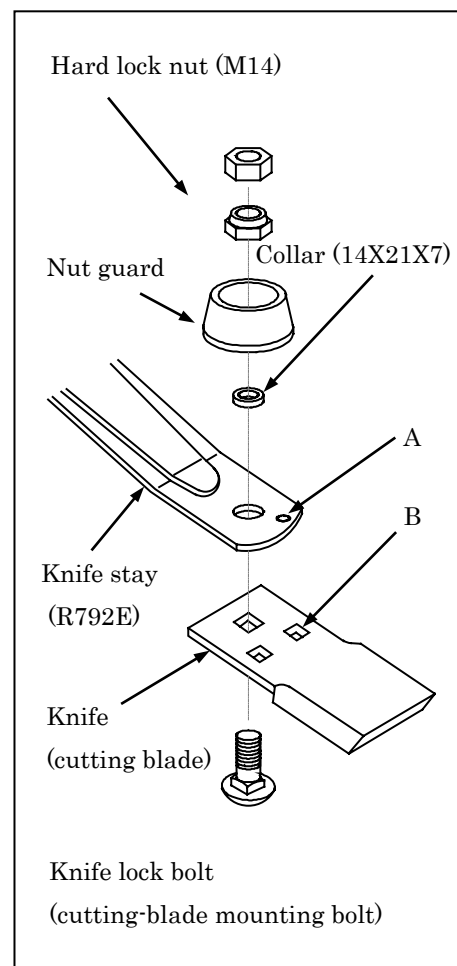
#### Important

- Always replace two cutting blades at the same time. If a new cutting blade is used together with an old cutting blade, abnormal vibration may occur and cause the machine to break down.

1. Open or remove the cutting-blade cover on the right side of the machine. (Refer to p. 78 of this manual.)



2. Fix the knife stay (R792E) not to rotate.
3. Use a socket wrench of 22mm to remove the upper lock nut (M14) and then remove the lower lock nut (M14).
4. Pull out the knife lock bolt and remove the knife.
5. Prepare a new knife set. (Optional parts: Refer to P.91 of this manual).
6. Insert the knife lock bolt and install the cutting blade.
7. Fix the knife stay (R792E) not to rotate.

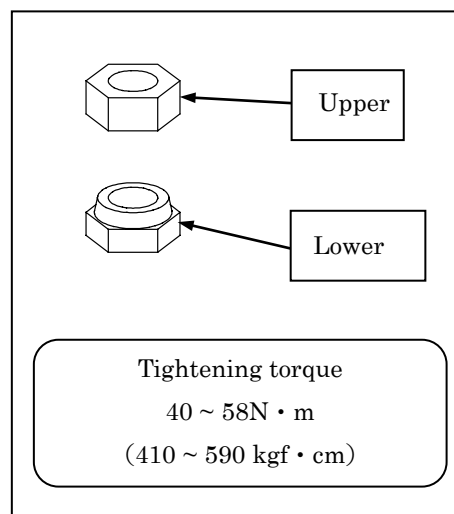


8. Fix the lower lock nut (M14) by using socket wrench of 22 mm with the torque as shown in the figure on the right.

### Important

- Pay attention to the installing direction of nut.

9. Use a socket wrench of 22 mm of opposite distance to lock the top hard lock nut (M14) by tightening it with the torque shown in the figure on the right.

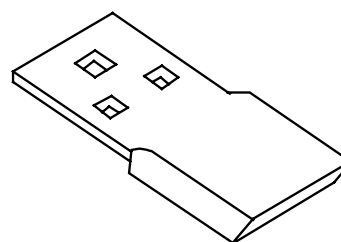
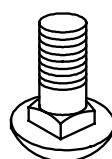
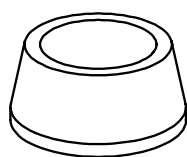
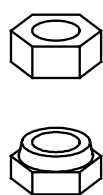


### Danger

- After tightening the lower nut, tighten up only the upper nut.

Otherwise, the lack of tightening torque of nut causes the nut to loosen. In this case, it may bring serious accident like cutting blade spreads and hits people around the machine.

Knife set (2 pcs each)



### ● How to Maintain/Inspect the Battery

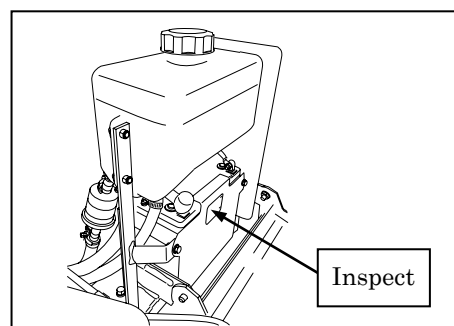
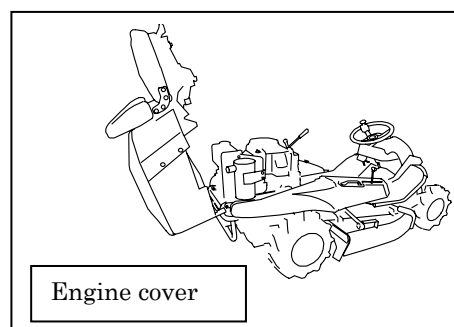


#### Warning

- Don't short-circuit the battery terminals, generate sparks nearby, or bring a cigarette or other fire source closer to the battery. Charge the battery in a well-ventilated place. Failure to do so may cause the battery to ignite and explode, which creates a very dangerous situation.
- If the battery is used continuously or charged when the level of battery fluid is below the lower limit (LOWER LEVEL) marked on the side face of the battery, various parts of the battery container will deteriorate quickly, reducing the service life of the battery or potentially causing the battery to burst (explode).
- The battery fluid (electrolyte) is a diluted sulfuric acid and deleterious substance. Do not let the battery fluid attach to the body or clothes, as loss of eyesight or burns may result from contact with the battery fluid, creating a very dangerous situation. If the battery fluid came in contact with your eye, skin or clothes, immediately rinse the affected area with a lot of water. If the battery fluid entered your eye, rinse the eye with water and then seek medical attention.

### ● How to Inspect

1. Park the machine in a flat place and remove the front cover. (Refer to p. 24 and 25 of this manual.)
2. Inspect the level of battery fluid if the battery fluid quantity is low, refill battery fluid.





### ● How to Charge



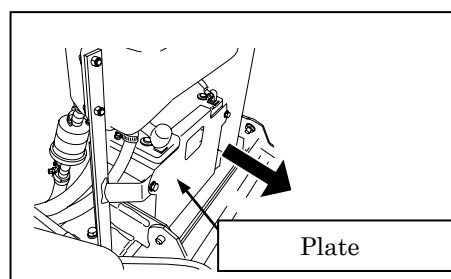
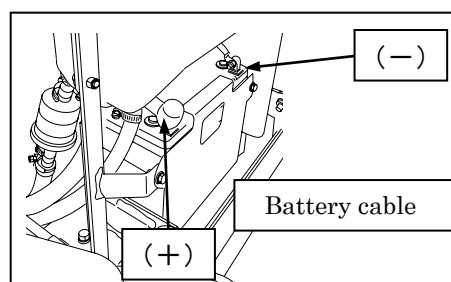
#### Caution

- Make sure to remove the battery from the machine for charging. Charging the battery on the machine may damage not only the electrical parts, but also the wirings, etc.
- When disconnecting the battery cables, disconnect the (-) side first. When connecting the battery cables, connect the (+) side first. If the above instruction is not followed and the cables are connected in wrong polarities, short-circuiting will occur when a tool contacts the machine and cause fire.
- When connecting the battery and charger, ensure the correct (+)(-) polarities. If they are connected in wrong polarities, the fuse will blow and the battery will become no longer chargeable.
- When installing the battery back into the machine, wire the battery in the correct (+) (-) polarities as before.

#### Important

- Quick charge is a method of charge using a high charge current to quickly make up for the electricity discharged. Quick charge is used as an emergency measure. When the work is finished, charge the battery further using the correct method at the earliest opportunity; otherwise, the service life of the battery will be significantly shortened.
- Charge the battery according to the instructions provided in the user's manual for the charger you are using.

1. Park the machine in a flat place and remove the front cover.
2. Disconnect the battery cables from (-) side at first.
3. Remove the plate fixing battery and take out the battery from the machine, and charge the battery. When installing the battery, follow the same procedure in reverse order, connect the (+) side of the battery cables at first.



# Care and Storage



## Danger

- Don't store this machine and its battery, fuel, etc., in a place near a fire source or high temperature. Fire may result.
- When storing this machine by putting covers, wait for the engine, muffler and the chassis to cool down completely. If these parts are still hot, fire may occur.

## Important

- When washing the machine, do not apply water jets directly onto the engine, resin parts, electrical parts, attached marks, etc. Impact from the water jets may cause the machine to break down, decals to peel, and parts to deform.

### ■ Daily Storage

Follow the procedure below when storing the machine until the next day or for a short period longer than a day:

1. Clean the machine as much as possible.
2. Store the machine indoors whenever possible. If the machine must be kept outdoors, keep it with waterproof covers, etc.
3. Make sure to apply the parking brake.
4. In an extremely cold weather, remove the battery and keep it in a warm place indoors, etc., as it will help the engine to start easily.

## Important

- If the machine does not work due to frozen parts, do not try to move the machine by force.

### ■ Long-term Storage

If the machine will not be used for a long period of time (30 days or more), clean the machine and store it by following the procedure below:

### ● Machine

1. Inspect each location according to <List of Periodic Inspection and Maintenance Locations> and conduct the necessary maintenance if any problem is found. (Refer to p.49 to 52 of this manual)
2. Park the machine on concrete or firm, dry ground and apply the parking brake.
3. Avoid storing the machine in a humid or dusty place and put covers over the machine during storage.
4. Grease the greasing locations. (Refer to p.61 of this manual)
5. Clean the exterior using a cloth moistened with oil, add oil to those areas that are easy to rust. If rust is found, scrape off the rust and cover the exposed surface with touch-up paint or apply grease.
6. Remove the ignition key from the engine switch.
7. While in storage, periodically inspect the tire pressures and add air, if necessary. (Refer to p.64 of this manual)

### ● Battery

1. Remove the battery from the machine. (Refer to p.82 of this manual)
2. Check the level of battery fluid and refill battery fluid, if necessary.
3. Store the battery in a cool, and dry place away from the direct sunlight.

### **Important**

- Charge the battery before it is completely discharged. This way, the battery will last longer.

### ● Engine

### **Important**

- If the machine remains non-operational for an long period with fuel still remaining in the carburetor, fuel will deteriorate and the engine will no longer start smoothly and rotation malfunction will occur. To prevent these unwanted outcomes, drain fuel from the carburetor and fuel tank before storage. After the machine left without operational for long period, do not use any fuel left in the machine.

1. Drain fuel from the fuel tank through the filler port.
2. Put a container below the fuel cock, remove the fuel filter pot, and clean the fuel filter port and filter. (Refer to p.63 of this manual)
3. Drain fuel from the carburetor. (Refer to the “User’s Manual of Engine”)
4. Conduct maintenance of the air cleaner. (Refer to the “User’s Manual of Engine”)
5. Replace engine oil. (Refer to p.55 of this manual)

# Responding to Problems

If a trouble occurs that you suspect it is a problem, stop using the machine and take an appropriate action by referring to <Troubleshooting Table> below. If a problem is not specified in <Troubleshooting Table> or the problem cannot be improved after the specified action has been taken, contact the “dealer from which you purchased your Ride-on Bush Cutter”.

Some actions require expert knowledge of maintenance. If you find the contents of maintenance is difficult, ask the “dealer from which you purchased your Ride-on Bush Cutter” to do it for you.

<Troubleshooting Table>

Location	Troubles	Presumable cause	Action
Engine	The engine does not start.	The cutting-height adjustment lever is not in the “Start Engine” position. (The safety device is actuated.)	Put the lever in the “Start Engine” position. (Refer to p. 30 and 31.)
		The brake pedal is not depressed. (The safety device is actuated.)	Depress the brake pedal. (Refer to p. 30 and 31.)
		The battery was over-discharged.	Charge the battery. (Refer to p. 82.)
		The battery cables are disconnected.	Replace the battery.
		Blown fuse	Connect the battery cables.
		Poorly-contacting or disconnected electrical wiring (connector).	Replace the fuse. (Refer to p. 90.)
	The engine does not start smoothly.		Repair the electrical wiring (connector) (Ask the dealer from which you purchased your machine)
		Lack of fuel	Add fuel. (Refer to p. 29.)
		Air or water was mixed into fuel.	Inspect the pipes and tightening bands.
		Too much fuel is suctioned in.	Wait for a while and try starting again.
		Lack of engine oil or use of low-grade engine oil (oil with high viscosity).	Add or replace engine oil. (Refer to p. 53 to 55.)
		Ignition failure due to a foul ignition plug or insufficient sparks.	Clean or replace the ignition plug. (Refer to p. 62.)
		Lack of battery capacity (cell motor starting failure).	Add battery fluid. (Refer to p. 81.)
		Contamination is mixed into the fuel system.	Charge the battery. (Refer to p. 82.)
	The engine stalls frequently.		Clean the fuel filter pot. (Refer to p. 63.)
		Lack of fuel	Clean the fuel filter pot. (Refer to p. 63.)
	The engine suddenly stopped.	Out of fuel	Add fuel. (Refer to p. 29.)
		Contamination is mixed into the fuel system.	Clean the fuel filter pot. (Refer to p. 63.)
		Lack of engine oil, or seizure due to degradation of oil.	Repair. (Ask the dealer from which you purchased your machine.)
	Idling failure (unstable engine speed)	→	Ask the dealer from which you purchased your machine.
	Insufficient output or acceleration	The V-belt is loose.	Adjust the belt tension. (Refer to p. 64 and 66.)
		The carburetor is clogged.	Clean the carburetor.
		The air cleaner is clogged.	Clean or replace the air cleaner. (Refer to p. 62.)

## Responding to Problems

<Troubleshooting Table>

Location	Troubles	Presumable cause	Action
Engine	Abnormal noise/ vibration from the engine or around the engine	Engine mounting bolts are loosen.	Inspect and tighten the bolts securely .
		Others	Ask the dealer from which you purchased your machine.
	Engine oil is consumed quickly.	Engine oil is leaking.	Inspect and repair the problem.
	The engine overheats.	Lack of engine oil.	Add engine oil. (Refer to p. 53 to 55.)
		The intake screen or cooling fin is clogged.	Clean the intake screen/cooling fin. (Refer to the “User’s Manual of Engine.”)
	Fuel is consumed quickly.	Fuel is leaking from the fuel system.	Inspect and repair the problem. (Ask the dealer from which you purchased your machine.)
		The air cleaner is clogged.	Clean or replace the air cleaner. (Refer to p. 62.)
	A lot of black smoke comes out. (Poor exhaust condition)	The choke is not fully open.	Put the choke in the “Fully Open” position. (Refer to p. 32.)
		Poor compression	Inspect and repair the problem. (Ask the dealer from which you purchased your machine.)
		The air cleaner is clogged.	Clean or replace the air cleaner. (Refer to p. 62.)
		Too much engine oil quantity	Inspect and adjust the oil level. (Refer to p. 53 to 55.)
		Defective fuel	Replace fuel. (Refer to p. 84 )
	White smoke or blue smoke comes out. (Poor exhaust condition)	Too much engine oil.	Inspect and adjust the oil level. (Refer to p. 53 to 55.)
		Defective fuel	Replace fuel. (Refer to p. 84.)
		Worn cylinder or piston ring is broken.	Inspect and repair the problem. (Ask the dealer from which you purchased your machine.)
Electrical parts	LED light doesn’t turn on	The LED lamp breaks down.	Replace the LED light.
		The battery is dead.	Charge the battery. Replace the battery.
		The battery cables are disconnected.	Connect the battery cables.
		The fuse has blown.	Replace the fuse. (Refer to p. 90.)
		Poorly-contacting or disconnected electrical wiring (connector).	Repair the problem. (Ask the dealer from which you purchased your machine.)
	While the engine is stopped, the oil warning lamp does not turn on when the engine switch is turned to the “On” position.	The oil warning lamp is defective.	Replace the oil warning lamp.
		The battery is dead.	Charge the battery. Replace the battery.
		The battery cables are disconnected.	Connect the battery cables.
		Blown fuse	Replace the fuse. (Refer to p. 90.)
		Poorly-contacting or disconnected electrical wiring (connector).	Repair the problem. (Ask the dealer from which you purchased your machine.)
Transmission	Even apply the HST pedal / lever, the machine doesn’t move.	The hose of oil line is damaged.	Replace the hose.
		Lack of HST oil.	Add HST oil. (Refer to p. 58 to 60.)
		The parking brake is applied.	Release the parking brake. (Refer to p. 22.)
		Water is mixed in the HST oil.	Replace the HST oil. (Ask the dealer from which you purchased your machine.)

## Responding to Problems

<Troubleshooting Table>

Location	Troubles	Presumable cause	Action
Transmission	The machine move slightly when the HST pedal/lever is in "neutral" position.	Defective neutral position adjustment of HST shift linkage.	Adjust the HST shift linkage. (Ask the dealer from which you purchased your machine.)
Brake	The brake does not enough.	Poorly adjusted brake pedal.	Adjust the brake pedal. (Refer to p. 69 and 70.)
		Worn brake shoe.	Replace the brake shoe/drum. (Refer to p. 70.)
		Worn tire.	Replace the tire.
Driving system	The steering wheel feels heavy.	Poorly adjusted tire pressure.	Adjust the tire pressure. (Refer to p. 64.)
		Poorly adjusted tie-rod.	Adjust the tie-rod. (Ask the dealer from which you purchased your machine.)
		Problem in the steering gear.	Repair the steering gear. (Ask the dealer from which you purchased your machine.)
	The machine does not move straight.	Poorly adjusted tie-rod.	Adjust the tie rod. (Ask the dealer from which you purchased your machine.)
Body	The body vibrates abnormally.	Poorly adjusted tire pressure	Adjust the tire pressure. (Refer to p. 64.)
		Tire mounting bolt is loose.	Securely tighten the bolt.
		Damaged wheel bearing	Replace the wheel bearing. (Ask the dealer from which you purchased your machine.)
		Cracked tire.	Replace the tire.
		Damaged cutting blade.	Replace the blade. (Refer to p. 76 to 80.)
Bush-cutting	Cut bush is not released properly.	The bush is wet.	Wait for the bush to get dry before cutting it.
		The bush is long.	Adjust the cutting height to higher position and cut bush twice.
		The cutting height is low.	Adjust the cutting height to higher position.
		The engine speed is low.	Raise it to the maximum speed.
		The working speed is fast.	Lower the working speed.
	Some bush remains uncut.	The working speed is fast.	Lower the working speed.
		The engine speed is low.	Adjust the engine speed to maximum speed. (Check the engine revolutions.)
		The bush is long.	Cut bush twice.
		The cutting blade is worn or damaged.	Replace the cutting blade with a new one. (Refer to p. 76 to 80.)
		Bush is piled up to inside of the cutting-blade cover.	Clean the inside of the cutting-blade cover.
	Earth is shaved.	The cutting height is low.	Adjust the cutting height to higher position.
		The turning speed is high.	Lower the turning speed.
		The ground is not flat.	Change the bush-cutting way (cutting direction, etc.).
		The ground is bumpy.	Adjust the cutting height.
		The knife blade is bent.	Repalce with new knife blade. (Ask the dealer from which you purchased your machine.)
	The belt slips.	The belt tension is low.	Adjust the belt tension. (Refer to p. 64.)
		The cutting-blade cover is clogged with brush.	Remove the clogging bush and clean inside of the cutting-blade cover.
		Bush is attached to the pulley.	Clean the pulley.
		The belt is worn.	Replace the belt with a new one. (Refer to p. 65.)

## Responding to Problems

### <Troubleshooting Table>

Location	Troubles	Presumable cause	Action
Bush-cutting	Considerable vibration	Bush piled up to inside of cutting-blade cover or pulley.	Clean the cutting-blade cover and pulley.
		The belt is damaged.	Replace the belt with a new one. (Refer to p. 65.)
		The pulley is damaged.	Replace the pulley with a new one.
		The cutting blade is damaged.	Replace the cutting blade with a new one. (Refer to p. 76 to 80.)
	There is big load during cutting operation.	The cutting blade has a poor balance.	Replace the cutting blade with a new one. (Refer to p. 76 to 80.)
		The engine speed is low.	Adjust the engine speed to the maximum. (Check the engine revolutions.)
		The working speed is high.	Lower the working speed.
		Bush is piled up to or tangled up to the turning pivot of the cutting blade.	Clean the cutting blade.
		Poorly adjusted knife blade.	Adjust the mounting angle of the knife blade. (Ask the dealer from which you purchased your machine.)
	Shifting cutting-height adjustment lever feels heavy.	Insufficient greasing of the suspension arm pivot of the bush cutting device.	Grease the pivot. (Refer to p. 61.)
		Small stones, cut bush and other foreign objects are piled up to the top of the cutting-blade cover.	Clean the piled up foreign objects.
		Bush is piled up to the inside of the cutting-blade cover.	Clean the inside of the cutting-blade cover.

# Service Information

## Main Specification

Name			Ride-on bush cutter	
Model			AR950F	AR950
Dimensions	Overall length (mm)		1965	1935
	Overall width (mm)		1090	
	Overall height (mm)		955	
	Wheelbase (mm)		1320	1270
	T r e a d (mm)	Front wheels	830	845
		Rear wheels	785	
Machine mass (kg)			330	310
Cutting system	Cutting width (mm)		950	
	Cutting blade components		Free knife x 2; stepped stay	
	Fixing of cutting blade		Lock nut type	
	Cutting height (mm)		35 to 125 (steplessly adjustable)	
	Work clutch		Belt tension type (interlocked with brake)	
	Maximum work efficiency (a/h)		95 (85 in the Eco-drive mode)	
Driving system	Main Transmission		HST with differential lock	
	Brake		Internal expanding brake	
	Vehicle speed	Forward (km/h)	0 to 10.0	0 to 10.0
		Reverse (km/h)	0 to 8.5	0 to 6.0
	Wheel	Front wheel	4.00 – 7 ( ϕ 400)	
		Rear wheel	17×8.00 – 8 ( ϕ 440)	
	Steering method		Steering wheel with knob	
	Gradeability		25	15
Engine	Manufacturer		Kawasaki	
	Model		FS691V (Air-cooled, V-type, 2-cylinder OHV gasoline engine)	
	Output (kW/PS)		17.9/24.0 (Net: 15.3/20.5)	
	Fuel tank capacity (liters)		14	
Steering wheel vertical adjustment (mm)			0 / 30 (2 levels)	
Seat / fore-aft adjustment (mm)			60	





## Parts Requiring Periodic Replacement and Consumable Parts

When ordering a part requiring periodic replacement or consumable part, confirm the part number and place an order with the “dealer you purchased your Ride-on Bush Cutter”

### ● Parts requiring periodic replacement

No.	Part name	Part number	Quantity/ machine	Item	Rough guide on when to replace
1	Paper element	99999-0384	1	Engine part	Every 100 hours or 1 year
2	Oil filter	49065-7007	1	Engine part	Every 100 hours or 1 year
3	Oil filter	0675-120-024-0	1	For HST	Initial: 50 hours After: 200 hours or 1 year

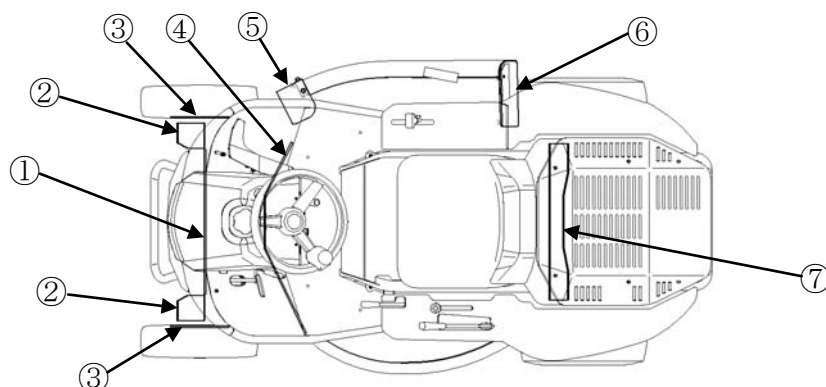
### ● Consumable parts

No.	Part name	Part number	Quantity/ machine	Item	Remarks
1	Knife stay(R792E)	0675-731-011-0	1	Relating to cutting blade	
2	Knife set	0670-980-200-0	1	Relating to cutting blade	
3	Knife bolt set	0670-980-300-0	2	Relating to cutting blade	
4	Cutter cover (980F) COMP	0675-740-200-0	1	Relating to cutting blade	
5	Guide cover (L) COMP	0674-740-230-0	1	Relating to cutting blade	
6	Side Cover 980F (R) COMP	0675-740-220-0	1	Relating to cutting blade	
7	Rear Cover (980F) COMP	0675-740-300-0	1	Relating to cutting blade	
8	Foam element	11013-7046	1	Engine part	
9	Spark plug	92070-7004	2	Engine part	BPR4ES
10	Fuel filter	49019-0014	1	Engine part	
11	V-belt (B-76) W800	0670-710-015-0	1	Cutting V-belt	SB76 W800
12	V-belt (B-35) W800	0675-510-012-0	1	Traveling V-belt	SB35 W800
13	Brake shoe (cutter/EU)	0675-722-011-0	1	Brake for cutting blade	Brake for cutting blade
14	Battery 34 A (G)	0453-455-011-2	1		34A19R
15	Fuse (Blade/32V03A)	0771-630-224-0	1		Blade fuse
16	Fuse (5 A)	0674-440-201-0	1		Blade fuse
17	Fuse (10 A)	0453-440-012-0	1		Blade fuse
18	Fuse (20 A)	0455-440-221-0	2		Blade fuse
19	Front wheel (R) assembly	0672-325-210-1	1		
20	Front wheel (L) assembly	0672-325-200-1	1		
21	Rear wheel (R) assembly	0672-345-210-1	1		
22	Rear wheel (L) assembly	0672-345-200-1	1		
23	Tire (4.00-7-2PR)	0672-325-221-0	2	Front wheel tire	
24	Tire (17 x 8.00-8)	0672-345-221-0	2	Rear wheel tire	
25	Tube(4.00-7)	0672-325-222-0	2	Front wheel tube	
26	Tube(17x8.00-8)	0672-345-222-0	2	Rear wheel tube	
27	Back plate	0674-110-210-0	1	Parking brake	

## Service Information

### ● Consumable parts

No.	Part name	Part number	Quantity/ machine	Item	Remarks
28	Brake shoe	0674-110-211-0	2	Parking brake	
29	Brake drum	0674-110-212-0	1	Parking brake	
30	Fuel hose (tank) A	0670-421-013-0	1		Fuel tank to fuel cock
31	Fuel hose (6 x 1830)	0675-420-011-0	1		Fuel cock to fuel filter
32	Tube (6.35×12.7×185)	92192-7172	1	Engine parts	Fuel filter to fuel pump
33	Tube (6.4×12.7×150)	92192-7148	1		Fuel pump to crank case
34	Tube (6.35×12.7×390)	92192-7188	1		Fuel pump to carburetor
35	Fuel pump	49040-7008	1		Pump (fuel)
36	Fuel cock	51023-2159	1		Tap assembly
37	Cable (throttle FS/F)	0673-640-011-0	1	Cable	Engine throttle
38	Cable (choke /24)	0672-651-011-0	1		Engine choke
39	Cable (brake)F	0672-621-011-0	1		Traveling brake
40	Cable (differential lock)	0671-680-011-0	1		Differential lock
41	Cable (clutch/cutter)	0675-760-011-0	1		Cutting-blade clutch
42	Cable (brake/cutter)	0670-760-013-0	1		Cutting-blade brake
43	Cable (free lock)	0671-770-012-0	1		Cutting-height adjustment
44	Cable (hand lever 803)	0673-956-260-0	1		HST lever holding, release
45	① Front rubber(980F)	0675-160-014-0	1	Rubber cover	For AR950F
46	① Front rubber	0670-740-015-0	1		For AR950
47	② Front rubber(side)	0675-160-012-0	2		For AR950F
48	② Scraper rubber	0670-310-012-0	2		For AR950
49	③ Wheel cover rubber	0675-160-011-0	2		For AR950F
50	③ Front tire rubber	0670-310-011-0	2		For AR950
51	④ FC rubber	0675-740-016-0	1		
52	⑤ Side rubber F (RF)	0675-740-013-0	1		
53	⑥ Side rubber F (RR)	0675-740-015-0	1		
54	⑦ Rear rubber	0675-740-021-0	1		



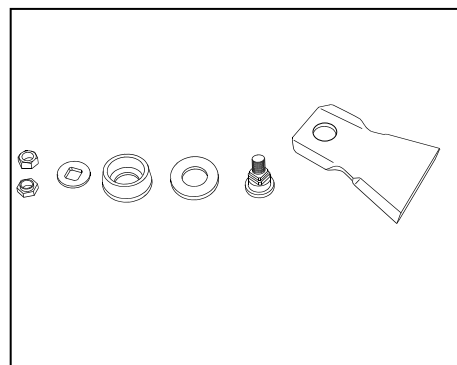
## Optional Parts

When ordering a optional part, confirm the part number and place an order with the “dealer from which you purchased your Ride-on Bush Cutter”.

### ■ Knife (114A) SET

- Special shaped wide blade with mounting bolt guard, excellent durability.

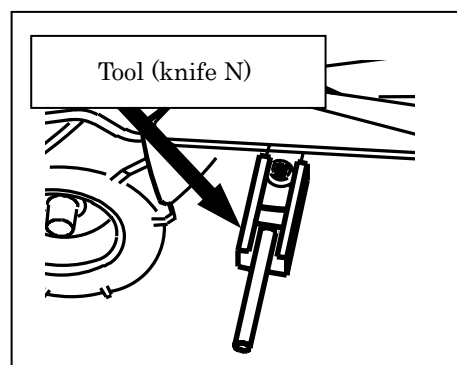
Part No.:0672-982-200-0



### ■ Tool (Knife N)

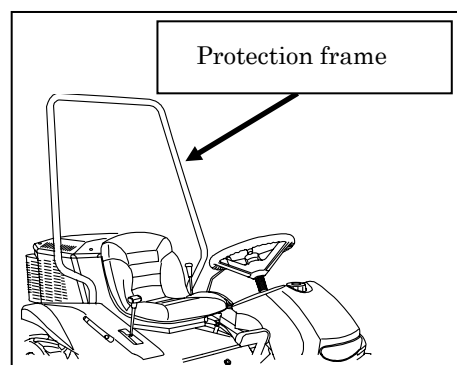
- This tool enables you attach and remove the knife (cutting-blade) safely and easily.
- Corresponding to both types of knives those are standard part knife [straight shape], and order part knife [wide shape].

Part no.: 0672-989-200-0



### ■ Protection frame (950) SET

- Ensure the safety in the machine tipping over



Part no.: 0675-950-200-0

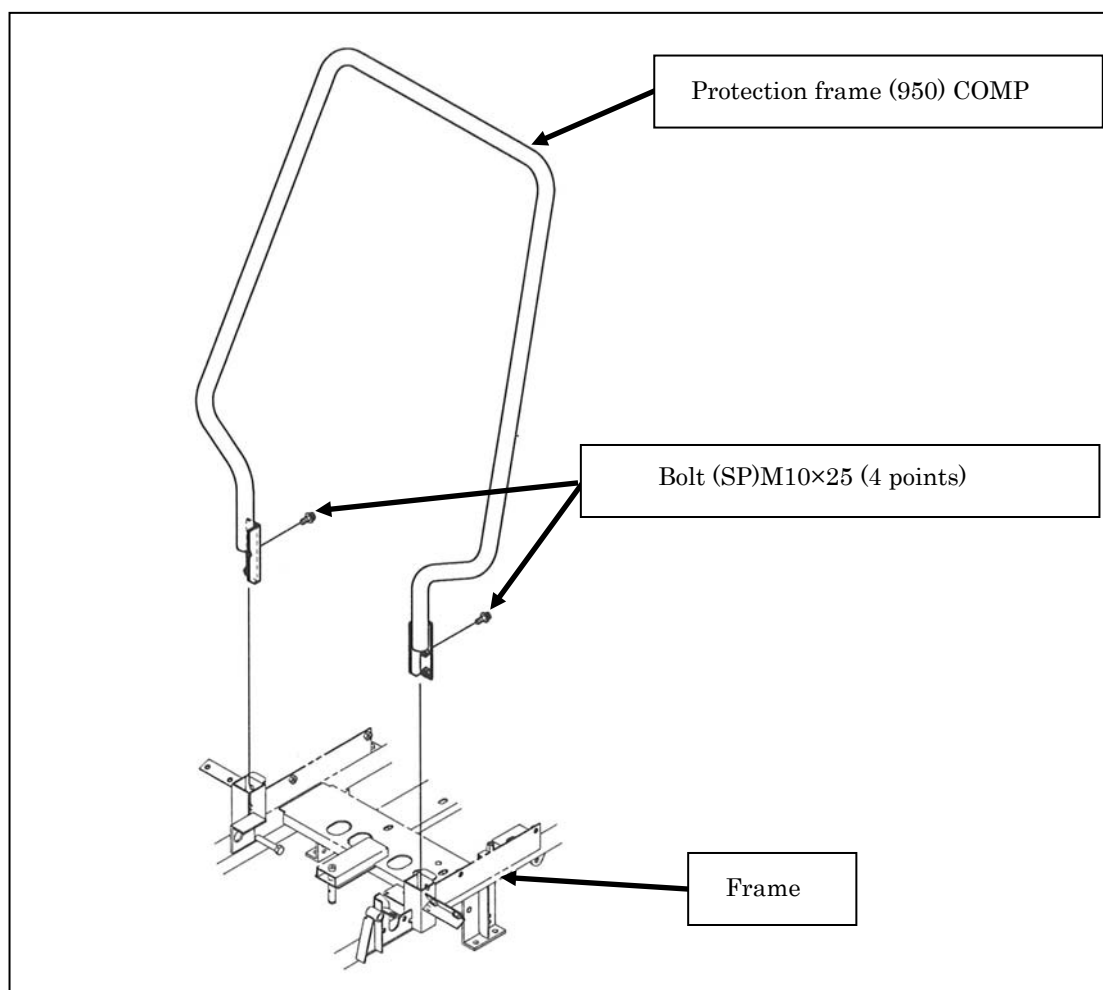
■ How to install the protection frame (950) SET

1. Accessory

- Protection frame (950) COMP ----- 1 pc
- Bolt (SP) M10 X 25-----4pcs

2. How to install

- (1)Place the machine on flat area and remove the engine cover.  
(Refer to p.24 ~ 25 of this manual)
- (2)Install the Protection frame (950) COMP to the frame and tighten  
4 pieces of Bolt (SP) as shown in below picture.
- (3)After closing the engine cover, tighten the knob bolt to fix.



## NOISE & VIBRATION

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### NOISE:

		AR950F	AR950
Sound power level	db(A)	98.7	98.7
Speed of rotation of the engine	min <sup>-1</sup> (rpm)	3350	3350


### VIBRATION:

		AR950F	AR950
Weighted root mean square acceleration less than value to which the arms are subjected		2.2 m/s <sup>2</sup>	2.2 m/s <sup>2</sup>
Weighted root mean square acceleration less than value to which the body is subjected		1.6 m/s <sup>2</sup>	1.6 m/s <sup>2</sup>
Speed of rotation of the engine	min <sup>-1</sup> (rpm)	3350	3350

# EC DECLARATION OF CONFORMITY

1. Manufacturer's name and address or his authorized representative in the Community	ATEX CO., LTD. No.1-2-5, Kinuyama, Matsuyama, Ehime, 791-8524 Japan		
2. Description of the equipment:			
2.1. Type (model no.)	AR950F		
2.2. Serial number	20XX-XXXX		
2.3. Commercial name	Ride-on Bush Cutter		
2.4. Dimensions	1965(L) x 1090(W) x 955(H) mm		
2.5. Engine type	Gasoline engine		
2.6. Net installed power	12.9 kW/3000rpm		
3. Directive	2006/42/EC Machinery Directive 2004/108/EC EMC Directive		
	Declaration	The equipment refer in the document, fulfils with all the requirements of the directive 2006/42/EC, 2004/108/EC	
	2000/14/EC (amended by 2005/88/EC) relating to the noise emission in the environment by equipment for use outdoors.		
	Declaration	The equipment refer in the document, fulfils with all the requirements of the directive 2000/14/EC	
	Conformity assessment according to	Annex V	
	Measured sound power level	98.7 dB	
	Guaranteed sound power level	100 dB	
4. A reference to the harmonized standards used	EN 12733 : 2001+A1:2009 EN ISO 14982:2009		
5. Place and date of the declaration	Matsuyama, Japan 2014.01.06		
6. Name and address of the person who keeps the technical documentation	ATEX CO., LTD. No.1-2-5, Kinuyama, Matsuyama, Ehime, 791-8524 Japan		
	 Toshimichi Nakata Manager of Quality Assurance Department		

# EC DECLARATION OF CONFORMITY

1. Manufacturer's name and address or his authorized representative in the Community	ATEX CO., LTD. No.1-2-5, Kinuyama, Matsuyama, Ehime, 791-8524 Japan											
2. Description of the equipment:												
2.1. Type (model no.)	AR950											
2.2. Serial number	20XX-XXXX											
2.3. Commercial name	Ride-on Bush Cutter											
2.4. Dimensions	1935(L) x 1090(W) x 955(H) mm											
2.5. Engine type	Gasoline engine											
2.6. Net installed power	12.9 kW/3000rpm											
3. Directive	2006/42/EC Machinery Directive 2004/108/EC EMC Directive <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;">Declaration</td><td style="padding: 5px;">The equipment refer in the document, fulfils with all the requirements of the directive 2006/42/EC, 2004/108/EC</td></tr> </table> 2000/14/EC (amended by 2005/88/EC) relating to the noise emission in the environment by equipment for use outdoors. <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;">Declaration</td><td style="padding: 5px;">The equipment refer in the document, fulfils with all the requirements of the directive 2000/14/EC</td></tr> <tr> <td style="padding: 5px;">Conformity assessment according to</td><td style="padding: 5px;">Annex V</td></tr> <tr> <td style="padding: 5px;">Measured sound power level</td><td style="padding: 5px;">98.7 dB</td></tr> <tr> <td style="padding: 5px;">Guaranteed sound power level</td><td style="padding: 5px;">100 dB</td></tr> </table>		Declaration	The equipment refer in the document, fulfils with all the requirements of the directive 2006/42/EC, 2004/108/EC	Declaration	The equipment refer in the document, fulfils with all the requirements of the directive 2000/14/EC	Conformity assessment according to	Annex V	Measured sound power level	98.7 dB	Guaranteed sound power level	100 dB
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	 Toshimichi Nakata Manager of Quality Assurance Department											





# ATEX CO.,LTD.

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Ehime 791-8524, Japan