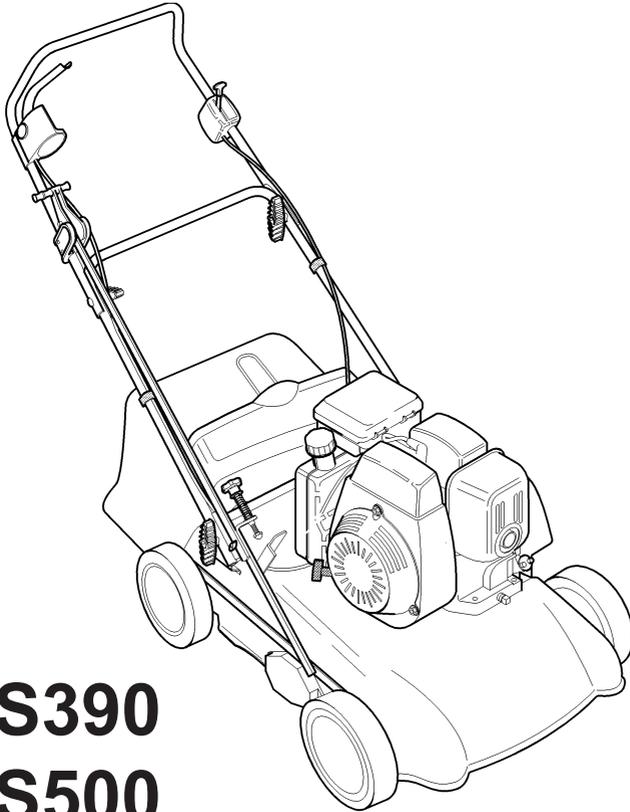
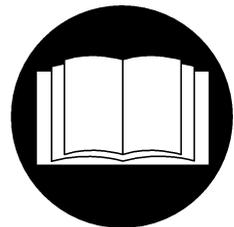


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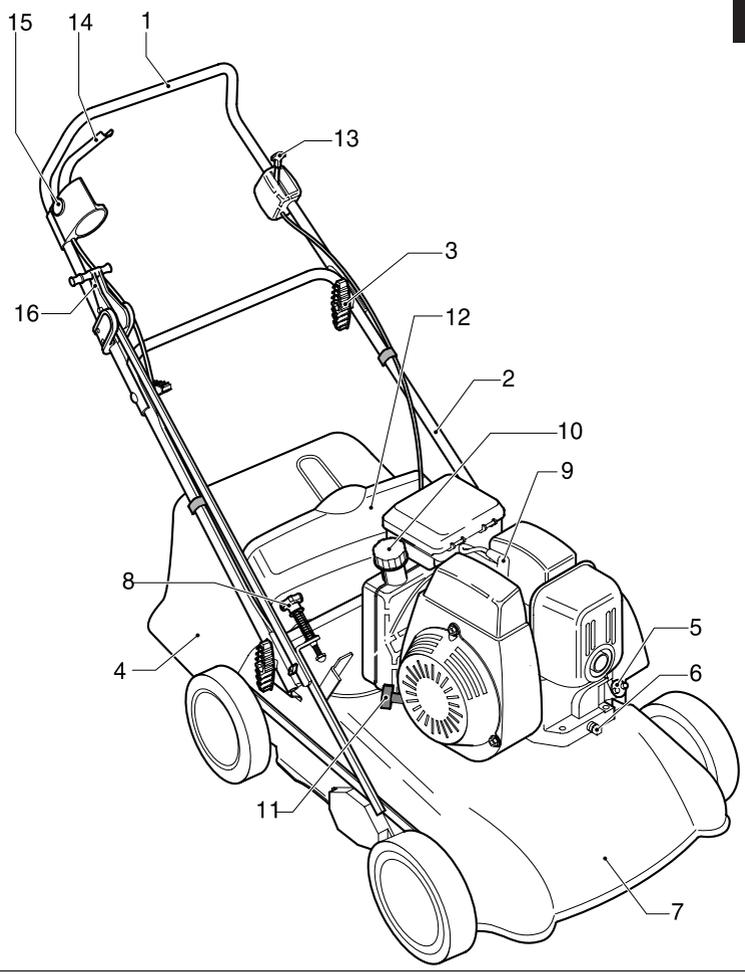
**S390**  
**S500**

**CE**

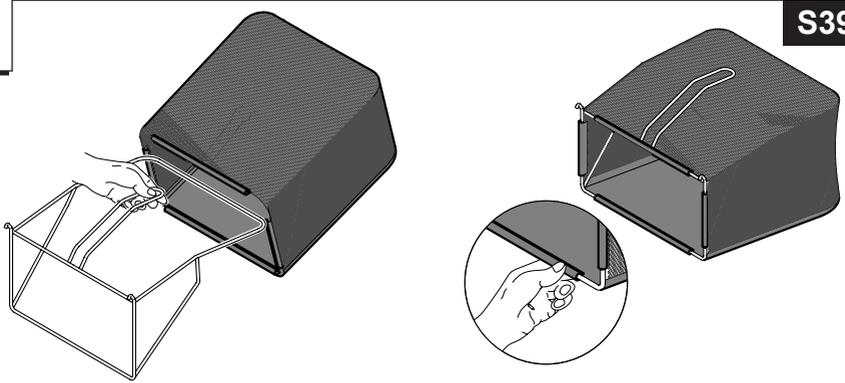




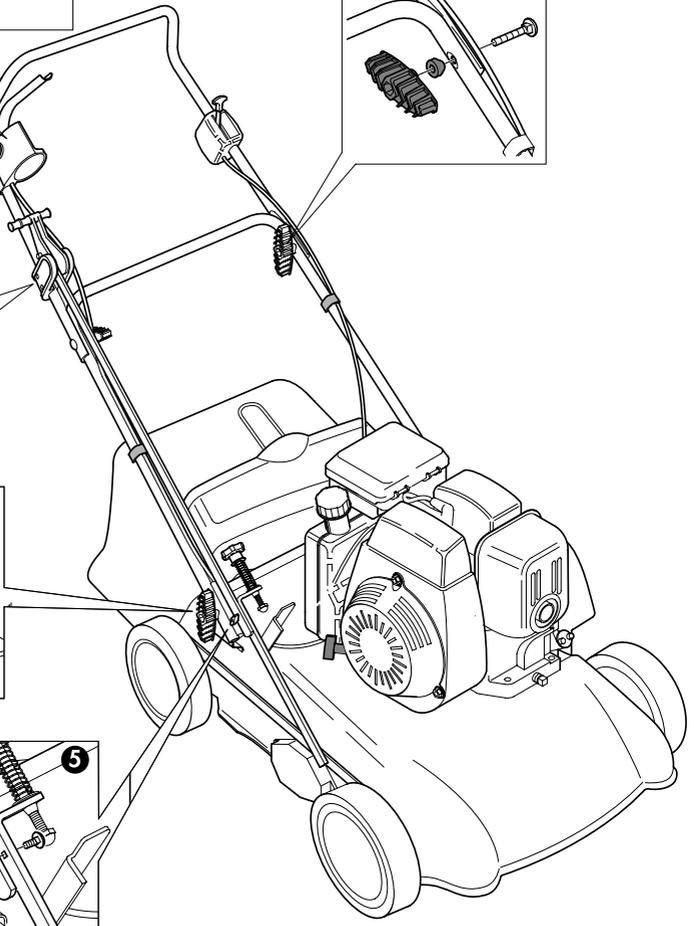
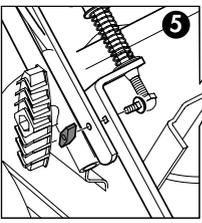
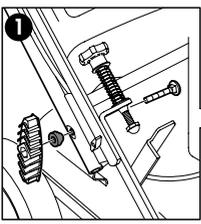
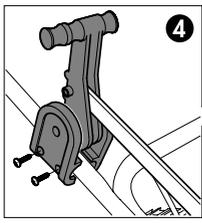
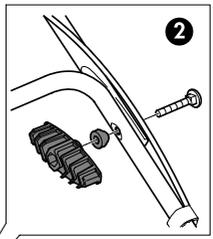
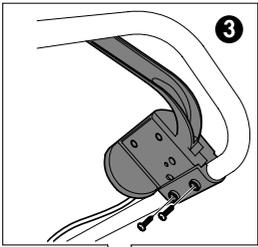
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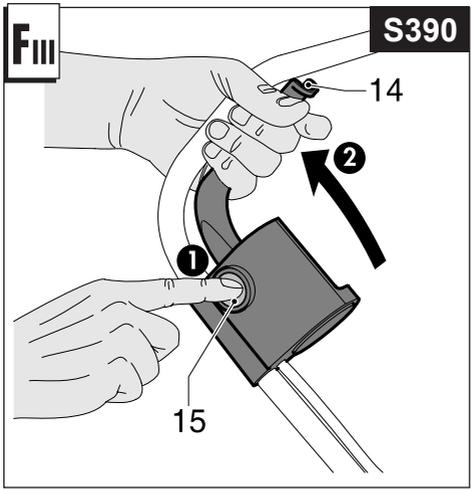
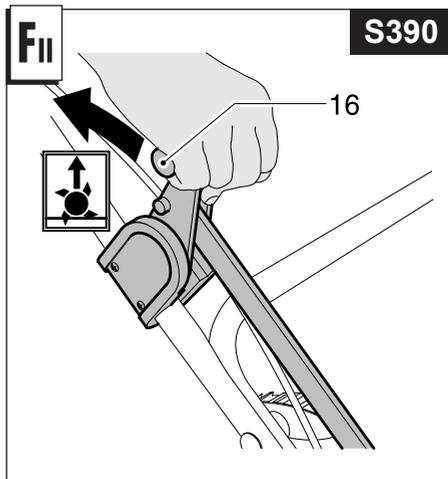
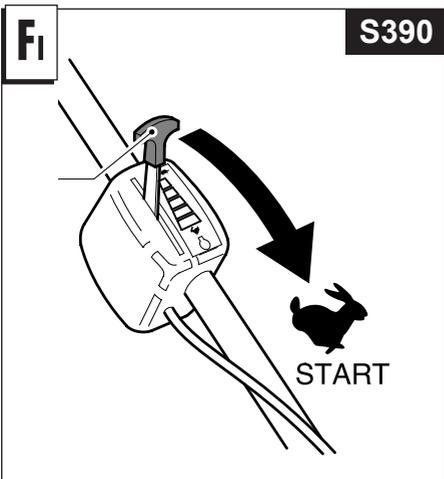
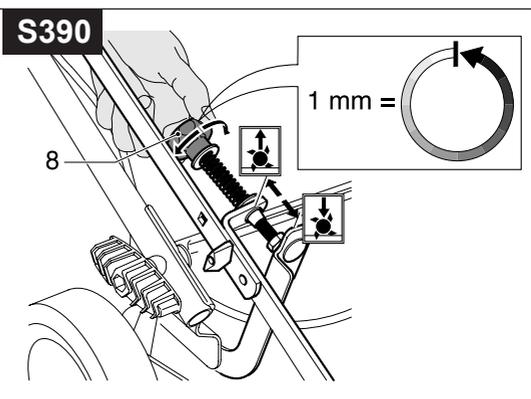
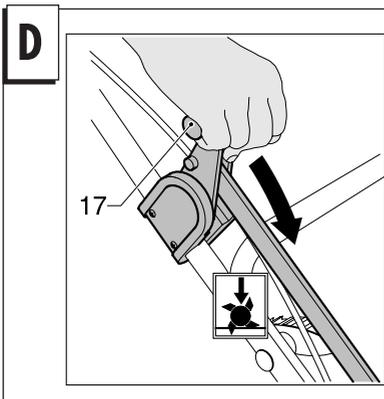


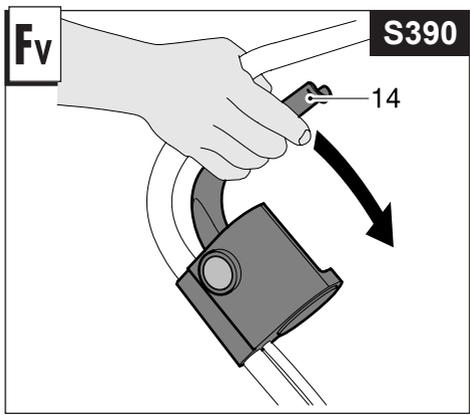
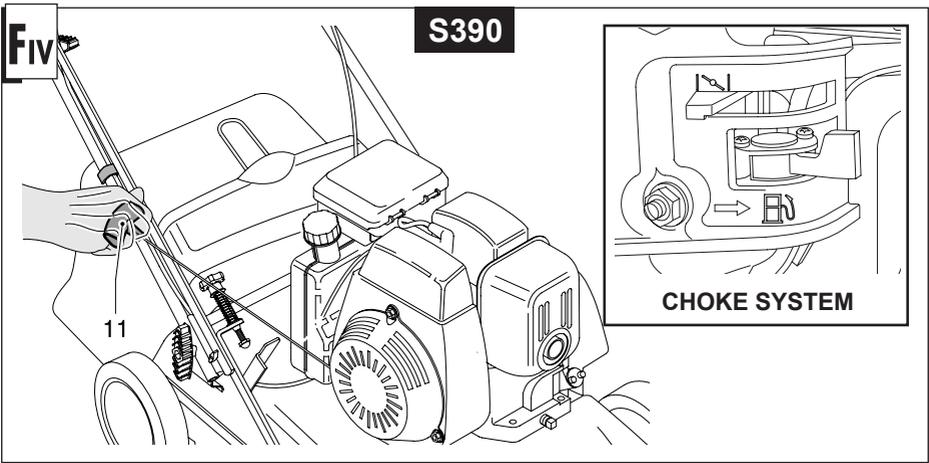
**B**



C

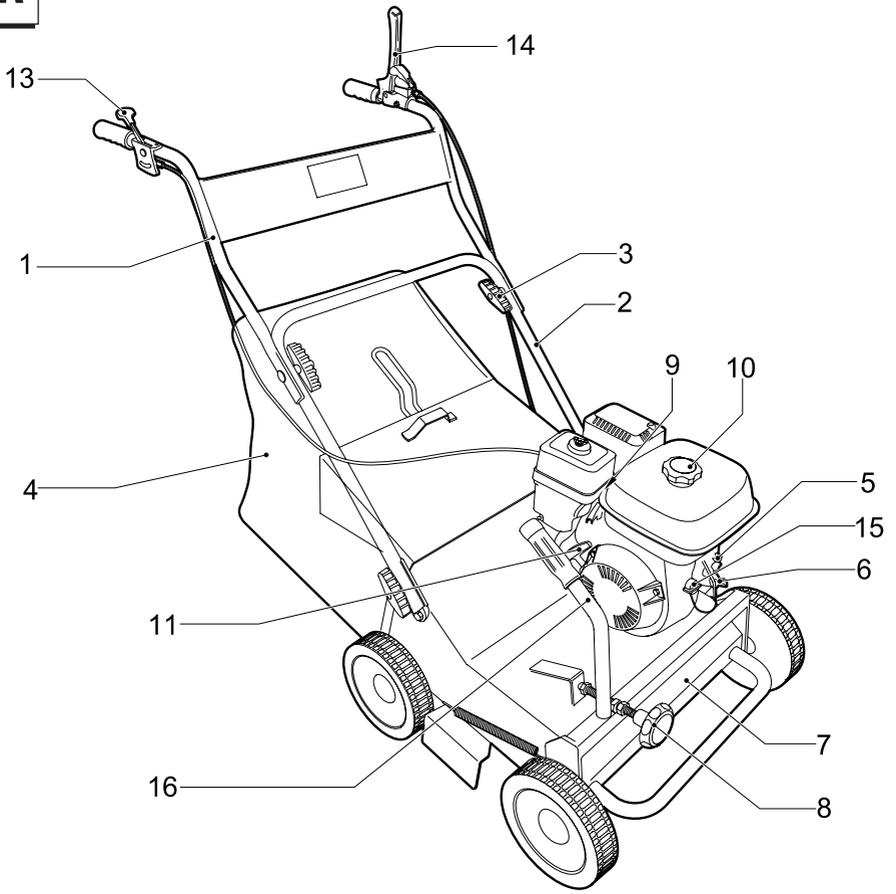






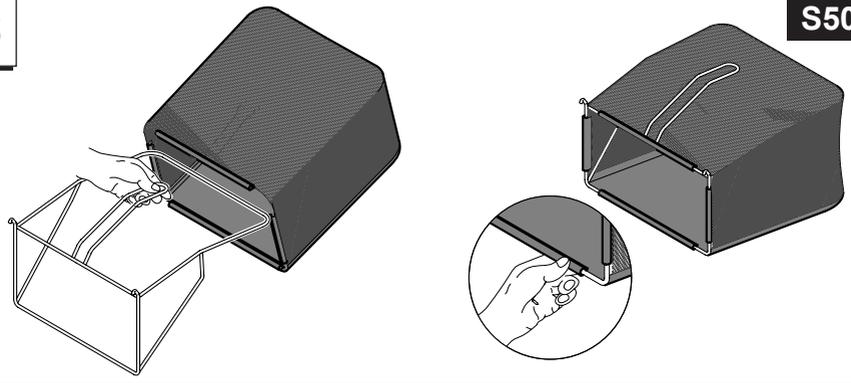
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**A**



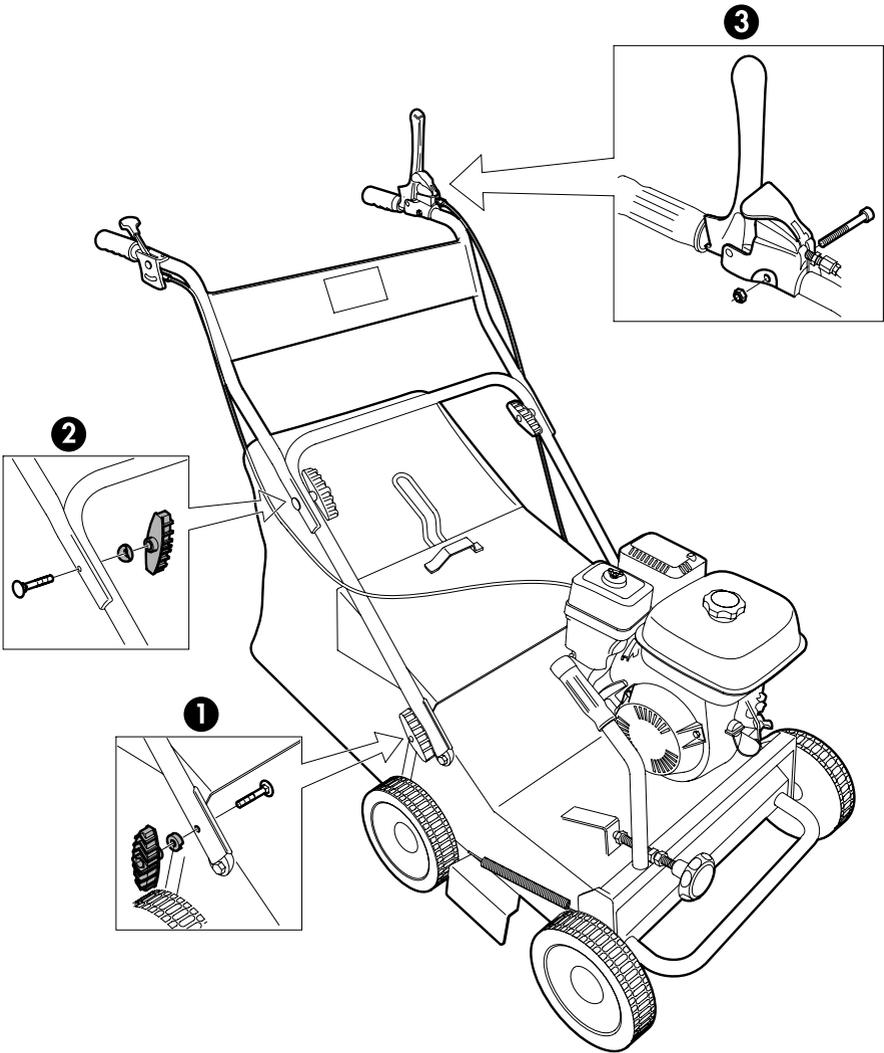
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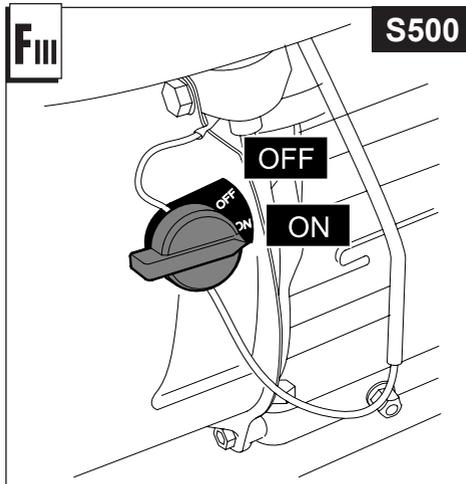
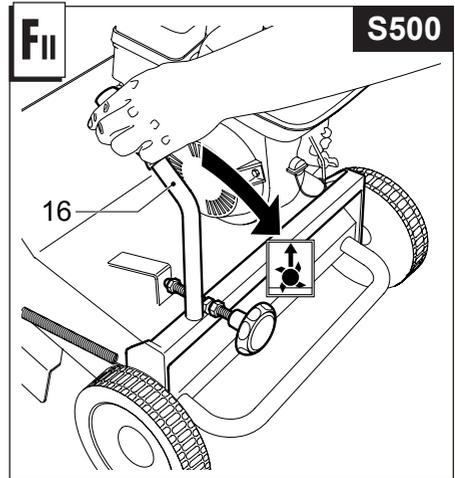
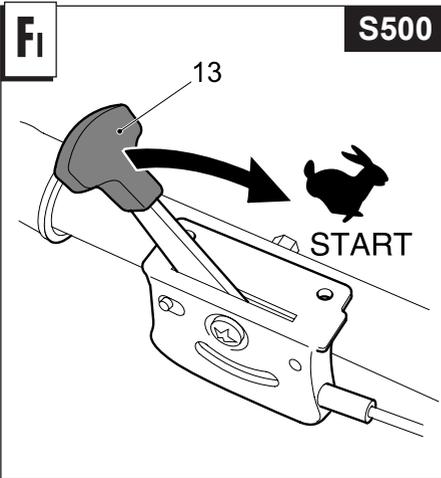
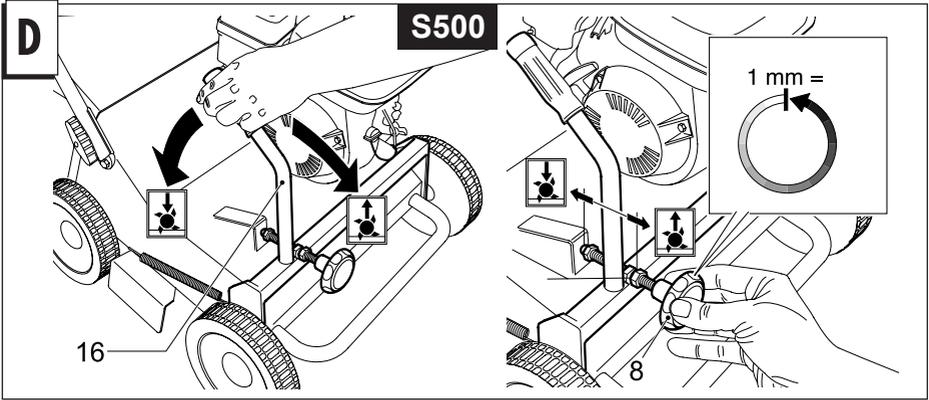
**B**



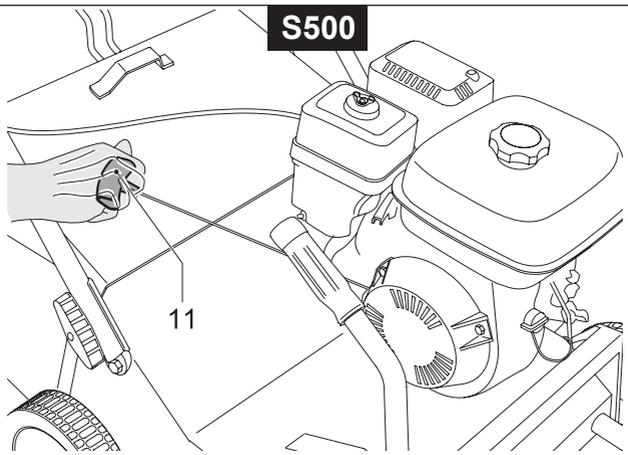
C

S500

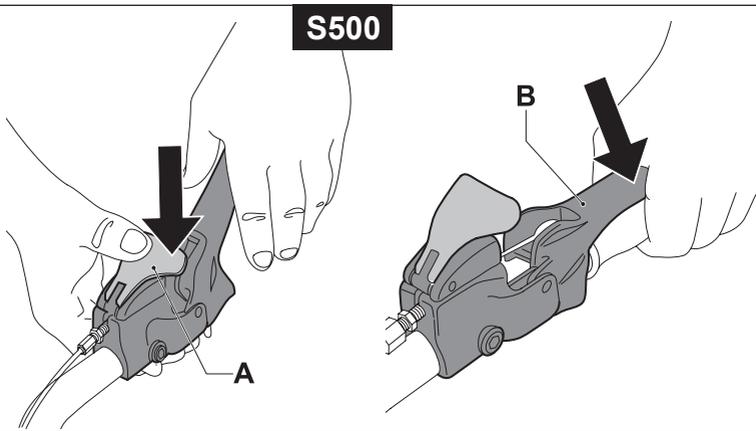




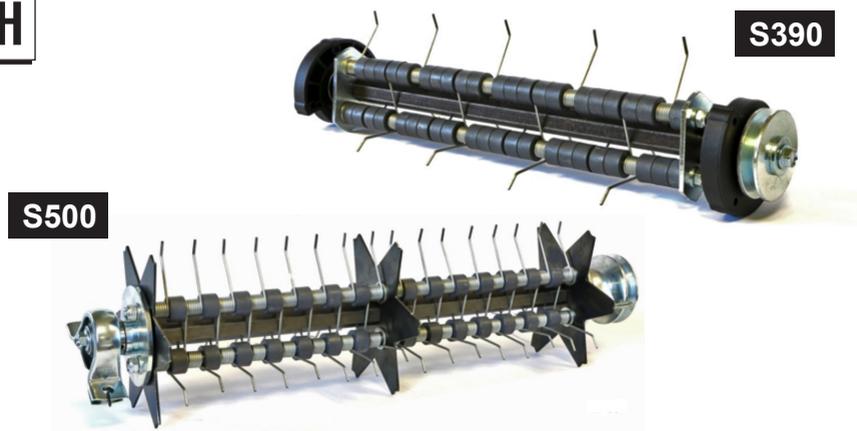
**Fiv**



**Fv**



**H**



## Translation of the original instructions

We wish to thank you for choosing our aeration. We are confident that the high quality of our machine will meet with your satisfaction and appreciation and that your lawn mower will give you long-lasting service. Before starting to use your machine, make sure to read with care this manual, which has been purposely drawn up to provide you with all the necessary information for proper use, in compliance with basic safety requirements.



**Caution!** Read the instruction manual before use.



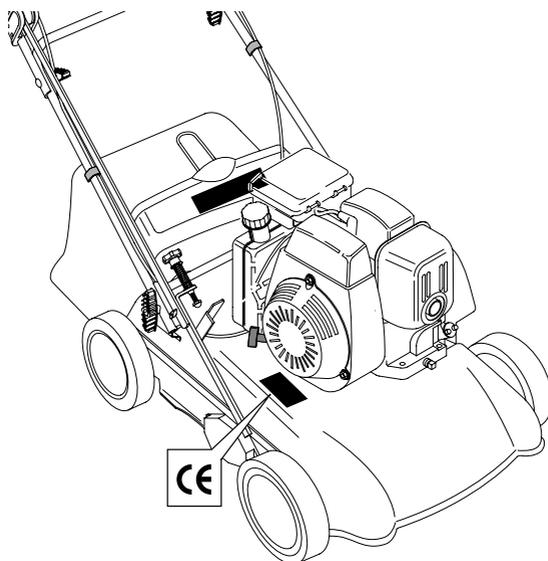
Keep other people well away from the danger area!



**Caution!** Switch off the engine and disconnect the spark plug before undertaking any maintenance work.



**Warning:** Risk of hand and feet injury.



## SAFETY RULES

### Training

- a) Anyone who is not aware of the instructions for use shall not use the scarifier. Do not allow children or anyone who has not understood these instructions to use the scarifier. A minimum age for using the machine can be fixed by local regulations.
- b) The operator is responsible for the safety of other people in the working area. Keep children and domestic animals at a safe distance when the lawn mower is in use.
- c) This machine is to be used exclusively for scarifying natural grass. Never use the mower for other purposes (e.g., for flattening out bumps in the ground, such as mole-hills or ant-hills).
- d) Work only when there is sufficient light.
- e) Before mowing, remove all foreign objects from the lawn which may be thrown by the machine. While mowing, stay alert for any foreign objects which may have been missed.

### Setting up and operating

- a) When mowing, wear strong footwear (boots or heavy shoes) and long trousers.
- b) Before you start mowing, make sure that the blade and blade fixing screw are securely fastened.  
If the blades are severely damaged, they must be replaced.

- c) Turn off the engine, wait until the blade has stopped and remove the spark plug cap before:

- transporting, lifting or moving the machine away from the working area;
- carrying out maintenance or cleaning, or when carrying out any operation on the blade;
- leaving the machine unattended.

*Caution! The blades rotate for a few seconds also after turning off the engine.*

- d) **Caution!** The fuel is highly inflammable:

- Store fuel in containers specifically designed for this purpose.

- Refuel outdoors only and do not smoke while refuelling.

- Fill up the fuel tank before starting the engine. Under no circumstances open the fuel tank cap or add petrol when the engine is running or when it is still hot.

- If the petrol has overflowed, do not under any circumstances start up the engine. Move the mower away from the area where fuel has been spilled and avoid any source of possible ignition until the petrol fumes have dissipated.

- Replace the fuel tank cap and tighten it down firmly.

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

- f) When mowing, never run; you must always walk.
- g) Exercise extreme caution when turning or when pulling the lawn mower towards you.

- h) Particular precautions must be taken when mowing on slopes or downhill stretches:

- Use appropriate antislip footwear.

- Always be sure of your footing.
- Mow across the face of slopes, never up or down.
- Take great care when changing direction.
- Do not mow on excessively steep slopes.

- i) Never use the lawn mower unless the guards and safety devices (e.g. deflector or collection bag) are securely in position and in good condition.

- j) Any improper use of the collection device may be dangerous due to rotating blades and foreign objects thrown around.

- k) For reasons of safety, the engine must never exceed the speed. (r.p.m.) indicated on the label.

- l) Take care when starting the engine and be sure to follow the user instructions. Never place your hands or feet under the deck or into the rear discharge chute while the engine is running.

- m) During the engine start-up, the operator shall not lift the scarificator; should this be necessary, the equipment shall be tilted so that the blades are on the opposite side of the operator.

- n) If the blades happen to hit any obstacle, stop the engine at once and remove the spark plug cap. Then get an expert to examine it.

### Maintenance and storage

- a) Make sure that all nuts, bolts, and screws are kept well tightened to keep the mower in a safe operating condition.

- b) Never leave the machine with fuel in the tank within an enclosed area where the fuel vapours could reach naked flames or sparks.

- c) Allow the engine to cool before storing in any enclosure.

- d) Keep the engine, silencer, battery compartment and petrol tank free from grass, leaves and excess lubricant, in order to reduce the danger of fire.

- e) Frequently check the collection bag for wear or deterioration

- f) For safety reasons, be sure to replace worn-out or damaged parts in due time.

- g) If the fuel tank has to be drained, it is essential that this be done outdoor.

- h) Assemble the blades following the corresponding instructions and use only blades bearing the maker's name or the trademark of the manufacturer or supplier and marked with the reference number.

- i) To protect hands during disassembly or assembly of the blades, it is absolutely essential to wear suitable protective gloves.

**A****DESCRIPTION**

1	Upper handles	10	Fuel cap
2	Lower handles	11	Engine start-grip
3	Fastening knobs for upper handles	12	Rear deflector
4	Collection bag	13	Throttle lever
5	Oil filler cap	14	Engine stop lever
6	Oil drain plug	15	Switch button
7	Deck	16	Blade operation lever
8	Blade height adjusting knob		
9	Spark plug		

**B****COLLECTION BAG ASSEMBLY****C****ASSEMBLY****D****REGOLAZIONE ALTEZZA LAME**

Move the lever (16) forwards.

Adjust the height of the blades by turning the knob (8) to the left to increase the working depth or to the right to reduce it. (1 turn = 1 mm).

N.B. = make the blades cut into the earth by about 3 mm.

**Setting the working depth**

Select the working depth depending upon the wear of blades and the state of the lawn. If the motor does not pull through or even stops in scarifying, the wrong working depth has been selected.

In this case, reduce the working depth.

The motor must turn evenly.

**Adjustment level per Step: 1 mm.**

Adjustment level max: 10 mm

Adjustment level advised: 3 mm

**E****SAFETY PRECAUTIONS**

- Always operate with the deflector or collection bag in the correct position.
- Always stop the engine before removing the collection bag and adjusting the blade height.
- Never place your hands or feet underneath the deck or into the grass discharge chute while the engine is running.

Before scarifying the lawn, remove all foreign objects. While moving, stay alert for any foreign objects which may have been missed.

During the engine start-up or operation, the operator shall not lift the scarificator; should this be necessary, the equipment shall be tilted so that the blades are on the opposite side of the operator.

Never place your hands or feet underneath the deck or into the rear discharge chute while the engine is running.



## OPERATION

### ENGINE ADJUSTMENTS

Refer to the engine manufacturer's maintenance manual.



**CAUTION:-** 0.6l Oil must be added to the engine before use

### SCARIFICATION

Each year and on every lawn, moss and weeds take hold, which cause the ground to become matted.

By scarifying, the hard surface is cut, allowing the grass to breathe and take up nutritional substances, oxygen and water.

Before scarifying, mow the lawn to a height of about 40 mm (an inch).

Only use the aerator when the lawn is dry.

March, April, and September are the best months for scarifying.

Do this work at least once a year.

To get a nice green effect, we recommend using a fertiliser immediately after having used the scarification.

### Empty the grass box in good time.

Only with the engine switched off and the cutting gear at a standstill.

1. Lift the grass box.
2. Lift the discharge flap.
3. Remove the grass box by pulling it backwards.

If the grass box is over-filled, the discharge channel in the housing of the aerator becomes blocked and grass is left lying on the lawn.

Put the grass box back into place and start the engine.

### STARTING THE ENGINE

Once the machine has been set up properly, start the engine as follows:

Engines with primer system:

Press the fuel-enrichment pump located on the carburettor 3 or 4 times position the accelerator lever (13) on MAX.

For further information and explanations, read carefully the user instruction manual of the engine.

### Manual start of the engine



The exhaust fumes contain carbon monoxide, a non-odorous and lethal gas!

For this reason, never start the engine in enclosed or badly ventilated rooms.



Do not start the motor when the blade unit is in the operating position.

Pull the lever (16) up to lift the blade unit.

Push the gas lever (13) to the position "START".

Press the injection pump 2 to 3 times. There should be a 2 second gap in between each pressing.

### Attention!

*At temperatures below +10°C, press the rubber bellows 5 times. Never use the bellows when the engine has reached operating temperature.*

Press push button (15) and pull STOP switch lever (14) towards the handle and hold it in this position.

If the engine brake bracket is not pulled, the starter cord cannot be pulled out as a result of the engine brake.

Pull out the starter cord until a compression resistance can be felt. Allow the cord to return slowly and then pull it out again quickly a full arm's length for the start. Keep the starter handle in your hand and allow the rope to return slowly. Set the gas lever to match the work you are doing.

### After the start

As soon as the engine is running, put the gas lever to position between ("START, MAX") and ("STOP, MIN") at a speed which you think matches the work you are doing.

### Stopping the engine



Please remember that the blade continues to run for a few seconds after switching off.

Therefore, do not put your hands under the scarifier immediately after switching it off.

Release the lever of switch (14) to turn off the engine.

Put the gas lever to or MIN. (Stop).

## S500

The S500 has the possibility to start and stop the blades keeping the engine working.

In order to make the blades working you have to push lever **A** and push down lever **B**.

To stop it you have to release lever **B**.



### Attention!

The blade needs some seconds to stop completely.

**G**

**MAINTENANCE**



**Caution!** Switch off the motor and disconnect the spark plug before undertaking any maintenance work.

- For a four stroke engine, check the oil level and change the oil when dirty. For further explanation, see ENGINE INSTRUCTION BOOK.
- Frequently check the mower and ensure that all deposits are removed from beneath the deck.
- Take care, the exhaust muffler may be very hot.
- Frequently remove the wheel screws clean with petroleum and oil before replacing. Ball bearings must be greased before remounting.
- Frequently check the blades for damage.
- The lawn mower must be checked by a SERVICE DEALER.

	BEFORE EVERY USE	AFTER FIRST 2 HOURS	EVERY 5 HOURS OF OPERATION	OFTEN	EVERY 25 HOURS OF OPERATION	EVERY 50 HOURS OF OPERATION	EVERY 100 HOURS OF OPERATION	AT THE BEGINNING OF EVERY SEASON	PRIOR TO STORING
Check engine oil level	●	●	●	●					
Change engine oil		●							
Clean the air filter				●					
Check spark plug					●			●	
Replace air filter						●			
Clean air intake cover				●					
Check silencer					●				
Sharpen or replace of blade				●					
Check for loose parts	●								●
Clean the scarifier				●					●

**H**

**AERATOR S390 - S500 WITH SPRING SHAFT**

The spring shaft is designed to remove moss and dry grass from the turf.

Before using the aerator, mow the lawn with a mower.

Unlike the shaft with floating or fixed knives, the spring tips do not have to impact the ground.

Recommended working depth for shaft with fixed or floating blades is 3 mm under the ground, maximum depth 5 mm on hard ground and 10 mm on soft ground.

Recommended working depth for the spring shaft is 2

mm above the ground, on any type of ground.

For transport, the shaft must be lifted from the ground by operating the appropriate lever.

## EC DECLARATION OF CONFORMITY

**MA.RI.NA. Systems srl - via F.Baracca 3, 24034 Cisano Bergamasco (Bg) – Italy**

Declare that the machine scarifier with internal combustion engine

- Model (a)
- Power (b)
- Working width (c)
- Weight (d)
- Serial number (e)

n compliance with the requirements of the following EC directives

- 1) 2006/42/EC
- 2) 2000/14/EC + 2005/88/EC
- 3) 2014/30/EU
- 4) 2011/65/EC
- 5) 2012/46/EU

In accordance with the following norms:

- 1) EN ISO 12100:2010
- 2) EN ISO 5395-1:2013; EN ISO 5395-2:2013
- 3) EN ISO 3744:2010

Also declares that the technical manual is kept at:

**MA.RI.NA. Systems srl - via F.Baracca 3, 24034 Cisano Bergamasco (Bg) – Italy**

Tested by: (m)

Directive 2000/14/EEC : conformity valuation procedure followed (Annex VI) tested by : (n)

- Measuring conditions (f)
- Grip vibrations (g)
- Measured sound power (h)
- Guaranteed sound power (k)
- Sound pressure at operator's ear (measuring uncertainty 2dB) (y)

Cisano Bergamasco, 18/01/2017



Christian Rivolta  
C.E.O.

Consult the levels measured and shown on the label on the last page