

# CM 501 HONDA

## OPERATING INSTRUCTIONS

Translation of the original instructions



**clipper**®





## Declaration of conformity

The undersigned manufacturer:

**SAINT - GOBAIN ABRASIVES S.A.  
190, BD J.F. KENNEDY  
L- 4930 BASCHARAGE**

Declares that this product:

Masonry Saws: **CM 501 3.60 P**

Code: **70184627020**

is in conformity with the following Directives:

- **"MACHINES" 2006/42/CE**
- **"ELECTROMAGNETIC COMPATIBILITY" 2004/108/CE**
- **"NOISE" 2000/14/CE**

And European standard:

- **EN 12418 – Masonry and stone cutting-off machines – Safety**

Valid for machines as of serial number:

130400000

Storage site for the technical documents:

Saint-Gobain Abrasives 190, Bd. J. F. Kennedy 4930 BASCHARAGE, LUXEMBOURG

This declaration of conformity loses its validity when the product is converted or modified without agreement.

Bascharage, Luxembourg, 01.04.2013.



Olivier Plenert, executive officer.



# CM501 HONDA

## OPERATING INSTRUCTIONS AND SPARE PARTS LIST

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# 1 BASIC SAFETY INSTRUCTIONS

The CM501 is exclusively designed for the cutting of construction products mainly on construction sites.

Uses other than the manufacturer's instructions shall be considered as contravening the regulations. The manufacturer shall not be held responsible for any resulting damage. Any risk shall be borne entirely by the user. Observing the operating instructions and compliance with inspection and servicing requirements shall also be considered as included under use in accordance with the regulations.

## 1.1 Symbols

Important warnings and pieces of advice are indicated on the machine using symbols. The following symbols are used on the machine:



Read operator's instructions



Ear protection must be worn



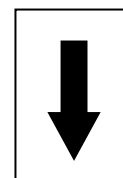
Hand protection must be worn



Eye protection shall be worn



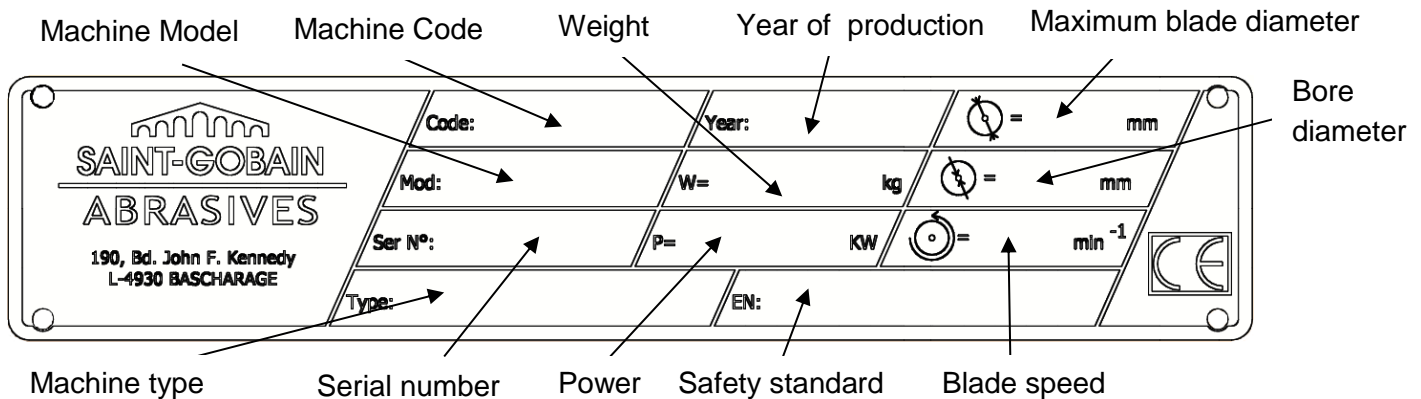
Danger: risk of cut



Rotation direction of the blade

## 1.2 Machine plate

Important data can be found on the following plate located on the machine:



## 1.3 Safety instructions for particular operating phases

### Before commencing work

- Before commencing work, make yourself familiar with the working environment at the place of use. The working environment includes: obstacles in the area of work and manoeuvre, the firmness of the floor, necessary protection at the site relating to public thoroughfares and the availability of help in the event of accidents.
- Check for correct mounting of the blade regularly.
- Immediately remove damaged or badly worn blades, as they endanger the operator whilst rotating.
- Only fit NORTON diamond blades to the machine! The use of other tools can damage the machine!
- Attention is drawn to the use of BS2092 safety goggles in conformity with specified Processes No.8 of the Protection of Eyes Regulation 1974, Regulation 2(2) Part 1.
- For security reasons, never leave the machine unattended, untied or unlocked.

### While the engine is running

- Do not move the machine whilst the blade is running idle.
- Always cut with the blade guard in position.
- Apply cooling water continuously whilst cutting and in good time!

### Petrol powered machines:

- Always use the fuel advised.
- In confined areas, exhaust gases should be evacuated and the job site properly aerated.
- Petrol and diesel machines, which by their nature emit toxic exhaust gases, must not be used in places prohibited by the Health at Work etc. Act 1974 or which are prohibited by Factory Inspectors or Safety Officers.
- Fuel is flammable. Before filling the tank, shut down the engine, extinguish all open flames and do not smoke. Take care that no petrol is spilled on any motor part. Always wipe up spilled fuel.

## 2 MACHINE DESCRIPTION

Any modification, which could lead to a change in the original characteristics of the machine, may be done only by Saint-Gobain Abrasives who shall confirm that the machine is still in conformity with the safety regulations.

### 2.1 Short description

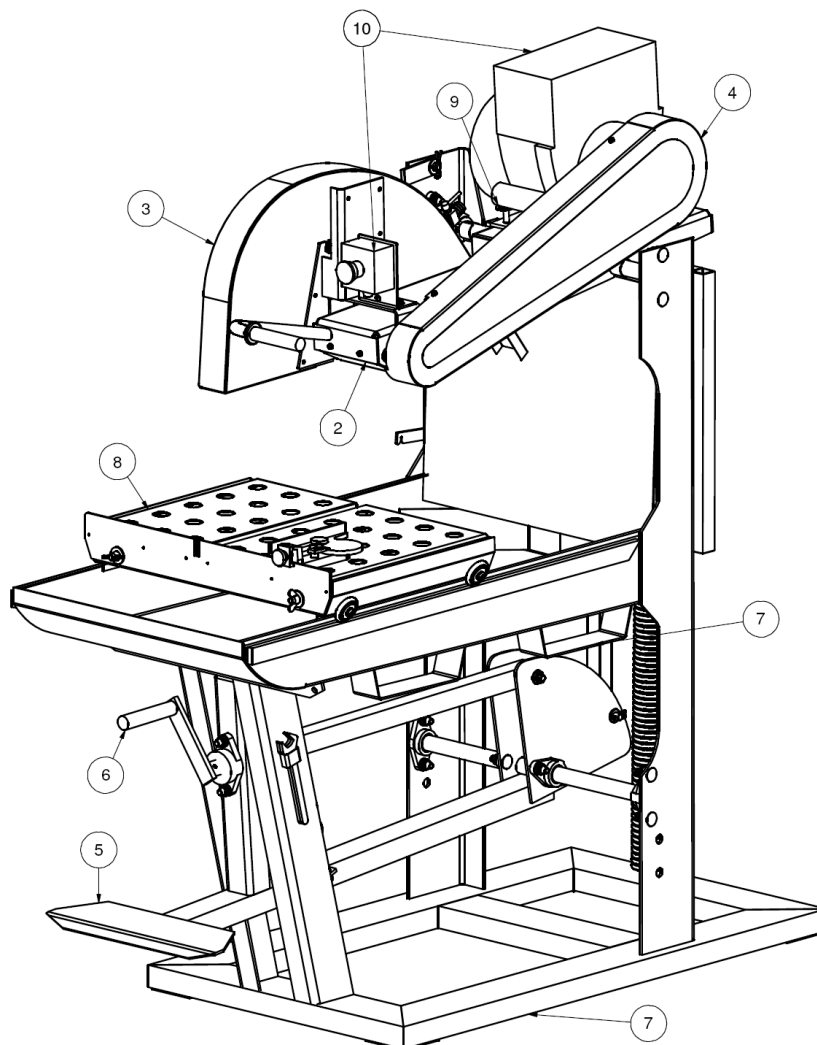
The CM501 block saw is designed for durability and high performance for onsite wet and dry cutting operations of a wide range of masonry, refractory and natural stone products.

As with all other NORTON products, the operator will immediately appreciate the attention given to detail and quality of materials used in construction. The machine and its component parts are assembled to high standards assuring long life and minimum maintenance.

### 2.2 Purpose of use

The machine is designed for cutting a large range of building and refractory materials. It is not designed for cutting wood or metals.

### 2.3 Layout





**Frame (1)**

The jig-welded, reinforced and all-steel construction, diagonally braced to ensure perfect rigidity. The frame includes a large capacity, sloping water tray with drain plug. Frame has built-in **fork lift brackets (7)** for easy transportation. The large base ensures stability while used.

**Cutting head (2)**

Jig-welded, steel console equipped with pivot bar, which is fixed to frame uprights. Console supports the **electric motor and switch (10)**, the belt drive with its **guard (4)**, the blade shaft assembly and the stay level blade **guard (3)**. The balancing of the cutting head is achieved using a heavy-duty spring. Bearings are machined for perfect fit and alignment.

**Blade guard (3)**

Jig-welded steel construction with stay level arm and 500mm-diameter blade capacity, which offers maximum operator protection and increased visibility of the work piece.

Incorporated in the blade guard is a shaft vent cover, which can be easily hinged opened. This allows easy access to shaft for inspection and blade replacement when motor is switched off, while fully protecting the blade when in operation.

**Down feed and cutting depth adjustment**

The spring-loaded cutting head, activated by hand with the grip on the blade guard or with the **foot pedal (5)**, ensures smooth lowering of the cutting head for shock-free penetration of the work piece and improved control of the cutting pressure.

**A crank assembly (6)** in conjunction with a depth locking device on the cutting head pivoting bar enables the operator to set the cutting head to desired maximum cutting depth.

**Conveyor cart (8)**

Large, heavy-duty conveyor cart fitted with water flow-control vents, mounted on 4 rollers to give maximum stability and smooth movement. The conveyor cart is equipped with graduated scale on the backstop and with a guide-a-cut device.

**Water cooling system (9)**

The coolant system comprises:

- A powerful, submersible mechanical water pump.
- Plastic suction pipe delivering the water from the water pan to the cutting head.
- A large capacity water pan supplied with drain plug.
- A water-tap, fitted to the blade guard, permitting controlled water flow.
- Two water nozzles located inside the blade guard ensure adequate flow of water to both sides of the cutting blade.
- A water curtain, fixed to head pivoting bar restricts water spray and minimises water loss.

**Petrol Motor (10)**

The Honda motor is fitted out with an emergency stop button to ensure the safety of the operator while using the machine.

**2.4 Technical Data**

Motor	Honda GX200 4.8kW (6.5 HP)
Fuel	Automotive unleaded gasoline
Motor oil	Honda 4-Stroke, or equivalent high detergent, premium quality motor oil certified to meet or exceed U.S. automobile manufacturer's requirement for service classification SG, SF. (SG, SF designated on the oil container). SAE 10W-30 recommended
Reduction gear oil	High pressure oil 90
Max. blade diameter	500mm
Bore	25,4mm
Blade shaft speed	2200 min <sup>-1</sup>
Cutting depth mm (without reversing the material)	195mm
Flange diameter	108mm
Sound pressure level (following ISO EN 11201)	93 dB (A)
Sound energy level (following ISO EN 3744)	106 dB (A)
Cutting length	500mm
Conveyor cart dimensions (Lxl)	580x420mm
Machine Dimensions (LlxH)	1480x610x1700mm
Weights	
Machine	165 kg
Machine ready for work (with water)	200 kg

## 2.5 Statement regarding the vibration emission

Declared value of vibration emission following **EN 12096**.

Machine Model / code	Measured value of vibration emission at $m/s^2$	Uncertainty K $m/s^2$	Tool used Model / code
<b>CM 501 3.60</b> <b>P</b> <b>70184627020</b>	<2.5	0.5	Clipper ZDH500 diamond blade

- The vibration value is lower and does not exceed 2.5  $m/s^2$ .
- Values determined using the procedure described in the standard **EN 12418**.
- The measurements are made with new machines. Actual values may vary with site conditions, in terms of:
  - Materials worked
  - Wear Machine
  - Lack of maintenance
  - Inappropriate tool for application
  - Tool in poor condition
  - Unskilled operator
  - Etc...
- The exposure time to vibration is based on the performance of work (related to the adequacy Machine / Tool / worked material / operator)
- When evaluating risks due to hand-arm vibration, you need to take into account effective usage at rated power of machine during a full day of work; quite often you will realise that effective utilisation time represents around 50% of overall duration of work. You have to consider, of course, breaks, water feeding, preparation of work, time to move the machine, disk mounting...

## 2.6 Statement regarding noise emission

Declared value of noise emission following **EN ISO 11201** and **NF EN ISO 3744**.

Machine Model / code	Sound Pressure level $L_{Peq}$ EN ISO 11201	Uncertainty K (Sound Pressure level $L_{Peq}$ EN ISO 11201)	Sound power level $L_{Weq}$ NF EN ISO 3744	Uncertainty K (Sound power level $L_{Weq}$ NF EN ISO 3744)
<b>CM 501 3.60</b> <b>P</b> <b>70184627020</b>	93 dB(A)	2.5 dB(A)	106 dB(A)	4 dB(A)

- Values determined using the procedure described in the standard **EN 12418**.
- The measurements are made with new machines. Actual values may vary with site conditions, in terms of:
  - Wear Machine
  - Lack of maintenance
  - Inappropriate tool for application
  - Tool in poor condition
  - Unskilled operator
  - Etc...
- Measured values relate to an operator in normal use, as described in the manual position.

### **3 ASSEMBLY AND COMMISSIONING**

The machine is delivered fully equipped and assembled (although without diamond blade) and is ready for operation after connection to the appropriate power supply.

#### **3.1 Tool assembly**

Only NORTON blades with a maximum diameter of 500 mm can be used with the CM501.

All tools used must be selected with regard to their maximum permitted cutting speed for the machine's maximum permitted rotation speed.

Before mounting a new blade into the machine, switch off the machine and isolate it from the main source of electricity.

To mount a new blade, follow these steps:

- Open the shaft vent cover on the blade guard.
- Loosen the hexagonal nut on the blade shaft, which holds the removable outer flange.
- Remove the outer flange.
- Clean the flanges and blade shaft and inspect for wear.
- Mount the blade on arbor ensuring that direction of rotation is correct. Wrong direction of rotation blunts the blade quickly.
- Replace outer blade flange.
- Tighten hexagonal nut with spanner supplied for this purpose.
- Shut the vent cover.

The blade bore must correspond exactly to the diameter of the blade shaft. Cracked or damaged bore is dangerous for the operator and for the machine.

#### **3.2 Water cooling system**

Fill the water pan with clean water to approximately 2cm from top (ensure that bottom of pump is fully immersed in water).

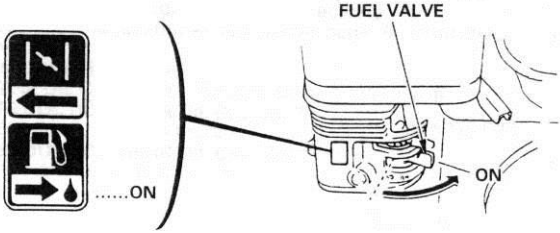
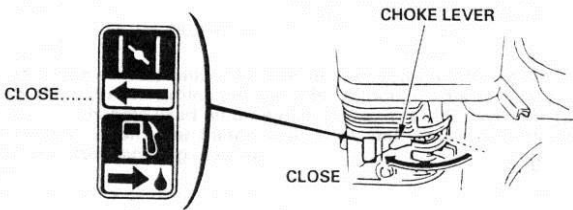
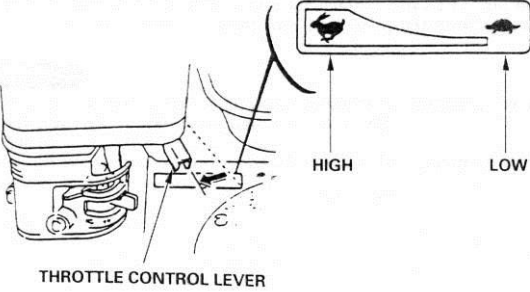
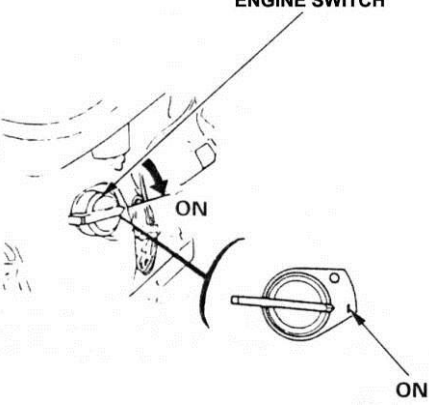
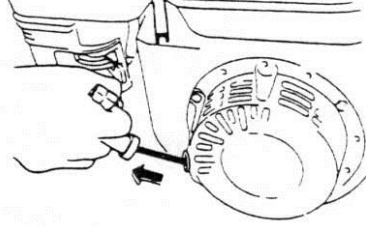
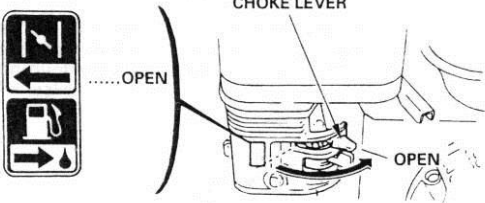
Open water-tap at blade guard (note that handle on water-tap should be in line with water-flow).

Ensure that water is flowing freely in the circuit and is delivered adequately to both sides of the blade, as insufficient water supply may result in premature failure of the diamond blade.

The water pump must never run without water. Always make sure that there is enough water in the pan and refill if necessary.

In case of frost, empty the water cooling system from its water.

### 3.3 Starting the machine

	
<p>Turn the fuel valve to the ON position.</p>	<p>Move the choke lever to the CLOSED position. NOTE: do not use the choke if the engine is warm or the air temperature is high.</p>
	
<p>Move the throttle control lever slightly to the left.</p>	<p>Put the engine switch on ON, and make sure the emergency switch on the board of the machine is in the correct position.</p>
	
<p>Pull the starter grip lightly until you feel resistance, then pull briskly. CAUTION: Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the starter.</p>	<p>As the engine warms up, gradually move the choke lever to the OPEN position. Position the throttle control lever for the maximum engine speed.</p>

To stop the engine, move the throttle control lever fully to the right, then turn the engine switch to the OFF position. Turn the fuel valve to the OFF position.

## **4 TRANSPORT AND STORING**

### ***4.1 Securing for transport***

Before transporting or lifting the machine, always remove the blade and the conveyor cart and empty the water pan.

### ***4.2 Transport procedure***

If you transport the machine using a fork-lift truck, you have to use EXCLUSIVELY the two fork lift brackets under the water pan.

### ***4.3 Long period of inactivity***

If the machine is not going to be used for a long period, please take the following measures:

- Completely clean the machine
- Loosen the drive belts
- Empty the water system
- Take the water pump out of the slurry and clean it thoroughly.

The storage site must be clean, dry and at a constant temperature.

## 5 OPERATING THE MACHINE

### 5.1 Site of work

#### 5.1.1 Siting the machine

- Remove from the site anything, which might hinder the working procedure!
- Make sure the site is sufficiently well lit!
- Observe manufacturer's conditions for connecting to power supplies!
- Make sure you have a continual adequate view of the working area so you can intervene in the working process at any time!
- Keep other staff out of the area, so you can work securely.

#### 5.1.2 Space required for operation and maintenance

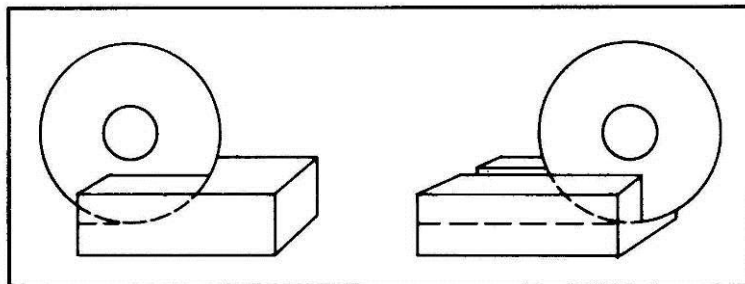
Leave 2 m in front of the machine and 1,5 m around it for usage and maintenance of the CM501.

### 5.2 Cutting methods

To use the machine correctly, you must face it with one hand on the handle of the cutting head, and the other on the conveyor cart. You can possibly press on the pedal with one foot. Always keep your hands away from the moving blade.

#### 5.2.1 Full depth or fixed cutting

In full depth or fixed cutting, the cutting head is locked in a fixed position and the material is pushed into it as shown.



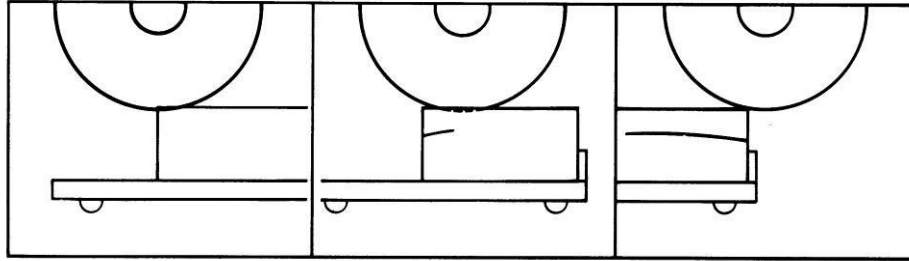
- Lower the cutting head to the desired cutting depth (in “through cutting”, lower cutting head until blade periphery reaches max. 3mm under the surface of the conveyor cart) by means of the handle on the blade guard or of the foot pedal, or using the crank.
- Put material on conveyor cart
- Push the conveyor cart slowly and without undue pressure towards the rotating blade and cut the material as shown on the picture.

NOTE: While recommended, it is not absolutely necessary to lock the cutting head into a given depth position with the crank when jam cutting. The desired cutting depth can be maintained by holding firmly the depth feed handle on the blade guard or pressing on the foot pedal. If the full depth of cut requires excessive pressure (on very dense material e.g.) make 2 or 3 shallow cuts.



### 5.2.2 Multiple step cutting

Multiple step cutting consists of moving the conveyor cart with the material to be cut back and forward under the rotating blade,



- Place the material to be cut on the conveyor cart firmly against the guide-a-cut and the backstop, keeping the hands well away from the blade.
- Move conveyor cart forward near the blade and pull down the cutting head until blade is lowered to a point where it will lightly contact the surface of the material.
- Then pass the material beneath with rapid full length strokes, taking a shallow cut (approximately 3 mm deep as shown on the picture) on the forward. On the backward stroke, lift the blade just clear over the cutting line.
- Complete each rapid stroke backward and forward by passing the material beyond the centre of the blade before starting the reverse movement of the conveyor cart.

NOTE: the harder the material, the more rapid should be the forward and backward strokes.

Step cutting lessens the area of the blade circumference in contact with the material, keeping the blade cool, running free and cutting at peak efficiency.

### 5.2.3 General advice for the cutting

- Make sure you have filled the engine tank with fuel. No petrol is supplied with the machine.
- The engine is shipped with oil. Check oil level before starting. Top up if required.
- Material weighting under 40 kg and having dimensions smaller than 600x500x390mm (cut with reversing of the material) can be cut with the machine.
- Before commencing work make sure tools are firmly seated!
- Select the right tools as recommended by the manufacturer depending on the material to be worked, the working procedure (dry or wet cut) to be carried out and the required efficiency.
- Apply cooling water continuously whilst cutting and in good time! Make sure the water pan contains enough water.
- When dry cutting, ensure sufficient dust extraction and wear a dusk protection mask! You can also order a dust extraction device (Art. Number 00310004580).
- When cutting work is finished, close the water-tap so you can remove the cut pieces from the conveyor cart without getting wet.

## 6 MAINTENANCE AND SERVICING

### 6.1 Maintenance of the machine

To ensure a long-term quality from the cutting with the CM501, please follow the maintenance plan below:

		Begin of the day	During the changing of tool	End of the day or more often if required	Every week	After a fault	After a damage
Whole machine	Visual control (general aspect, watertightness)						
	Clean						
Flange and blade fixing devices	Clean						
Belts tension	Check and adjust						
Water pump	Clean						
Water pan	Clean						
Water hoses and nozzles	Clean						
Water pump filter	Clean						
Cart guiding bars	Clean						
Engine housing	Clean						
Reachable nuts and screws	Tighten up						

#### Maintenance of the machine

Your machine will last longer if you clean it thoroughly after each day of work, especially water pump, water pan, motor and blade flange.

#### Lubrication

The CM501 uses life-lubricated bearings. Therefore, you don't need to lubricate the machine at all.

#### Adjustment and replacement of the belts

To adjust the belts, firstly remove the belt guard by unscrewing the 4 screws. Loose the 4 motor bolts and shift the motor by using the two screws on the side.

To replace the belts, move the motor forward on the cutting head. Adjust the belts and retighten them by shifting the motor to the rear of the machine.

Always use a matched set of belts. Do not replace single belts.

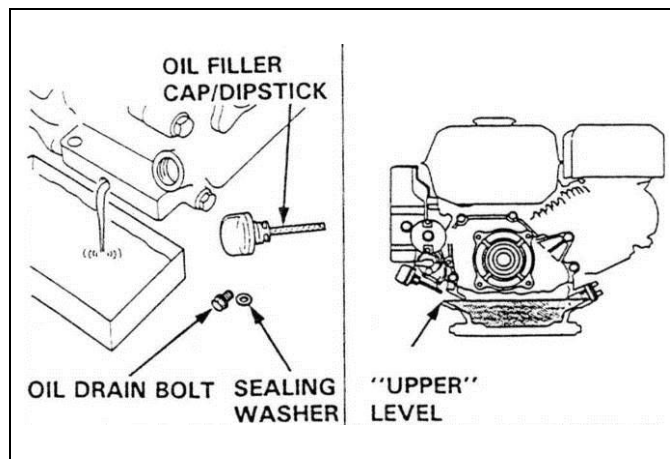
### 6.2 Maintenance of the engine

		Each use	First month or 20 hours	Every 3 months or 50 hours	Every 6 months or 100 hours
<p><b>Regular service period</b>                      Perform at every indicated month or operating hour interval, whichever comes first</p> <p style="text-align: right;">→</p>					
Engine oil	Check level				
	Change				
Reduction gear oil	Check level				
	Change				
Air cleaner filter	Check				
	Clean				
Fuel strainer cup	Clean				
Spark plug	Check-Clean				
Fuel line	Check (Replace if necessary)	Every 2 years			

**Engine oil**

To change the oil,

- Remove the oil filler cap/dipstick and drain bolt.
- Allow the oil to drain completely.
- Reinstall the drain bolt, and tighten it to 18 N.m.
- Fill the crankcase with the engine oil to the outer edge of the oil filler neck.
- Reinstall the filler cap/dipstick.

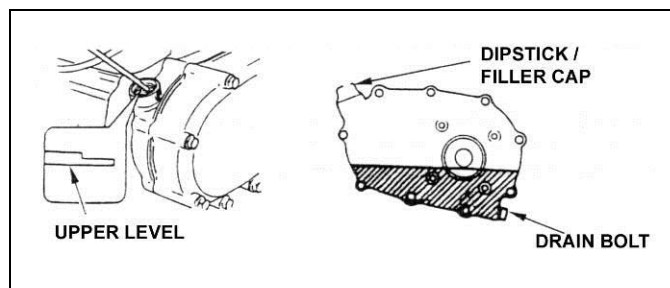


**Reduction gear oil**

Remove the oil filler cap and wipe the dipstick clean.

Insert the dipstick into the filler neck, but do not screw it in.

If the level is low, fill to the upper level mark.

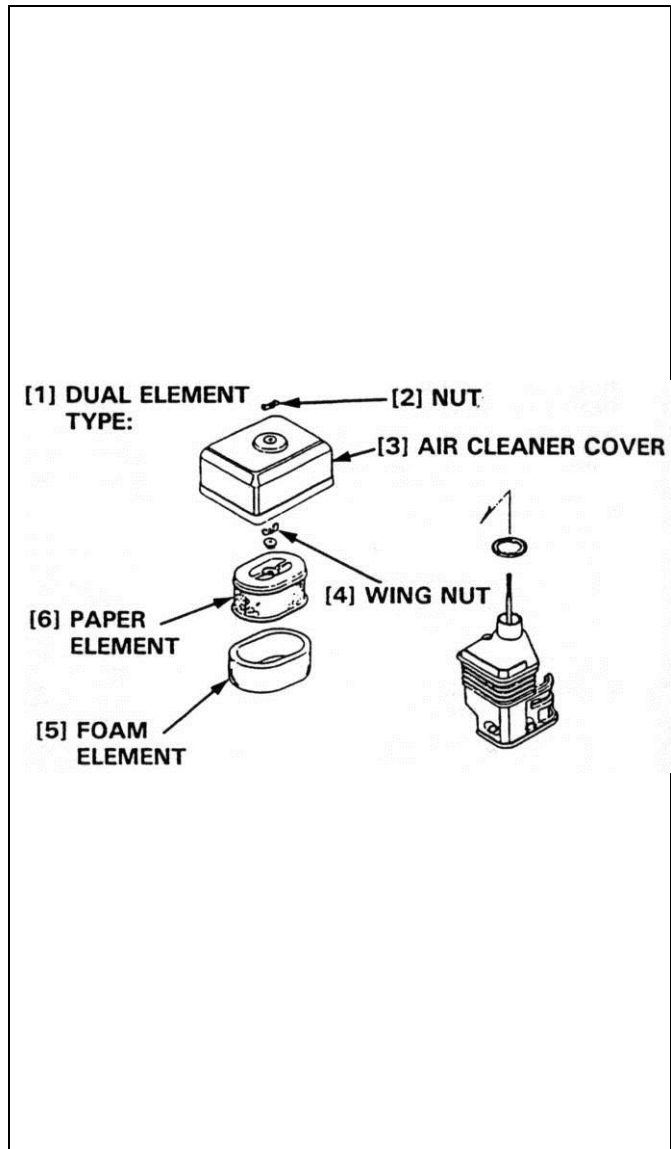


**Air cleaner**

The CM501 has a dual type filter.

To service the air cleaner filter, follow these instructions:

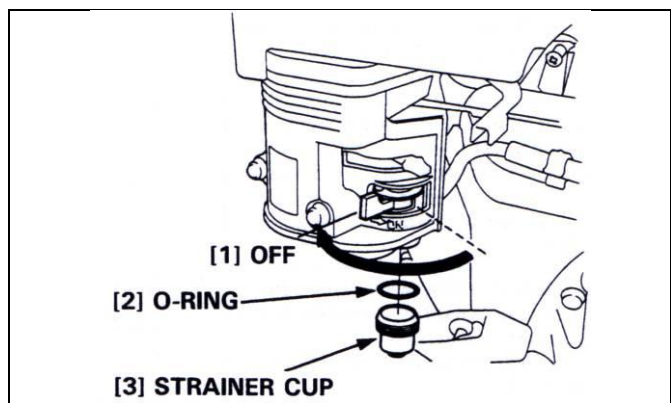
- Remove the nut, air cleaner cover and wing nut.
- Remove the pre air cleaner elements and separate them.
- Carefully check both elements for holes or tears and replace if damaged.
- **Paper element:** tap element lightly several times on a hard surface to remove excess dirt or blow compressed air lightly through the filter from the inside out. Never brush the dirt off; brushing will force dirt into the fibres.
- **Foam element:** clean in warm soapy water, rinse and allow to dry thoroughly. Dip the element in clean engine oil and squeeze out all the excess. The engine will smoke during initial start-up if too much oil is left in the foam.
- Shine a light through the elements, and inspect them carefully. Reinstall the elements if they are free of holes and tears.



**Fuel strainer cup**

To service fuel strainer cup, follow these instructions:

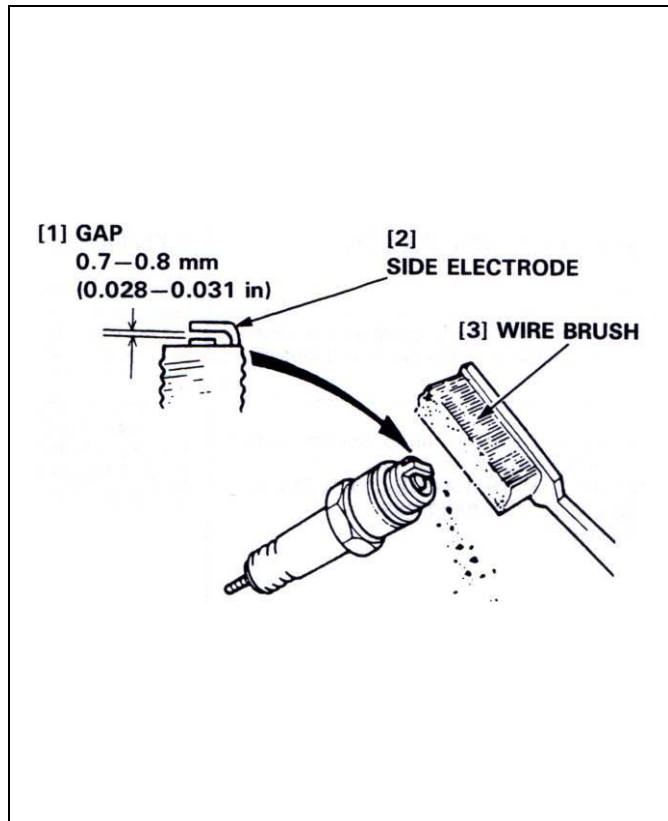
- Turn off the fuel valve and remove the strainer cup.
- Clean the strainer cup with solvent.
- Install the O-ring and strainer cup.
- Tighten the strainer cup to 4N.m.



### Spark plug

To service the spark plug, follow these instructions:

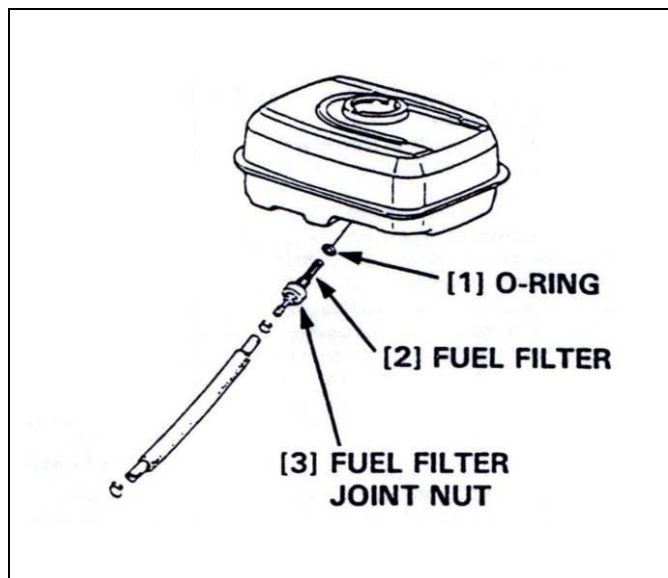
- Visually inspect the spark plug. Discard the plug if the insulator is cracked or chipped.
- Remove carbon or other deposits with a stiff wire brush.
- Measure the plug gap with a wire-type feeler gauge. If necessary, adjust the gap by bending the side electrode.
- Make sure the sealing washer is in good condition; replace the plug if necessary.
- Install the plug fingertight to seat the washer, then tighten with a plug wrench (an additional  $\frac{1}{2}$  turn if a new plug) to compress the sealing washer. If you are reusing a plug, tighten  $\frac{1}{8}$ - $\frac{1}{4}$  turn after the plug seats.



### Fuel line

To service the fuel line, follow these instructions:

- Drain the fuel into a suitable container, and remove the fuel tank.
- Disconnect the fuel line, and unscrew the fuel filter from the tank.
- Clean the filter with solvent, and check, that the filter screen is undamaged.
- Place the O-ring on the filter and reinstall. Tighten the filter to 2N.m. After reassembly, check for fuel leaks.



### Further maintenance

For further maintenance, please contact the nearest engine maintenance centre.

## 7 FAULTS: CAUSES AND CURES

### 7.1 *Fault-finding procedures*

Should any fault occur during the use of the machine, turn it off, and isolate it from the electrical supply. Any works dealing with the electrical system or supply of the machine can only be carried out by a qualified electrician.

### 7.2 *Trouble-shooting guide*

Trouble	Possible source	Resolution
Hard starting	Not enough fuel	Fill fuel tank
	Fuel filter clogged	Clean fuel filter
	Spark plug faulty	Inspect spark plug
	Stronger fault	Contact nearest engine maintenance centre
Blade is not turning	Belts not tightened or defective	Check the belts tension and change them if needed
Engine lacks power	Air filter restricted	Clean or replace air filter
	Stronger fault	Contact nearest engine maintenance centre
No water on the blade	Not enough water in the pan	Refill the water pan
	Water tap is closed	Open tap on blade guard
	Water supply system is blocked up	Clean water supply system
	Water pump is not working	<ul style="list-style-type: none"> <li>• Check if pump pulley is driven by the belts</li> <li>• Change the pump</li> </ul>

### 7.3 Customer service

When ordering spare parts, please mention:

- The serial number (a letter and 6 digits).
- The code of the part.
- The exact denomination.
- The number of parts required.
- The delivery address.
- Please indicate clearly the means of transportation required such as "express" or "by air". Without specific instructions, we will forward the parts through the means which seem appropriate to us --- but which is not always the quickest way.

Clear instructions will avoid problems and faulty deliveries.

If not sure, please send us the defective part.

In the case of a warranty claim, the part must always be returned for evaluation.

Spare parts for the motor can be ordered with the manufacturer of the motor or with their dealer, which is often quicker and cheaper.

This machine has been manufactured by Saint-Gobain Abrasives S.A.

Saint-Gobain Abrasives S.A.

190, Bd. J.F.Kennedy

L- 4930 BASCHARAGE

Grand-Duché de Luxembourg.

Tel. : 00352-50401-1

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<http://www.construction.norton.eu>



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[www.nortonabrasives.com/fr-fr](http://www.nortonabrasives.com/fr-fr)

Guarantee can be claimed and technical support obtained from your local distributor where machines, spare parts and consumables can be ordered as well:

SAINT-GOBAIN ABRASIVES NV/SA  
INDUSTRIELAAN 129  
1070 ANDERLECHT/BRUSSEL  
BELGIUM  
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JLT BLOCK C  
(NEXT TO METRO STATION)  
JUMEIRA LAKE TOWER, DUBAI  
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PARC INDUSTRIAL RENOVATIO  
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ABRASIVES (PTY) LTD  
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SAINT-GOBAIN INOVATIF  
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MAHALLESİ, ÖZ SOKAK, NO:19/16  
34843 MALTEPE-ISTANBUL,  
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TEL: 0090-216-217 12 50  
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