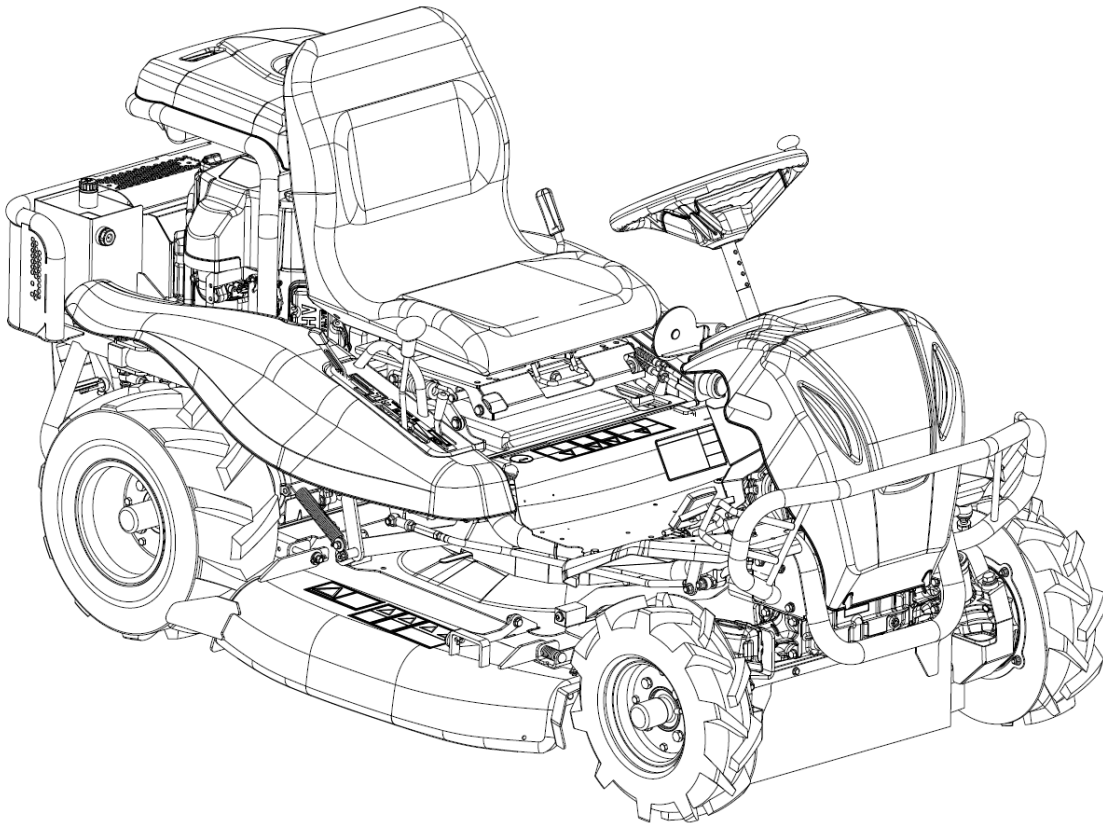


# INSTRUCTION MANUAL



## GRASSLAND MOWER RABBIT

RM882 / RM952 / RM982F



**Read this instruction manual carefully before any use of the machine, keep it as a reference. For any question about this manual, please report to your OREC dealer or to the distributor of your country.**

OREC CO LTD  
548-22 HIYOSHI HIROKAWA-MACHI YAME-GUN JAPON  
<http://www.orec-jp.com>

Update: March 2019

“Only the English version of this manual can be used as a reference.”

## **INTRODUCTION**

### Foreword to the user

Read this manual before any use of your mower, only the herein instructions shall help you to achieve an efficient and safe work.

A safe use will only result from the manner you will use the machine in accordance with the restrictions described in this manual. Thus, you must know and follow all the safety measures in this manual and those relating to the use of your tractor.

The mower that you have just bought has been designed and manufactured for your entire satisfaction. As any other mechanical machine, it requires a proper maintenance and must be kept clean. Grease the machine like indicated. Follow the rules and safety indications as described in this manual and as showed on the preventive instruction stickers.

About maintenance, always mind that your OREC dealer has the skills, the genuine parts and the necessary tools to solve the possible problems.

Use only the OREC genuine parts : “ non genuine ” parts will not assure you of a correct and safe working and non genuine parts are likely to make the guarantee null and void. Write the name and the serial number of your machine hereunder :

MODEL : .....

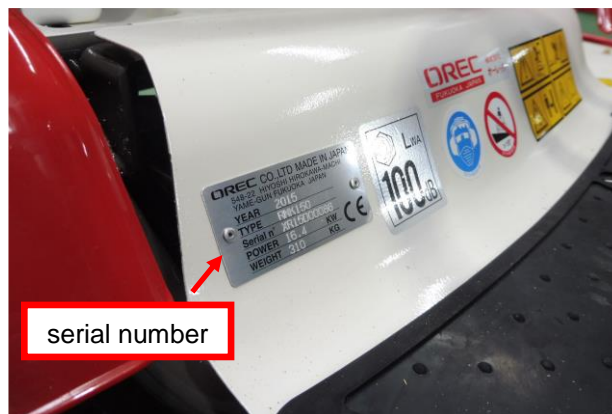
SERIAL NUMBER (refer to the pictures herein) :.....

Always mention this information to your dealer in order to obtain the right parts.

Concerned about constant progress, OREC keeps the right to modify the machines without being compelled to modify those already sold.

The illustrations and characteristics in this manual might lightly differ from your machine because of the constant improvements made by our production department.

In this manual, the left and right hand or the rear and front position are determined according to the tractor seat.



All along this manual the word **IMPORTANT** is used to indicate that a fault might cause damage to the machine. The words **WARNING**, **CAUTION** and **DANGER** are used with the “ safety/warning ” pictogram (triangle with an exclamation mark) in order to indicate a hazard for your safety.



This symbol indicates that you must be very attentive because your safety is at stake. It reminds that you must follow the safety instructions and pay attention to hazardous operations that might cause injuries.



**WARNING**

Reminds the safety rules that might cause injury if they are not respected



**CAUTION**

Remembers to pay attention to a real danger that is likely to cause injury or even death if no proper precaution is taken.



**DANGER**

Indicates a major hazard that is most likely to cause irremediable injury or death if the right precautions are not taken.

## CONTENTS

INTRODUCTION .....	2
CONTENTS .....	3
SPECIFICATIONS .....	3
CHECK LIST .....	4
SAFETY RULES .....	4
MACHINE DESCRIPTION .....	6
SAFETY INSTRUCTION STICKERS .....	7
CONTROLS .....	9
OPERATION .....	13
MAINTENANCE OPERATIONS .....	15
BREAKDOWNS AND SOLUTIONS .....	25
TIGHTENING TORQUES (Nm) .....	25
EC CONFORMITY DECLARATION .....	26
MEASUREMENT OF VIBRATIONS .....	26
EC CONFORMITY DECLARATION .....	27
MEASUREMENT OF VIBRATIONS .....	27
EC CONFORMITY DECLARATION .....	28
MEASUREMENT OF VIBRATIONS .....	28
LIMITED WARRANTY .....	29
NOTES .....	29

## SPECIFICATIONS

Model	RM882	RM952	RM982F(4WD)
Engine	KAWASAKI FS481V	KAWASAKI FS541V	KAWASAKI FS691V
	Briggs & Stratton Vanguard 479cc	Briggs & Stratton Vanguard 570cc	Briggs & Stratton Vanguard 627cc
Transmission	Hydrostatic	Hydrostatic	Hydrostatic
Forward speed (km/h)	0-10	0-12	0-10
Reverse speed (km/h)	0-7	0-10	0-8
Cutting width (cm)	88	95	97.5
Height of cut (mm)	50-110	50-110	50-120
Weight (kg)	295 / 295	315 / 315	355 / 350
Fuel Tank (L)	12 liters	12 liters	12 liters
Blade transmission	belt	belt	belt
Steering	Rack and pinion	Rack and pinion	Reduction
Blade engagement	Belt tension	Belt tension	Belt tension
Blade speed (tr/rpm)	1332	1332	1486
Width (mm)	980	1070	1070

## CHECK LIST

### INSTRUCTIONS TO THE DEALER

The assembling, the installation and the first application of the machine is under the OREC dealer's responsibility.

Read the instruction manual as safety measures. Check that all contents before delivery and at delivery check points specified in the following lists have been verified and possibly modified before delivering the machine to its owner.

### CHECKS BEFORE DELIVERY

- Check that all the shields, grids and safety guards are in place and in a good state.
- Check that the hydraulic hoses are in place and good condition. Replace them if necessary.
- Check that there is no oil leak, repair if necessary.
- Check that the safety instruction stickers are in correct place and in a good state. Replace them if necessary.
- Check that all the bolts and screws are properly tightened with the right torque (refer to chart).
- Protect the grease nipples by coating them with grease and lubricate the machine.
- Check that the machine can work properly : check blade engagement and disengagement, check that the safety switches works properly.

### CHECKS ON DELIVERY

- Show the user how to perform the adjustments.
- Explain to the user the importance of the lubrication and show him the different greasing points on the machine.
- Show the user how to use the safety devices, shields, guards and the optional equipments.
- Give the instruction manual to the customer, and ask him to read this manual carefully.
- Explain to the customer that drive on the public roads is forbidden.

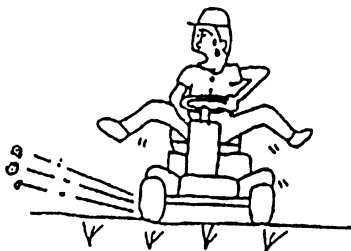
## SAFETY RULES



### CAUTION

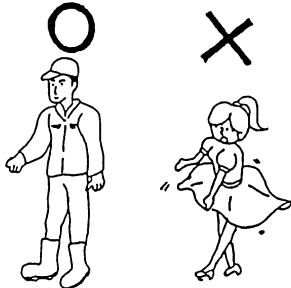
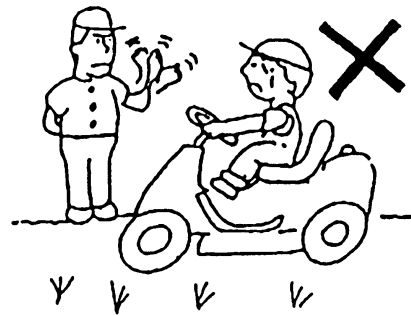
**Some of the illustrations show the machine with no guard, no shield. Never use the machine without these devices.**

- Learn to stop the machine in emergency case.
- Read and understand all the safety instructions of this manual.
- Do not let anybody use the machine before read and understood this manual.
- Do not use the machine near bystanders. They can be hit by thrown objects
- Do not let children use the machine.



- Do not wear loose clothes. They might be grasped by moving parts.
- Always wear protection equipments when using the machine.
- Only work during daylight or with a good artificial light.
- Check that the safety instruction stickers are in place and in a good state.
- Keep the machine free from debris or mud.

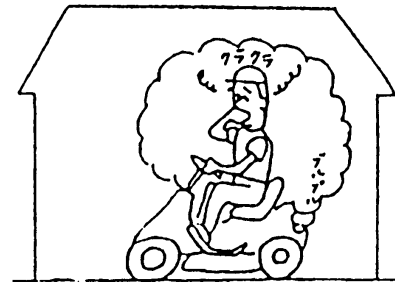
- Check that the machine can work properly before any use.
- Check that all the shields, grids and safety guards are in place and in a good condition.
- It is strictly forbidden to carry persons or animals onto the machine during the work or during the transportation.
- Check that nobody stands behind the machine before moving back.
- Never stop or start roughly when working on a slope. Never use the machine to work on a stepping terrain.



- Reduce the speed when running on a slope. And turning straight to prevent from any risk of losing control.
- Be very careful when bordering ditches.
- Stop the engine, apply the parking brake and remove the ignition key before any intervention on the machine.
- Never work under the machine or its parts when lifted, unless they are blocked and maintained into position with sufficient security.

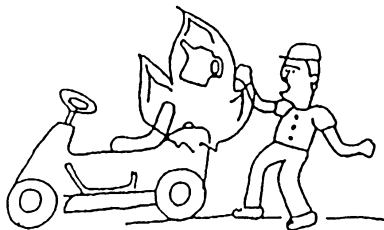
- When running on a slope, working direction is going up or down but never across the slope.

- Avoid unsteady embankments, holes or rocks. They might be caused injury during operation.
- Be careful when working on slopes.
- Keep away from high-tension lines and obstacles. A contact with a high-tension line cause electrocution and death.
- Stop the machine progressively when lifting or lowering the machine.

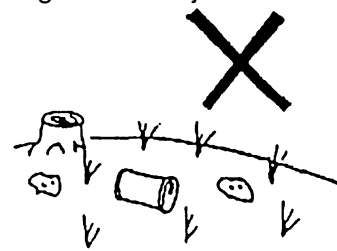


- When the machine is stopped mowing, stop the engine and engage the parking brake before leaving the machine.
- Check the all safety switches is engaged.
- Move the machine only when correctly sat down in the operator's seat

- Visually check hydraulic leaks and if some parts are faulty or missing. Repair before use.
- A hydraulic oil jet due to a leak can penetrate under the skin causing serious injuries. In this case you must immediately consult a doctor.
- Never change the adjustment of the safety valve, it is set in the factory. Unsetting this valve would cause failures.

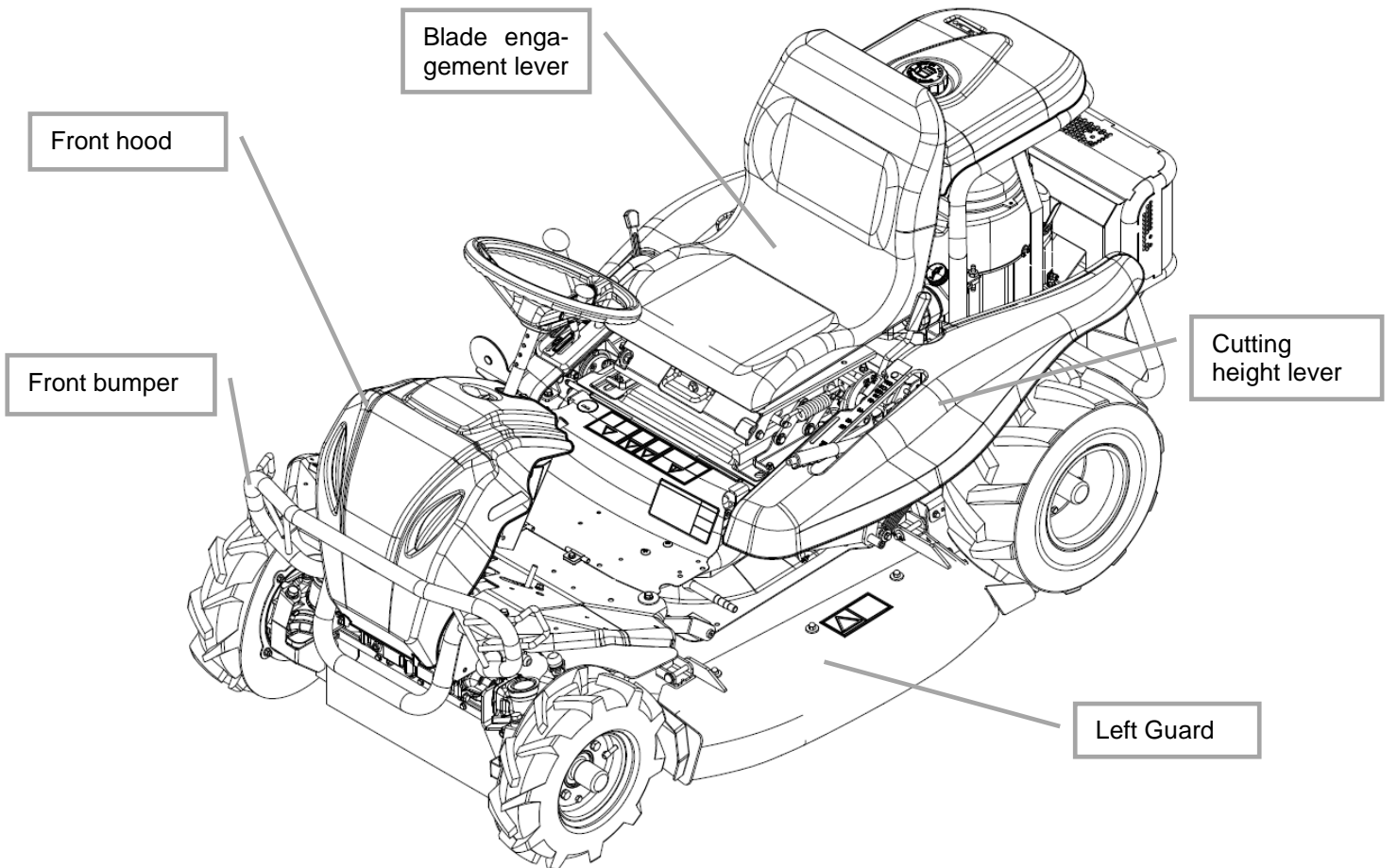
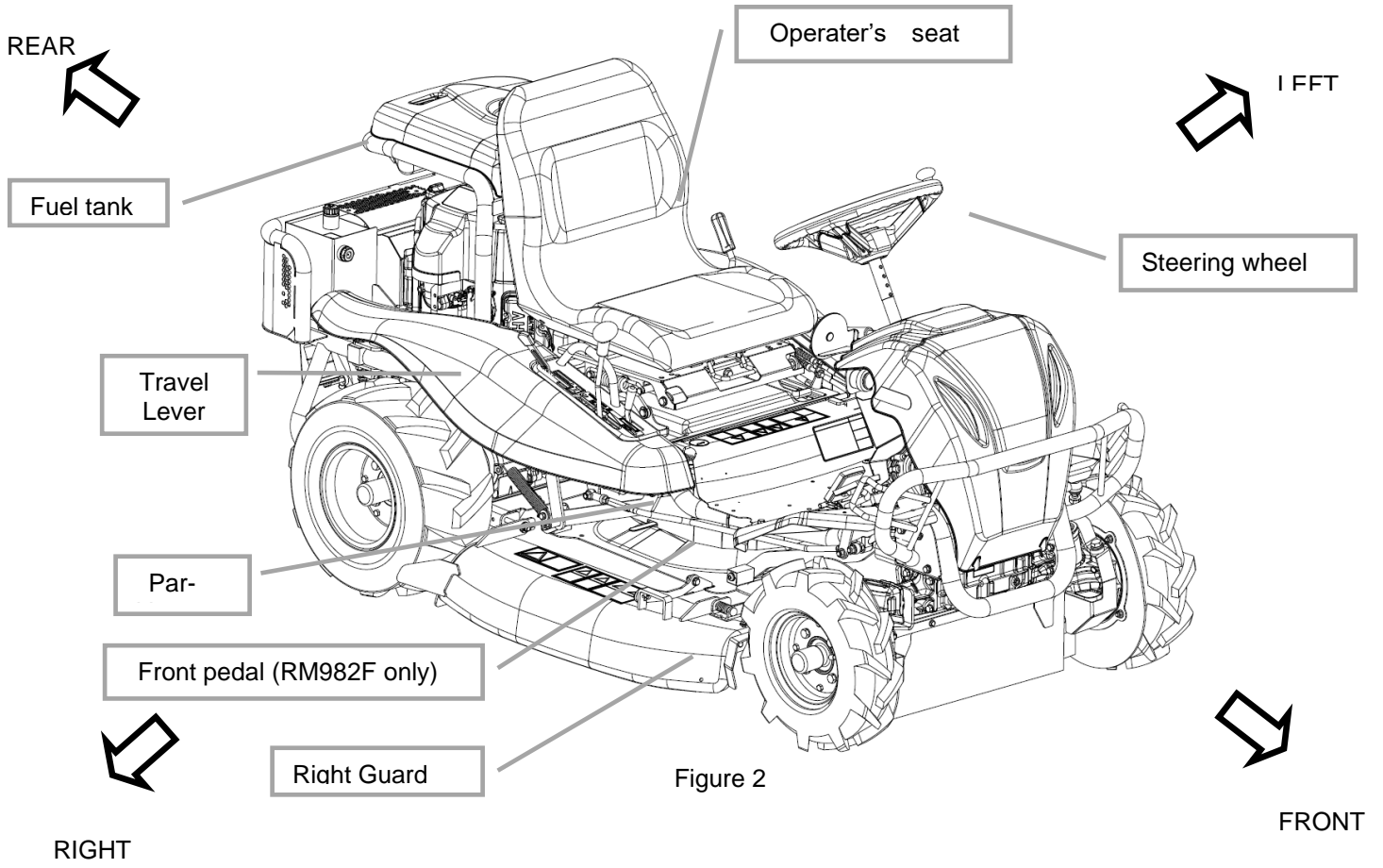


- Ensure that the user of the machine has already read and understood this manual and that he is aware of all the safety instructions before any use.



- Always use a chuck and bronze hammer when replacing or repairing on the pins and bolts at the end of rams, rod ... etc in order to avoid the projection of metal fragments.

# MACHINE DESCRIPTION



## SAFETY INSTRUCTION STICKERS

Note : replace them immediately if they are damaged or missing.



Do not exceed 15° slope



Read owner's manual



Always wear protective equipment against noise, dust



Remove the spark plug wire before maintenance

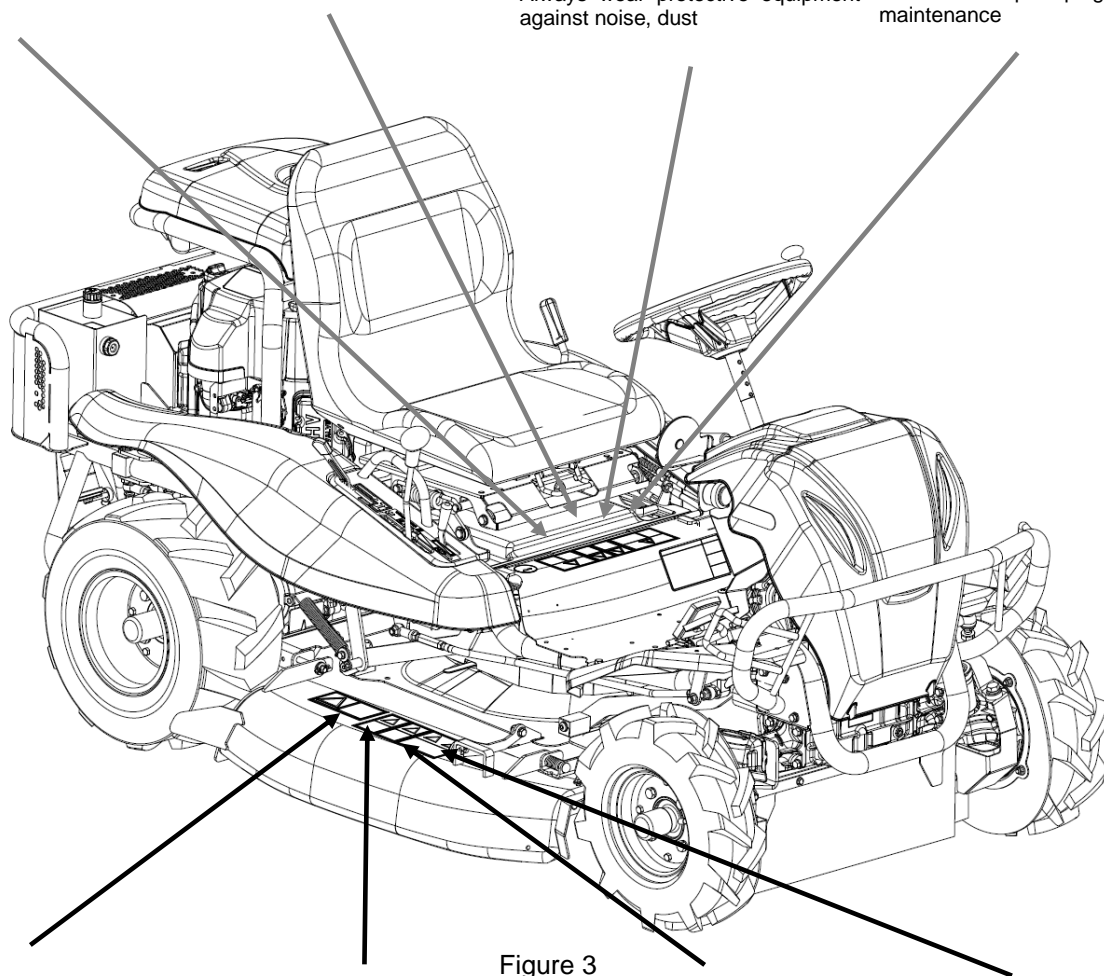


Figure 3



Keep hands and feet away from rotating blades



Beware of rotating parts under the shields



Stay away from the machine



Beware of thrown objects



Beware of hot surfaces near engine



Beware of the flammable fuel



Beware of the toxic exhaust gas

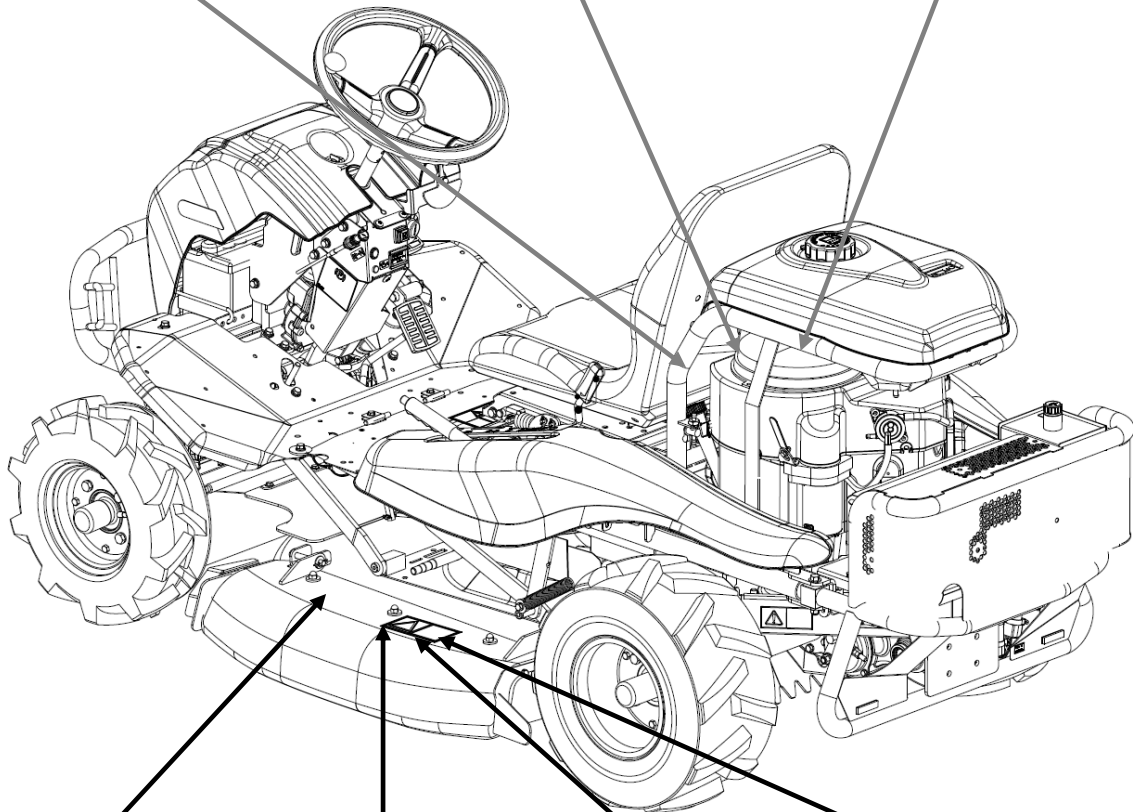


Figure 4



Beware of rotating parts under the shields



Keep away from the machine



Beware of thrown objects



Keep away hands and feet from rotating blades



## CONTROLS

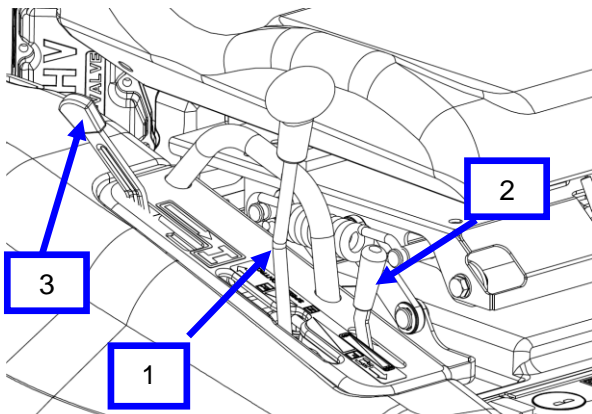


Figure 5a (model RM882 & RM92F)

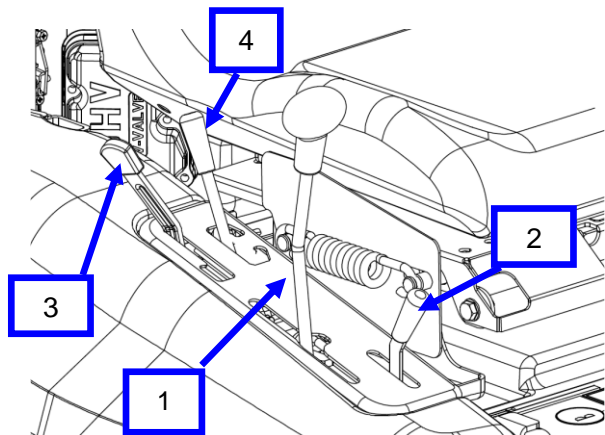


Figure 5b (model RM952)

### SPEED CONTROL LEVER (HST)

This lever is used to go forward, reverse and stop the machine (1, Fig 5a & 5b). When the lever is moved to « R » the machine is going on reverse. When lever is moved from « N » to « F », the machine is going forward. When lever is located in « N » position the machine is stopped.

Travel speed is increased by pushed the lever from « N » to « F » or « R ». Travel speed is decreased by push the lever from « F » or « R » to « N ».

Push or release lever gradually (except on an emergency) in order to avoid sudden stop and go.



### **DANGER**

**When the travel lever is released to stop the machine, it might be damaged. Release the lever to « N » gently, except in case of emergency to avoid sudden stops.**

### THROTTLE LEVER

Push the throttle lever(2, Fig 5a & 5b) forward to increase engine speed, pull the throttle lever backward to decrease engine speed. The machine is always used at full engine speed to mow.

### DIFFERENTIAL LOCK LEVER



This lever(3, Fig 5a & 5b) is used that the rear wheels to be moved together in slipping areas. The diff lock should be locked when one wheel is slipping. Release the lever as soon as the machine leaves the slipping area.



**The diff lock should be used in straight line: never use the diff lock lever when turning.  
The damage to the transmission will not be covered by the warranty**

### SUB CHANGE LEVER (ONLY ON RM952)

This lever control to basic driving speed condition. (4, Fig 5b)

[  ] is Low speed position. [  ] is Hi speed position.

To move the lever, push it completely down then move to the wished position by keeping it pushed and release it.

For the Grass cutting work, we suggest to use Low speed position to reduce the machine damage.

On the Neutral position (N), HST gearbox is disengaged. It enable to push the machine without engine power.

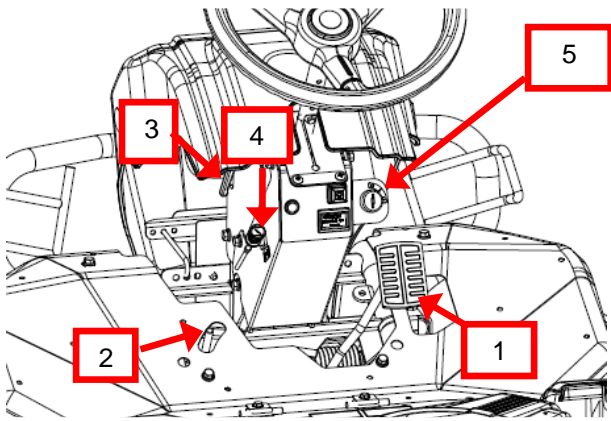


Figure 6a (model RM882 & RM952)

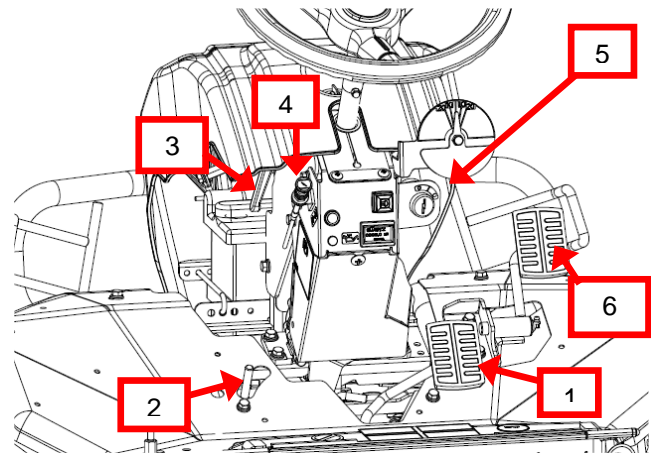


Figure 6b (model RM982F)

### **BRAKE (PARKING) PEDAL**

The brake pedal is used in case of emergency or when the parking brake is locked (1, Fig 6a & 6b). When brake pedal is pressed, travel speed lever is automatically moved to neutral position « N ».

To lock parking brake, press the brake pedal (1, Fig 6a & 6b), then turn the locking lever (2) to the right. Press again and release the pedal to unlock the parking brake.



**WARNING**

**Use the brake pedal in case of emergency or to lock parking brake. If brake pedal is used at high speed, the machine will stop suddenly.**



**WARNING**

**Do not stop the machine on the slopes, do not move the travel lever when the parking brake is locked to prevent from damage of the transmission. When leaving the machine be sure that the parking brake is locked, cutting blades are in off position and ignition key is removed.**

### **Adjust handle tilt and angle**

When the handle angle lever (3, Fig 6a & 6b) is loose, handle angle can move freely. Securely tighten the tilt lever until it is fixed.

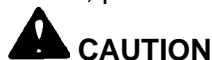
### **CHOKE LEVER**

Pull the choke lever (4, Fig 6a & 6b) to start cold engine, and release it gradually when engine become hot.

### **IGNITION KEY**

The Ignition key (5, Fig 6a & 6b) is used to start and stop the engine.

- When the key is in "**stop**" position, the engine is stopped, and the key can be removed. Turn the key in this position when you want to stop the engine.
- When the key is in "**operation**" position, the engine can run, and the key cannot be removed.
- When the key is in "**start**", position, the self starter is engaged. When the engine has started, release the key which returns into "**operation**", position.



**CAUTION**

**Always remove the key when machine is not used. When the engine is stopped, check that the key is in "stop" position. Do not engage the electric starting motor more than 10 seconds. If the engine has not started after 10 seconds, wait for 30 seconds before to engage the self starter again.**

### **FRONT PEDAL (ONLY RM982F)**

The front pedal (6, Fig 6b) is used to go forward the machine. The driving speed changes by the angle of using the pedal. If the brake pedal is pushed, speed control lever and front pedal move to neutral position.



## CAUTION

The speed control lever and the front pedal work with each other.  
Do not conduct both operations at the same time.

### STEERING WHEEL

The steering wheel can change the direction of the machine (see Fig 1). Turn the steering wheel to the right (clock wise) to go right. And the left to go to the left (anti-clockwise) Adjust the steering wheel height by removing the bolt and nut. Adjust the steering wheel, and secure with bolt and nut.

### CUTTING HEIGHT LEVER(1, Fig 7)

The highest position of the lever (1, Fig. 7) is used as the transport position.

The cutting height is adjustable freely by pressing the push button (1, Fig 7), and the lever position is high, the height of cut is high, when lever position is low, the height of cut is low.

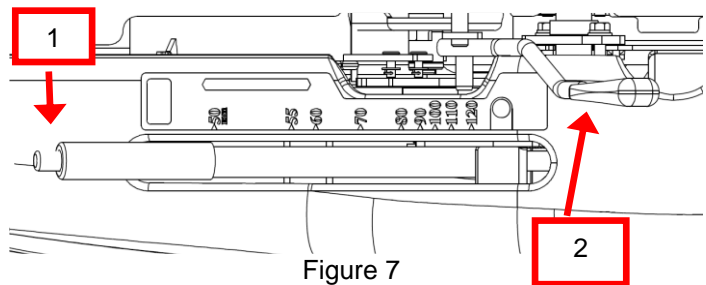


Figure 7



## WARNING

When cutting height lever is in low position, the machine needs strong power, and spread more thrown objects. Cutting low can cause damage to the machine and injury.

### BLADE CLUTCH LEVER

The blade clutch lever (2, Fig. 7) is used for mowing. Push the lever forward, and engage the blade. Pull up the lever to stop the blade.

Check blade clutch lever in mowing position.



## DANGER

Check that the blade clutch lever is operated properly. The blade is never permanently engaged. Never operate the machine if the blades are permanently engaged. The machine is checked by the dealer if the blade is engaged or disengaged properly.



## WARNING

When leaving the machine, be sure to lock parking brake. Cutting blades are in off position and ignition key is removed.

### LATERAL GUARDS

The mowing deck side shields should be unlocked to carry the machine on a truck or a trailer. This shields should be locked for mowing.



## DANGER

The mowing deck side shields should be locked by bolt and nuts when the knife clutch is engaged. Check the guards and shield are locked by bolt and nuts before mowing. If they are not locked, thrown object will cause injury and damage.

### ENGINE

The mower is delivered with the engine owner's manual. Read the engine manual before use the machine.

### SEAT

Pull up the adjust lever(1, Fig 8) and slide the seat to change the seat position. Release the lever, then seat position is locked.

It is possible to adjust the strength of the spring according to the weight of the user. If the suspension adjusting bolt is turned clockwise, the spring is tensioned. If the suspension adjusting bolt is turned unclockwise, the spring is loosened.

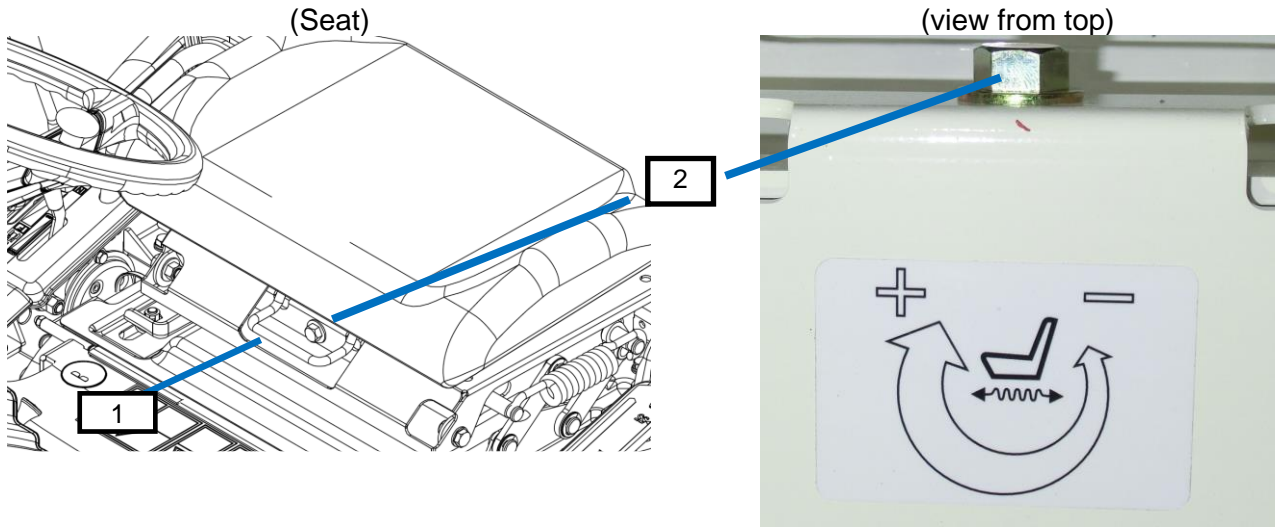


Figure 8

**SAFETY SWITCHES**

All machines are equipped with safety switches :

- To start engine when cutting blade lever is disengaged. If the brake pedal is disengaged, the machine can't be worked.
- When the operator leave the seat while the engine is running, the engine is cut off.
- The operator can't leave the seat if the blade are engaged even if the parking brake is engaged.



**WARNING**

**Never start the engine when operator is not seated in operator's seat. Do not dismantle, cut off, unplug or change the safety switches. If the engine is cut off by a safety switch, put the key in "stop" position to avoid unloading of the battery**

**FUEL COCK(FIG. 9)**

The machine is equipped with a fuel cock. This fuel cock is opened when the lever is in the same direction as the fuel hose.

The fuel cock is closed when it is turned across the fuel hose.

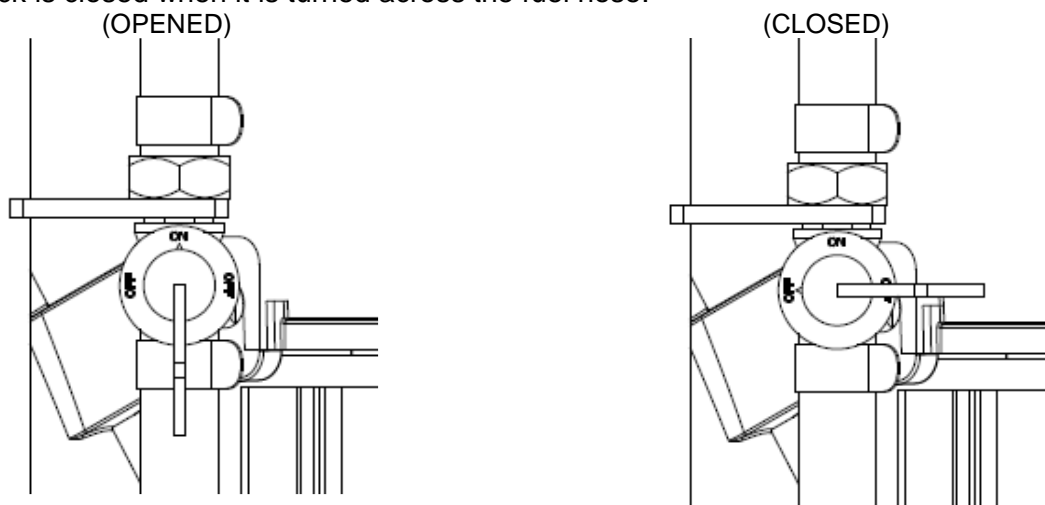


Figure 9

## **OPERATION**



### **CAUTION**

**Check the tightening of bolts before use the machine, referring to the tightening torque charts.**

The safety was one of our main worry when designing and manufacturing this machine. Therefore, negligence in the use of the machine should reduce our efforts to nothing. The prevention strictly depends on the care and on the skill of the user when applying and maintaining the machine. The best safety method remains a careful and skilled user ; we wish you to be this kind of user.

The user of this machine is responsible for its safe use. The user must be a skilled user and specially trained for the use of the machine. Read and understand the safety instructions. This machine has been designed to mow grass. It is not designed for any other operation. It is not designed to transport other tools or materials that might damage it and cause injuries to the user. It must not be used to carry persons.



**Never use the machine without having properly carried out all the maintenance as described in the daily maintenance chapter.**



### **CAUTION**

**Never let children or unskilled persons use the machine. Check that nobody or no object stands near the machine during working. It could be hit by thrown object. Nobody must stand on the machine except the driver. Never put your hands under moving parts.**

### **STARTING OF THE ENGINE**

- Turn the fuel cock "ON" and sit down on operator's seat.
- Check that cutting blade are disengaged, cutting height lever is in transport position and the travel lever is in neutral position « N ».
- Pull the choke lever if the engine is cold. Push the throttle lever to half if the engine is hot.
- Press the brake pedal and turn the key in start position. When the engine has started, release the key and push back the choke lever.

### **MOWING**

- Adjust the cutting height control lever if necessary.



### **WARNING**

Do not forget that it is better to mow grass in several times. Cutting result is clear and efficient. Remember that the machine is deteriorated rapidly in hot and dry weather. When the cutting height is low, the blade may hit the ground and it causes damage to the blade. The user and bystanders are likely to be injured by the thrown object, The thrown object cause damage to their properties.

- Push the throttle lever to forward in order to make running speed faster. Then, slowly engage the cutting blade control lever in mowing position and go forward in the grass to mow.

The best cutting speed depends on quantity and the density of the grass. Usually the machine should mow between 3 and 8 km/h. A tall grass should be cut slowly and a low grass can be cut faster.



## CAUTION

It is very dangerous to work in slopes.

Never work in slopes more than 15°(RM882/952) and 20°(RM982F).



## WARNING

Check that there is nobody in the mowing area and especially in the thrown object zone (Figure 10).

Stop the machine immediatly when hitting something. Let the machine cold and clean. Check the machine or ask your dealer to check if the machine is not damaged.

### HOW TO STOP THE MACHINE

- Pull cutting blade lever to the top in disengage position, pull cutting height control lever to the top on travel position.
- Hold on the lever in neutral position « N ».
- Turn off ignition key to stop position, and remove it.
- Engage and lock the parking brake, and close fuel cock.

### HOW TO CARRY THE MACHINE

- Use a trailer or a truck which is able to carry the machine. When loading the machine, use bridge which is able to resist to 500 kg, 30 cm wide and equipped with unslipping surface. Check that the slope should not be more than 16°. The maximam is 16° (Figure 11).

### LOADING :

- Check that cutting blade is disengage and in travel position. Engage the differential lock.
- Put the bridge from truck to ground and lock it exactly.
- When the machine is loaded, engine rpm is maximam, and load it slowly and carefully.
- After the machine is loaded, Turn off ignition key to stop position, and remove it. Engage and lock the parking brake, and close fuel cock. Fix the machine to the truck with roap

### STORING THE MACHINE

- Clean the machine perfectly. Touch up paint to prevent rusting.
- Check the worn and damaged parts, replace new parts as required
- Do the normal maintenance refer accrding to the maintenance chart.
- The machine should be stored in a dry and protected area
- Remove ignition key.

Hazardous area because of thrown objects

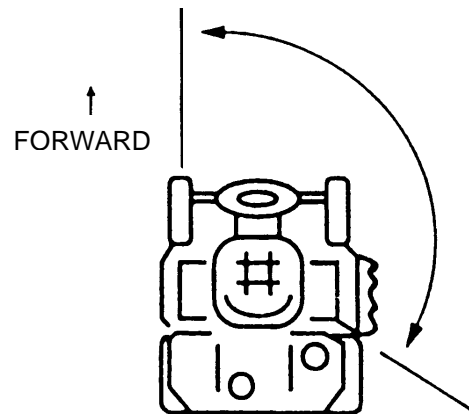


Figure 10

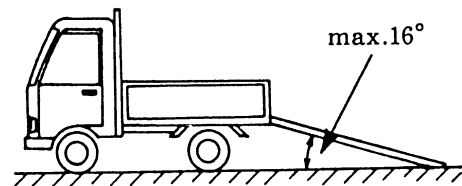


Figure 11

## MAINTENANCE OPERATIONS



Before maintain the machine, check the following action. Disengage the cutting blade, the engine is stopped, the parking brake is engage and locked and removed the ignition key.

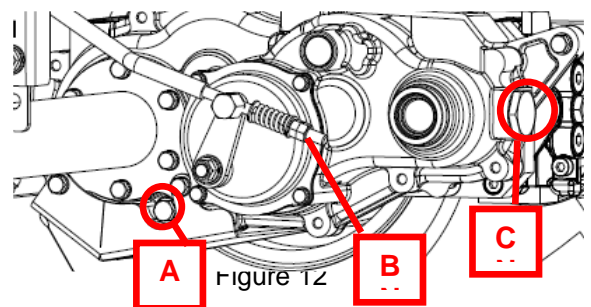
If these maintenance operations are not done, the machine might be damaged, and the maintenance person might injures. These damages and injuries can not be covered by the warranty.

- Daily maintenance will be performed by the user.
- Maintain the machine by yourself for first 20 hours , **100 hours to 300 hours should be inspected by the dealer.**
- **Ask your dealer to check the machine if you occurred some problems.**
- Ask your distributor the name of your dealer.

### MAINTENANCE

#### Transmission (gear) oil level (Figure 12)

Check the level with the machine on a flat surface. Oil level should be lowest of the window(C, Fig 12). If needed, add oil by this window. Drain oil from plug(A, Figure 12). Use only SAE 90 or API GL-5. Oil capacity : 1.00L



#### Transmission oil replacement frequency

First replacement :  
After 20 hours

Later replacement :

Each 100 hours or Every year whichever comes first.

#### HST oil level (Figure 14)

Check HST oil level regularly with the machine on a flat surface. Be sure correct oil level is maintained. Oil level should reach the upper level "FULL". If needed, add the oil "VG46" or "SAE 10W30". **Refill the same type of oil. Never mix different type of oil.**

Oil capacity: 0.50L(RM882/RM952), 5.0L(RM982F).

Check for oil leak.

#### Rear HST oil replacement (Figure 13,Figure 14)

HST oil is clean when the unit is delivered. But when the unit is used for a long time, the inside of HST unit will be dirty because there are some sludge and the oil is degraded. And dirty oil might disturb the smooth working.

Replace HST oil frequently for your safety and smooth working.

Also replace oil filter when HST oil is replaced.

#### Drain the used oil

1. Place the suitable container below the HST unit to catch the oil, then remove the oil drain plug (1 Figure 13).
2. Allow the used oil to drain completely, then reinstall the oil drain plug, and tighten the oil drain plug securely.
3. With the HST unit on a flat surface, refill to the upper limit mark with the recommended oil. **(Refill same oil if possible.)**  
When oil is added, please pay high attention not to mix dust with oil. Tighten the cap securely to prevent leakage.

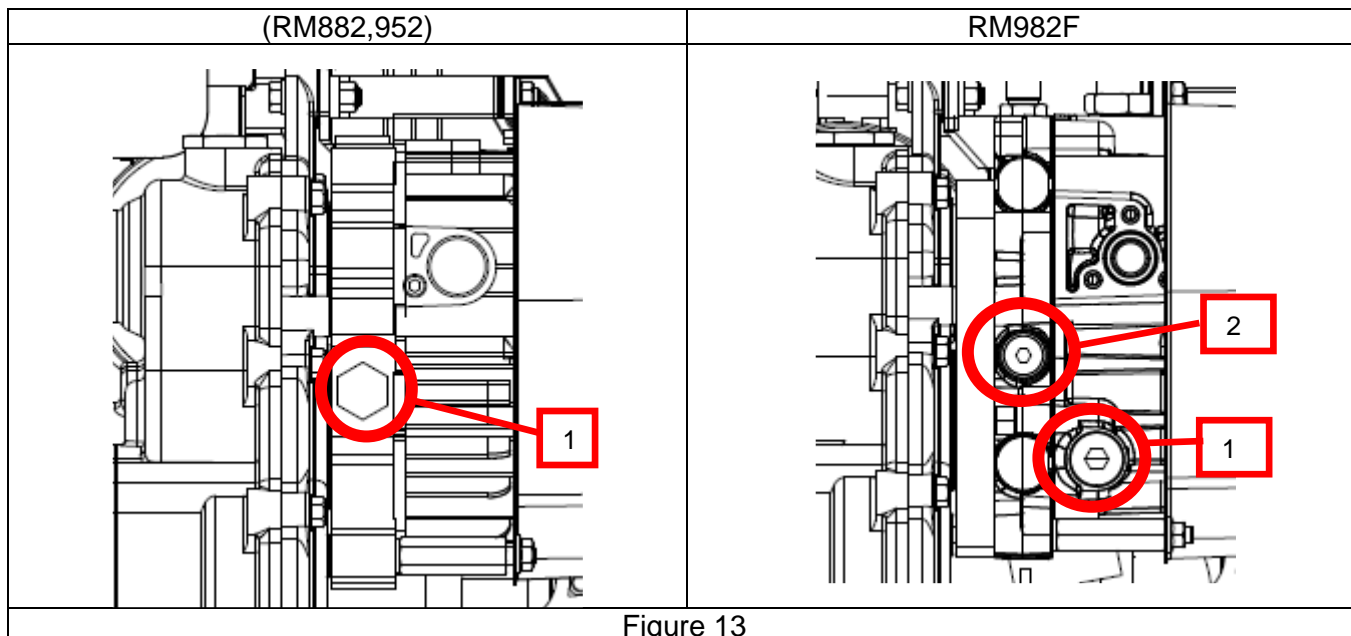


Figure 13

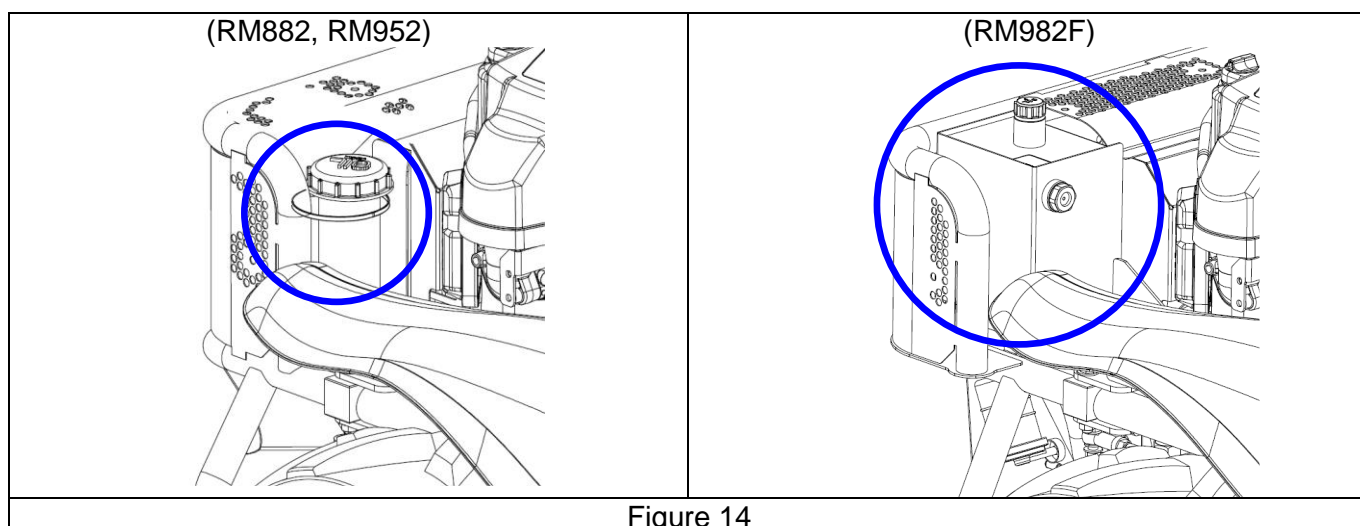


Figure 14



Never loose the bolt (2 Figure 13). Otherwise, it might influence for machine driving.  
To do so is considered misuse, and damage caused by misuse is not covered by Warranty.

**Bleeding the hydrostatic transmission system :**

- After replacing the HST oil, some air can go in the hydrostatic system. If there is air in the transmission system, the driving is not perfect. Do as following.
- **Tilt the change lever by half to FORWARD and BACKWARD for 10 seconds and then, return the change lever to neutral position.(Figure 15)**  
\*Repeat above operation 5 times.  
**When tilt the change lever, throttle must be kept idling. (Figure 15)**
- And then, check if there is no bubbles in the HST oil tank.  
After working, check if the oil level reaches "High level position" in oil tank.  
If not, add oil up to "High level position" in oil tank.(figure 14)

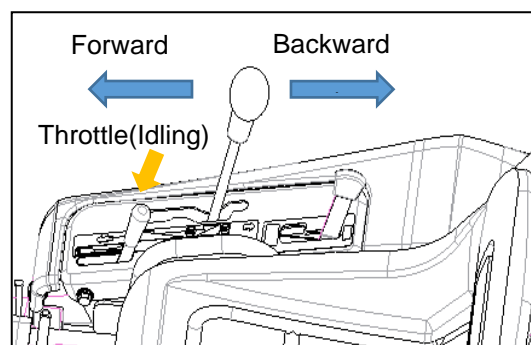


Figure 15



How to drain HST oil from Front HST unit (RM982F)

There is a oil drain bolt on each right & left side of wheel. If this drain bolt is removed, oil can be pulled out from front HST unit(Use a Spanner to remove the drain bolt)If oil is NOT be pulled out well, remove the Air release plug(See right figure point H) and Oil cap(See right figure point I). After oil is pulled out, fix a drain bolt (The measure of torque is  $15N \cdot m \pm 10\%$ )

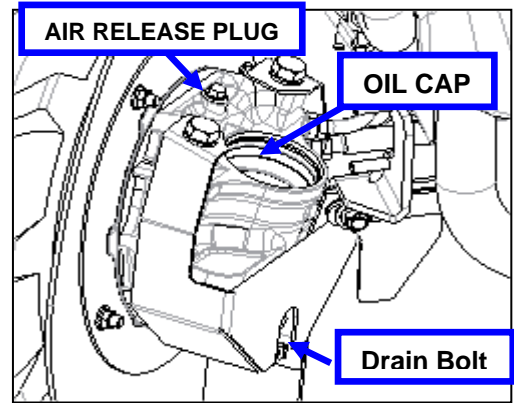


Figure 16

- HST oil replacement frequency

First replacement : After 20 hours of operation	Later replacement: Each 200 hours or every year whichever comes first.
--	---

References: (The color of HST oil)

Color	Smell	Status	To do
Clean and no changing color.	Good	No foreign object	Use as usual
Clean, but there are some black points.	Good	Some foreign object	Use after filtering
Milky white	Good	Some water.	Change the oil
Black	Bad	Oxidated and degrade.	Change the oil

**CAUTION**

Take extremely care to not add dust or foreign object in the transmission oil. This could damage the transmission and this is not covered by the warranty.

**Fuel**

Check that the fuel tank level is full(1, Fig 17). Fuel level is full when the needle of the gauge indicated «F ». Fuel level is empty when needle of gauge indicate « E ». If the fuel is empty, need to load the fuel. Check that tank cap(2, Fig 17) is fully closed, and check for leaks. Use only a good quality gasoline.

**DANGER**

Check that fuel tank cap is closed, wipe leaky fuel before to start the machine. Check that there is no fire, electric sparks and cigarettes near the machine when refuelling. When the machine is used on slopes, work with the fuel tank is half to avoid fuel leaking.

**Remove flammable materials :**

Remove flammable materials because it might cause fire. Espacially near hot parts like muffler or engine.

--	--

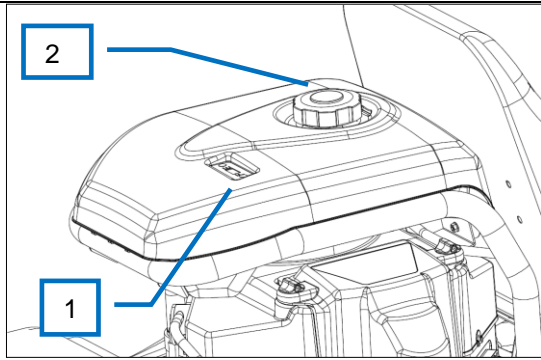


Figure 17

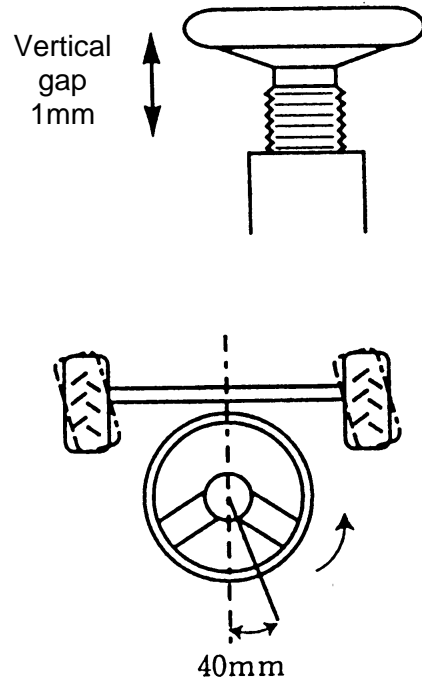


Figure 18

**Steering (Figure 18)**

Check for vertical gap which must not exceed 1 mm.  
 Check for lateral gap which must not exceed 40 mm by turning steering wheel.  
 If the operator doesn't know the distance of the gap, ask your dealer to repair the machine.

**TIRES (Figure 19)**

- Check that tires are not cut, cracked or worn.
- Check for tires pressure: 1, 2 bar front and 1,4 bar rear.

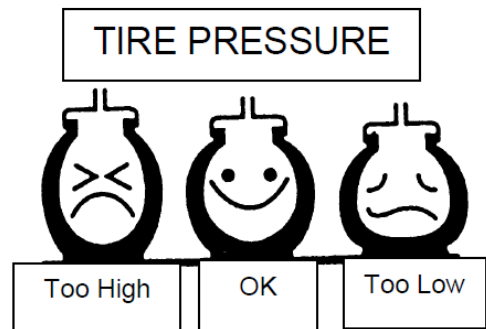


Figure 19

**Safety stickers**

- Check that safety stickers are stucked at correct position. Replace them if they are worn and damaged.

**Latelal guards and shields**

Check that lateral guards and shields are fixed.

**Electrolyte battery level (Figure 20)**

Check that electrolyte level is between the upper and lower level. Add distilled water if necessary.

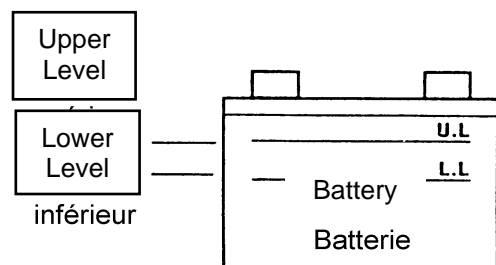


Figure 20

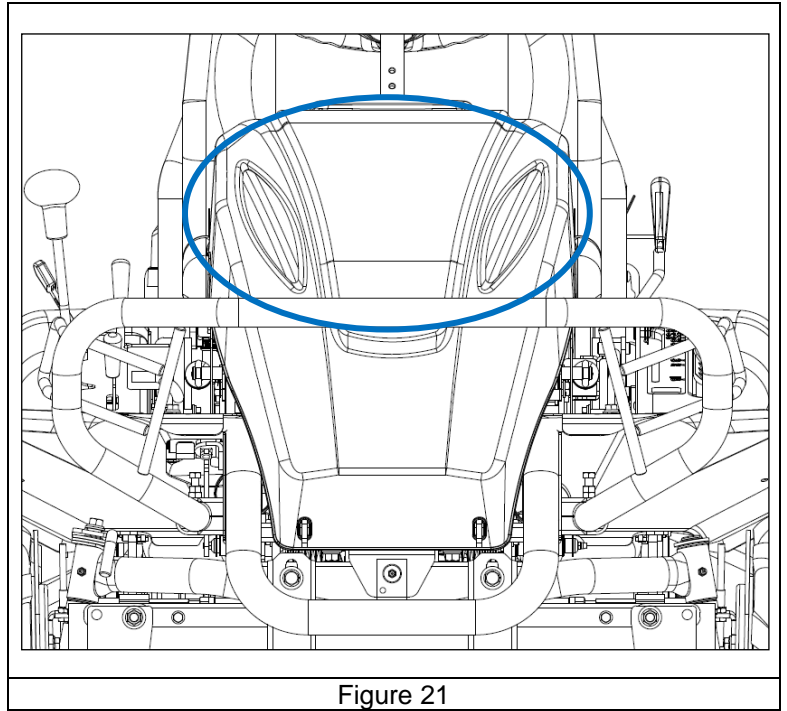
**FRONT LIGHT (FIG21)**

Switch on the front light on the dash board.



**DANGER**

Be carefull when maintaining the battery. Avoid flames, and sparks. Always wear gloves and glasses. Wash with water if touch electrolyte.



**Blade and blade holder condition**

Check that rotary blades are good condition, change worn or damaged parts.

How to replace blade:

1 - Remove the Blade by loosening the Hard Lock Nut. Remove the upper nut, and then remove the lower nut.

2 - After changing new Blade. (or reversed blade)

It also should be replaced to new Blade Bolt, Hard Lock Nut and Nut Guard as shown by Fig 22.

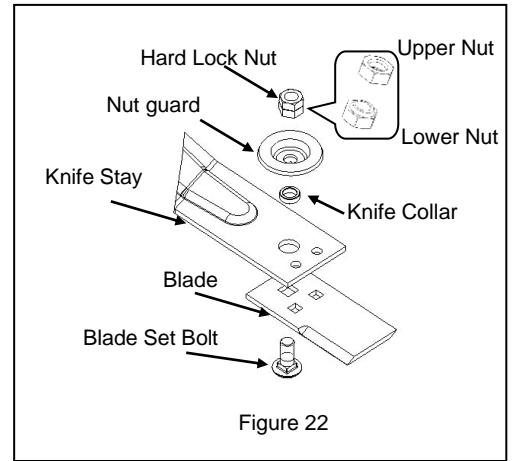


Figure 22



**CAUTION**

The cutting blade can cut the use's hand. Always wear gloves when holding blades.



**CAUTION**

Use only the OREC original parts : " non genuine " parts will not assure you of a correct and safe working. It is likely to make the warranty null and void.

- Check for the blade Knife Stay. Even if the Blade Knife Stay is not bend or worn, these should be replaced at every 100 hours or every 2 years of use.
- Please check Blade frequently because it is worn early when working at a place including dry soil or sand.
- Recommend that you purchase spare Blade and spare Blade Set Bolt in advance and keep them at your hand.
- When the Knife Bolt is worn on its head (1 Fig 23), it can cause serious accident, for example the Knife is flied away by Centrifugal force. Replace the Blade Bolt immediately when the dent disappeared. Also, Replace(or reverse) the Knife when it is worn up to 30% (2, Fig 23).

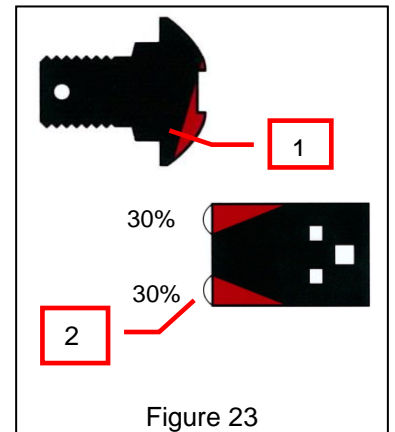


Figure 23

**Lubrication:**

Do not forget to paint grease around the parts (Fig. 24), especially when working in a sandy place. Clean the grease nipples and lubricate the machine properly (use a grease pump). Only use NLGI N°2 molybdenum bisulphide grease. Lubricate the tippers. Use only grease NLGI n°0.

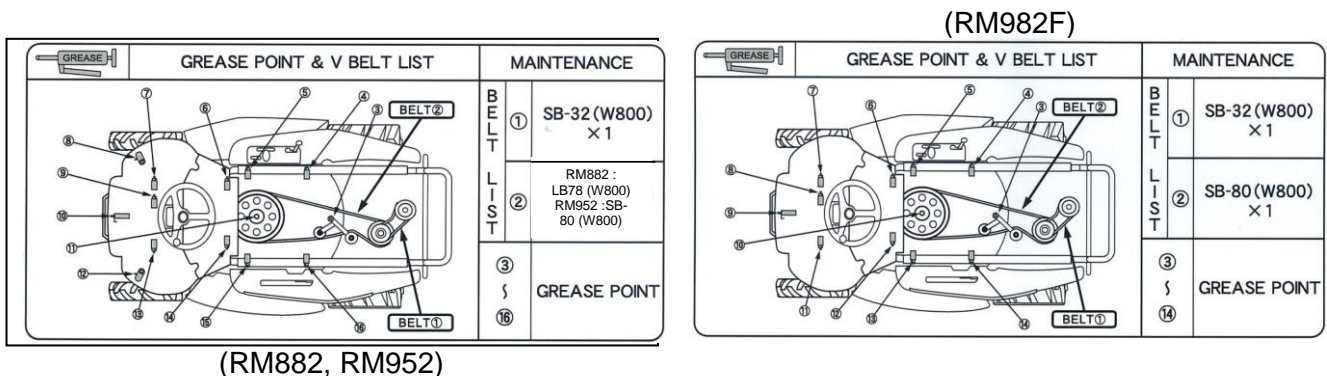


Figure 24

**Air filter:**

(KAWASAKI)

Remove the air filter cover. Unscrew the two screws (A, Fig 25). Unscrew the collar (B, Fig 26), blow the cartridge with low air pressure from the inside to the outside opposite to the normal air flow. Change the cartridge if it is too dusty after some cleaning. Clean the foam with water and soap, dry it and oil with engine oil. Press it to remove the oil in excess without squeezing it.

**IMPORTANT**

**Do not blow at high pressure, and maintain a safe distance between the air nozzle and the cartridge to avoid damage on it.**

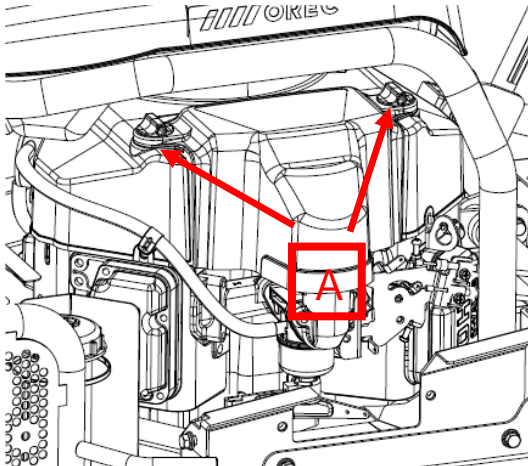


Figure 25

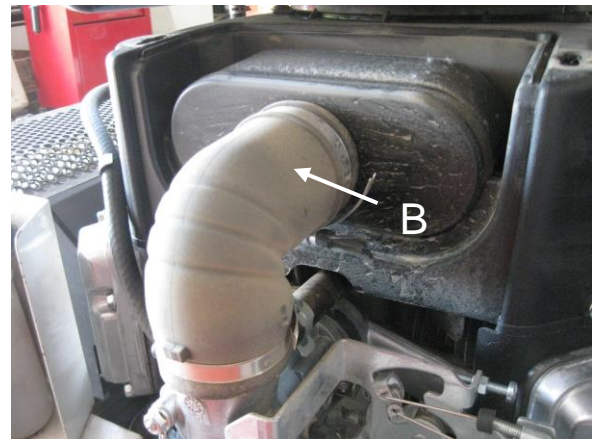


Figure 26

KAWASAKI

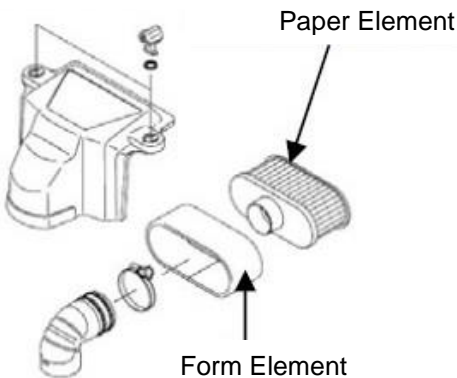


Figure 27

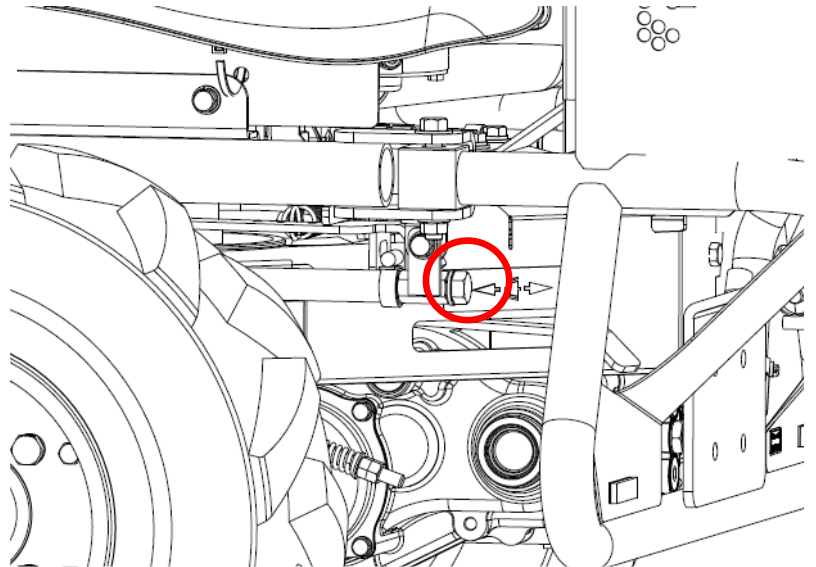


Figure 28

(Briggs & Stratton)

Remove the air filter (1, Figure 29) by the two clips "A", remove the cartridge after unscrewing the wing nut (1, Figure 30). Clean the foam with water and soap, let it dry and oil it with motor oil. Press it to eliminate oil in excess. Blow the cartridge with low air pressure from the inside to the outside opposite to the normal air flow. Change the cartridge if it is too dusty or after some cleaning.

**IMPORTANT**

**Do not blow at high pressure, and maintain a safe distance between the air nozzle and the cartridge to avoid damage on it.**

Check when reinstall the cartridge that dusty air is obliged to go inside engine by the cartridge.

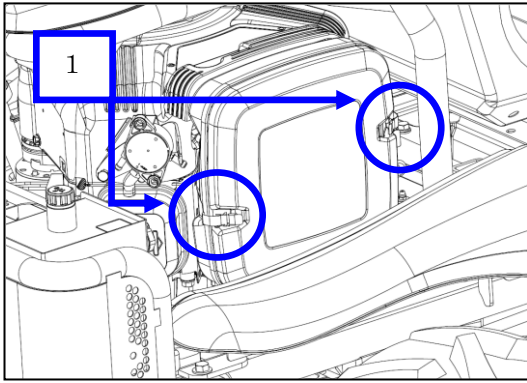


Figure 29

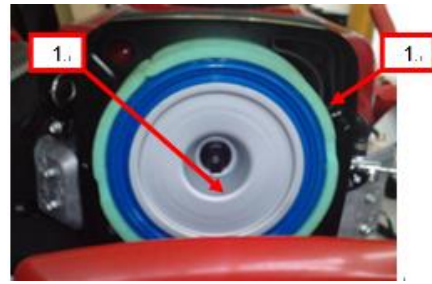


Figure 30

**Engine:**

(KAWASAKI)

Refer according to engine manual delivered with the machine.

Oil level: check that the oil level and engine is not hot. Unscrew the gauge (1, Fig 31). The oil must be between the two marks on the tank.

Drain the oil by the plug after the first 8 hours and after every 100 hours of use or every year whichever comes first (Fig 28).

Use oil: SAE10W30 or APL SL class

Oil quantity: 1.7L(RM882/RM952) or 2.1L(RM982F).

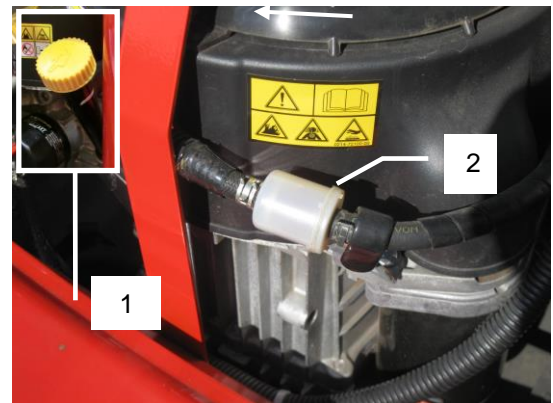


Figure 31

(Briggs&Stratton)

Refer to engine manual deliver with the machine.

Oil level: check by the gauge "A" (Figure 32). With the engine stopped since 5 minutes on a flat level surface, unscrew the gauge A, wipe the bottom and put it back on his location. Check the level is between upper and lower. Add engine oil if necessary. Drain oil by the plug C.

**Fuel filter**

(KAWASAKI)

Check through the filter(2, Fig 31) if there is dirt or water. Clean or change the filter if necessary.

(Briggs&Stratton)

- Check for water and dust in the fuel cartridge filter cock (Figure 9). Clean if needed the filter inside the fuel cock.

- Check for water and dust in the fuel cartridge filter (Figure 32). Replace the filter if it is dirty.

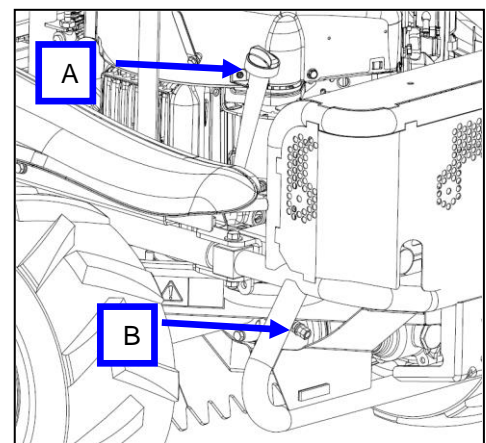


Figure 32

**Belt tension :**

- Check belt condition. If it is worn or damaged, replace to new one.
- If the belt is slipping, tighten the wire with the adjusting nut (B, Fig 33) until the wire spring start to be tightened.
- If brake belt does not stop blade in 5 second, tighten the wire with the adjusting nut A.

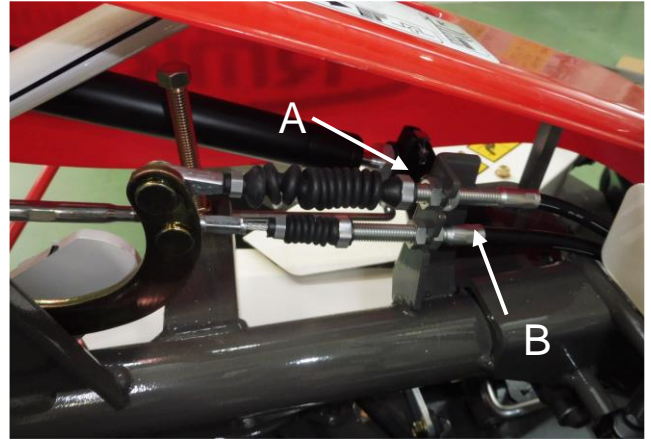


Figure 33

**IMPORTANT**

A bad tension belt makes slipping and wearing out quickly. High tension of belt will damage the bearings.

**Brake**

If brake is not worked efficiently, tighten it with the nut (Figure 34).

**Tightening of bolts :**

Check that the bolts, nuts...are properly tightened. The vibrations tend to loosen the bolts.

**Adjust safety switches**

Adjust the screws for pushing the safety switches these can push switches from 3 to 5 mm.

**Travel lever adjustment**

Adjust the control link (A Fig 35) in order to have the machine motionless when the speed control lever is in neutral.

**Diff lock lever adjustment :**

Adjust the control rod (B, Figure 35) until the lever has a free play of 1 to 3 mm before activate the diff lock.

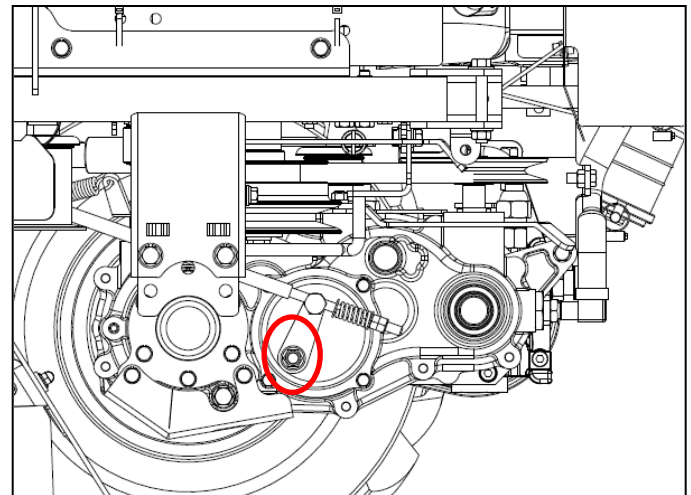


Figure34

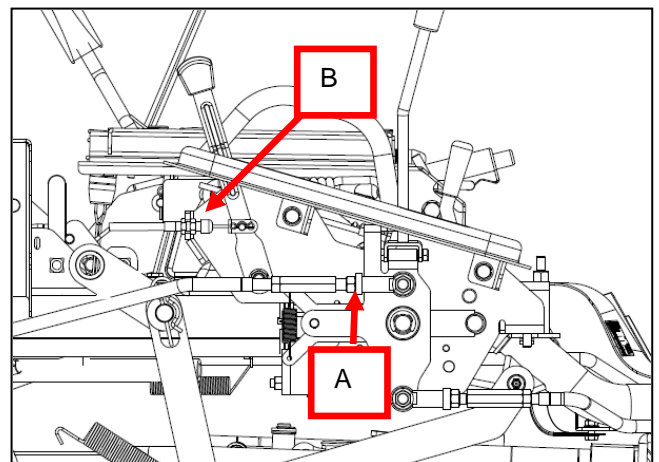


Figure35

**MAINTENANCE CHART**

- Ask your dealer to realize this operation needing special tools and knowledge.
- ⊕ Inspection to realize by the owners before starting the engine
- ⊗ Inspection to realize by the owners after starting the engine

Part to inspect	Inspection	Every use	First 20 hours	Every 100 hours	Every 300 hours or every year
Blade belt	Check belt tension		□	□	
	Check wear		□	□	
HST Transmission	Oil level	⊕		⊕	
	Oil leak	⊕		⊗	
	Oil pollution			□	
Fuel	Refuelling	⊕			
	Fuel cock	⊕			
Flammables materials	Clean the machine from flammables materials	⊕			
Steering wheel	Horizontal, looseness	⊕			
	Lateral looseness	⊕			
Travel lever	Check machine do not move when lever is on "N"	⊗			
	Check travel lever goes on "N" when applying brake	⊗			
Tyres	Check tires pressure	⊕			
	Check tires wear	⊕			
Brake	Check efficiency of the brake	⊗			
	Check travel lever goes on "N" when applying brake	⊗			
Chassis	Check for rust, and cracks				
Safety stickers	Check they are in place and in good condition	⊕			
Safety switches	Check for efficiency	⊗			
Guards & shields	Check they are bolted in their place and in good condition	⊕			
Ignition key	Check for efficiency	⊗			
Tank and fuel hoses	Check for leaks and good condition Replace if needed	⊕			
Battery	Check level	⊕			
Throttle lever	Check for efficiency	⊗			
Blades	Check they are bolted in their place and in good condition	⊕			
Blade clutch control lever	Check the adjustment of the wire	⊕	□	□	
Blade brake	Check the adjustment	⊕	□	□	
Blade belt	Check they tensionned and in good condition		□	□	
Engine	Refer to engine manual				



## BREAKDOWNS AND SOLUTIONS

PROBLEME	CAUSE	SOLUTIONS
Engine does not start	No fuel	Refuel the tank
	Battery is empty	Load or replace the battery
	Safety switches are working	Check brakes, blade clutch and seat and travel lever
The machine does not travel	Parking brake is locked	Unlock parking brake
The machine does not stop	Travel lever is not on « N »	Move the travel lever to « N »
The blade does not rotate	Blade clutch lever is not engaged	Engage Blade clutch lever
	Safety switches are working	Check brakes, blade clutch and seat and travel lever

## TIGHTENING TORQUES (Nm)

DIAMETER OF THE SCREW (mm)	Marks on the headscrew				
	4	7	8	9	11
3	0,3 to 0,5	---	---	---	---
4	0,8 to 1,0	---	---	---	---
5	2,5 to 3,4	5,4 to 6,4	6,4 to 7,4	6,4 to 7,4	8,8 to 9,8
6	4,9 to 6,9	9,8 to 11,8	11,8 to 13,7	11,8 to 13,7	14,7 to 16,7
8	11,8 to 16,7	24,5 to 29,4	29,4 to 34,3	34,3 to 36,2	36,3 to 41,2
10	20,6 to 29,4	39,2 to 44,1	49 to 53,9	49 to 53,9	72,6 to 82,4
12	44,1 to 53,9	83,4 to 93,2	93,2 to 107,9	93,2 to 107,9	122,6 to 137,3
14	63,7 to 78,5	117,7 to 132,4	132,4 to 147,1	147,1 to 166,7	205,9 to 225,6
16	88,3 to 107,9	152 to 171,6	176,5 to 196,1	215,8 to 245,2	313,8 to 343,2
18	117,7 to 137,3	205,9 to 235,4	245,2 to 274,6	313,8 to 343,2	441,3 to 470,7
20	147,1 to 166,71	235,4 to 274,6	313,8 to 353	441,3 to 480,5	617,8 to 657,1
22	176,5 to 205,9	421,7 to 451,1	539,4 to 578,6	608 to 647,2	843,4 to 882,6
24	235,4 to 264,8	539,4 to 568,8	706,1 to 745,3	784,5 to 823,8	1098,4 to 1137,6

## EC CONFORMITY DECLARATION

Business name and full address of the manufacturer:

OREC CO LTD 548-22  
HIYOSHI HIROKAWA-MACHI  
YAME-GUN FUKUOKA JAPAN  
S.A.T. sarl - Force 7 – ZA  
- 38110 ROCHETOIRIN France  
owner of the technical documents  
brush cutter  
OREC  
RM882

Designation :

Mark :

Type :

Serial Identification :

Engine :

- Manufacturer :

- type :

- Power :

Width of cut :

Conforms to directives:

Conformity assesment :

Measured acoustic power level :

Granted acoustic power level :

Conformity assesment :

Acoustic pressure level at operator's ears :

Harmonized standards used :

Kawasaki

FS481V

10,8kW

880mm

2000/14/EC, 2006/42/EC, 2014/30/UE

2006/42/EC Annex VIII

103,85 dB(A)(Kawasaki) / 100,13 dB(A)(Briggs)

104 dB(A)(Kawasaki) / 101 dB(Briggs)

2000/14/EC Annex V

79,9 dB(A)(Kawasaki) / 87dB(A)(Briggs)

EN 12733-2009, EN 12100-2010

EN ISO 14982-2009,

EN ISO 3744-2010, EN ISO 3746-2010,

EN1032-2003+A1-2008, EN ISO 20643-2008

made at : Fukuoka, 24 February 2017

Signed : Haruhiko Imamura  
Function : Managing director



## MEASUREMENT OF VIBRATIONS

Mark : OREC

Type : RM882

Seat : COBO

Engine	Kawasaki FS481V	Briggs Vanguard 479cc
Pick up location	Awp	Awp
Right side 60° from the axle of the steering wheel	0,32 m/s <sup>2</sup>	1,67 m/s <sup>2</sup>
Left 60° from the axle of the steering wheel	0,68 m/s <sup>2</sup>	1,70 m/s <sup>2</sup>
On the operator's seat	0,99 m/s <sup>2</sup>	1,00 m/s <sup>2</sup>

## EC CONFORMITY DECLARATION

Business name and full address of the manufacturer:

OREC CO LTD 548-22  
HIYOSHI HIROKAWA-MACHI  
YAME-GUN FUKUOKA JAPAN  
S.A.T. sarl - Force 7 – ZA  
- 38110 ROCHETOIRIN France  
owner of the technical documents  
brush cutter  
OREC  
RM952

Designation :

Mark :

Type :

Serial Identification :

Engine :

- Manufacturer :

- type :

- Power :

Width of cut :

Conforms to directives:

Conformity assesment :

Measured acoustic power level :

Granted acoustic power level :

Conformity assesment :

Acoustic pressure level at operator's ears :

Harmonized standards used :

Kawasaki

FS541V

11,2kW

950mm

2000/14/EC, 2006/42/EC, 2014/30/UE

2006/42/EC Annex VIII

101,76 dB(A)(Kawasaki) / 101,3 dB(A)(Briggs)

102 dB(A)(Kawasaki) / 102 dB(A)(Briggs)

2000/14/EC Annex V

82,1 dB(A)(Kawasaki) / 85,7 dB(A)(Briggs)

EN 12733-2009, EN 12100-2010

EN ISO 14982-2009,

EN ISO 3744-2010, EN ISO 3746-2010,

EN1032-2003+A1-2008, EN ISO 20643-2008

Briggs

Vanguard 570cc

13,5kW

made at : Fukuoka, 24 February 2017

Signed : Haruhiko Imamura  
Function : Managing director



## MEASUREMENT OF VIBRATIONS

Mark : OREC

Type : RM952

Seat : COBO

	Kawasaki FS541V	Briggs Vanguard 570cc
Pick up location	Awp	Awp
Right side 60° from the axle of the steering wheel	0,53 m/s <sup>2</sup>	1,39 m/s <sup>2</sup>
Left 60° from the axle of the steering wheel	0,91 m/s <sup>2</sup>	0,83 m/s <sup>2</sup>
On the operator's seat	0,42 m/s <sup>2</sup>	0,68 m/s <sup>2</sup>

## EC CONFORMITY DECLARATION

Business name and full address of the manufacturer:

OREC CO LTD 548-22  
HIYOSHI HIROKAWA-MACHI  
YAME-GUN FUKUOKA JAPAN  
S.A.T. sarl - Force 7 – ZA  
- 38110 ROCHETOIRIN France  
owner of the technical documents  
brush cutter

Designation :

Mark :

Type :

Serial Identification :

Engine :

- Manufacturer :

- type :

- Power :

Width of cut :

Conforms to directives:

Conformity assesment :

Measured acoustic power level :

Granted acoustic power level :

Conformity assesment :

Acoustic pressure level at operator's ears :

Harmonized standards used :

Kawasaki

FS691V

17,2kW

975mm

2000/14/EC, 2006/42/EC, 2014/30/UE

2006/42/EC Annex VIII

101,73 dB(A)(Kawasaki) / 101,16dB(A)(Briggs)

102 dB(A)(Kawasaki) / 102 dB(A)(Briggs)

2000/14/EC Annex V

88,4 dB(A)(Kawasaki) / 87,5 dB(A)(Briggs)

EN 12733-2009, EN 12100-2010

EN ISO 14982-2009,

EN ISO 3744-2010, EN ISO 3746-2010,

EN1032-2003+A1-2008, EN ISO 20643-2008

Briggs

Vanguard 627cc

17,0kW

made at : Fukuoka, 24 February 2017

Signed : Haruhiko Imamura

Function : Managing director



## MEASUREMENT OF VIBRATIONS

Mark : OREC

Type : RM982F

Seat : COBO

	Kawasaki FS691V	Briggs Vanguard 627cc
Pick up location	Awp	Awp
Right side 60° from the axle of the steering wheel	0,65 m/s <sup>2</sup>	1,63 m/s <sup>2</sup>
Left 60° from the axle of the steering wheel	0,61 m/s <sup>2</sup>	1,63 m/s <sup>2</sup>
On the operator's seat	0,80 m/s <sup>2</sup>	0,95 m/s <sup>2</sup>

## **LIMITED WARRANTY**

Each new product manufactured by OREC is guaranteed under the corporation of the following terms. The warranty applies to defective parts due to defect in assembling and construction or/and in material imputable to us. It is valid for a period of one year and for normal use of the machine. It does not apply to engines manufactured by other companies that also guarantee their materials and whose guarantee is supplied with the machine.

1° this guarantee is limited to the sole replacement of the defective parts during one year commencing with the purchasing date of the machine. The guarantee is limited to the parts that are previously shown to and acknowledged by OREC.

2° each part concerned by a guarantee claim must be returned to OREC's in order to be inspected, repaired or replaced. The part(s) must be returned with freight prepaid and must be accompanied with a proof of the purchase. The part(s) must be packed with the greatest of care to ensure their protection.

3° the machine must not have been worn out, repaired or maintained by anyone without OREC's previous authorization. The machine must not have been damaged in a road accident, roughly handled or improperly used.

This guarantee does not compel OREC or its dealer to reimburse the labour costs or the carriage costs to the repairer.

NO OTHER GUARANTEE SHALL BE APPLIED TO THIS MACHINE EXCEPT THE LEGAL GUARANTEE. OREC SHALL NOT BE LIABLE FOR ANY DAMAGE OR COST INVOLVED BY THE MACHINE, FOR EXAMPLE:

1. HIRING COSTS
2. TURNOVER LOSSES
3. WORK DONE BY A REPLACING MACHINE

OREC DOES NOT TAKE ON ANY OTHER OBLIGATION AND DOES NOT AUTHORIZE ANYBODY TO TAKE ON ANY OTHER OBLIGATION THAN THOSE MENTIONED IN THE 3 PARAGRAPHS ABOVE.

To know the name of your dealer, report to: OREC at : [www.orec.co.jp](http://www.orec.co.jp)

## **NOTES**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....