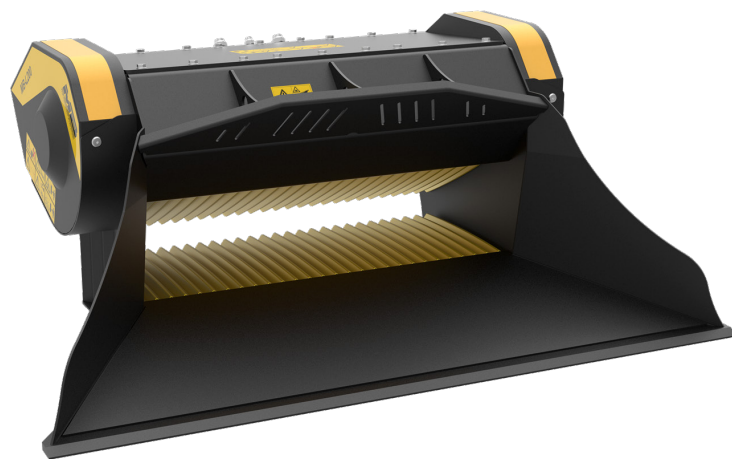


# **MB<sup>®</sup>**

***THE CRUSHING EVOLUTION***

## **USE AND MAINTENANCE MANUAL**



**MB-L120 S2**

**MB-L140 S2**

**MB-L160 S2**

**MB-L200 S2**

**SERVICE  
ONLINE ▼**





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## SUMMARY

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## INTRODUCTION

---

Dear Customer,

We thank you for choosing the best technology in the world made by MB S.p.A. company, and we are pleased to provide you with this manual, which has the purpose of helping you working with the Bucket Crusher in the safest and most productive manner possible.

We kindly suggest you to read this technical information very carefully, and provide it to the people who will use the Bucket Crusher, as well as to those who will service it.

The information contained in this manual is MB S.p.A.'s reserved property and refers in particular to the Bucket Crusher, identified as:

Model: **MB-L120 S2 - MB-L140 S2 - MB-L160 S2 - MB-L200 S2**

Serial number:

Year of manufacturing:

Manual Identification Data

Revision:        08        07-2018        Cod. 00

Our sales and technical offices are able to provide you with any additional clarification or information you may require, regarding the Bucket Crusher you purchased.

---

## 1 GENERAL INFORMATION

---

### 1.1 MANUFACTURER'S IDENTIFICATION DATA

---

The Bucket Crusher model: MB-L 120 S2 - MB-L 140 S2 - MB-L 160 S2 - MB-L 200 S2 is manufactured exclusively by:

Manufacturer: **MB S.p.A.**

Address: Via Astico, 30/A - 36030 FARA VICENTINO (VI) - Italy

Telephone: +39 0445/308148

Telefax: +39 0445/308179

e-mail: [info@mbcruasher.com](mailto:info@mbcruasher.com)

internet site: [www.mbcruasher.com](http://www.mbcruasher.com)

### 1.2 TECHNICAL SUPPORT

---

The official contacts to liaise with the after sales department and obtain all kinds of information regarding use, maintenance and spare parts purchase are as follows

**E-mail: [mbservice@mbcruasher.com](mailto:mbservice@mbcruasher.com)**

**Phone: +39 (0) 445850425**

**Fax: +39 (0) 445850335**

The customer can also address his enquiries to our wide dealer network and authorized workshops closer to his facilities. Specifying model and serial number of the concerned unit. Online assistance is also available on our B2B portal. A tailor made multi-medial platform specially developed to provide immediate response to most needs. Thanks to an easy and intuitive online browsing platform the customer has access to useful documents and contents, such as:

:

- Specific FAQ for each MB item
- Tutorial videos (installation and maintenance)
- Spare parts chart
- Technical forms
- Exploded views, technical drawings
- Marketing section with plenty of photos and videos

This service is FREE OF CHARGE and constantly updated

Start to explore with the QR Code below.

In case you have not been assigned credentials, do not hesitate to ask for them to [mbservice@mbcruasher.com](mailto:mbservice@mbcruasher.com)



---

#### ATTENTION!

All kind of interventions not carried out by MB authorized personnel will result in immediate warranty void.

---

#### ATTENZIONE !

The customer is mandatorily asked to purchase only genuine original parts. assembly of unofficial components result in warranty void.

---





# DECLARATION **CE** OF CONFORMITY

(Annex II, Point A)

**The company:** MB S.p.A.  
Via Astico, 30/A  
36030 - Fara Vicentino (VI)  
Tel. +39 0445300972

Represented by Sig. Guido Azzolin, born in Thiene on 23/05/1970, in his capacity as acting Chief Executive Officer / Managing Director.  
The person authorised to draw up the technical brief is Sig. Azzolin Diego, in his capacity as owner of MB S.p.A., at the production facility in Via Astico 30, 36030 Fara Vicentino, Italy.

**DECLARES**  
under its own liability that the interchangeable equipment

**CRUSHER**

*FUNCTION: crushing and reduction of inert demolition material*

**MODEL:**

**SERIAL N°:**

complies with the Machinery Directive 2006/42/EC and Directive PED 2014/68/EU (art. 4 par. 3).

It also declares that

**- the following technical standards have been applied:**

- **EN 12100:2010**

Fara Vicentino,

**GUIDO AZZOLIN**  
(CEO / Managing Director)



Because of the continuous improvement of the products, MB reserves the right to make changes at any time without notice, for technical or commercial reasons.





[www.mbcruiser.com](http://www.mbcruiser.com)

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Rev. 2018 / 01

### 1.3 MACHINE IDENTIFICATION AND CE MARKING

The machine identification data, the CE trademarks and the TUV trademarks are located on a plate that is fastened by metal rivets to the load bearing structure.

		<b>MB S.p.A.</b> Via Astico 30/A, 36030 Fara Vicentino (VI) Italy Tel. 0445 308148 Fax. 0445 308179		  	
<small>COMPANY WITH QUALITY MANAGEMENT SYSTEM CERTIFIED BY DNV = ISO 9001:2008 =</small>		<b>N° EP 1 532 321</b>			
MODEL					
SERIAL NUMBER N°					
CONSTRUCTION YEAR					
HYDRAULIC SYSTEM MAX PRESSURE					Bar
WEIGHT					Kg

### 1.4 NORMATIVE REFERENCES

The machine has been built in compliance with the provision of the Community Directives and Project Rules, pertinent and applicable from the moment of its insertion on the market.

**List of the applied Community Directives:**

- Directive 2006/42/EC and within Italian borders, d.Lgs 27 Jan 2010, nr. 17.

**List of some of the applied Project Rules:**

- UNI EN ISO 12100:2010

**List of regulations concerning pressure equipment:**

- Directive PED 2014/68/EU (article 4 subparagraph 3)

### 1.5 WARRANTY

**MB S.p.A. provides customers with an 12-month Warranty period commencing on the date of shipment, as indicated on the transport documents.**

MB S.p.A. guarantees this product to be free from defective workmanship and/or materials. If a component is found to be defective, either as regards workmanship or materials, a replacement component will be supplied by any authorised MB S.p.A. workshop without charge. All faults covered by the warranty must be promptly reported to SERVICE MB by mail [mbservice@mbrusher.com](mailto:mbservice@mbrusher.com), fax +39 0445 850335 or telephone +39 0445 850425 as soon as they are discovered.

Claims under warranty shall only be dealt with if the manufacturer has been informed of them in writing within 5 days following their occurrence.

The information required:

- Type designation
- Serial Number
- Year of manufacture
- Defective part
- Photographs and/or Videos
- Cause of the damage

**Naturally, the Bucket must not be subject to improper use, must not be modified and must be correctly serviced, more information is contained in paragraph 2.2 of this manual:**

- In particular, it is forbidden to crush flammable material, explosive material or material that can generate flammable, explosive, toxic or harmful powders.

- It is forbidden to use the Bucket Crusher in potentially explosive atmospheres.
- It is forbidden to crush material and rock using the outside of the bucket like a hammer.
- It is forbidden to work with the Bucket immersed in liquid.
- It is forbidden to handle material using the outside of the Bucket, apart from the front blade.
- It is forbidden to use the Bucket to dig in muddy soil or perform any operations on material other than crushing.
- It is forbidden to use the arm of the Bucket as a lever to move the excavator sideways.
- It is forbidden to use the Bucket on excavators with hydraulic systems that do not satisfy the flow and pressure requirements indicated by MB S.p.A. (see table chap.3 ).
- It is forbidden to crush material at temperatures higher than 100°C or lower than -20°C.
- When working, never operate with the excavator engine idling. Always rev the engine so that the hydraulic fluid can circulate at suitable pressures.
- The Bucket Crusher is used to crush and reduce the volume of inert demolition material. Pieces of hard material, such as granite or porphyry, cannot be crushed and to lengthen the lifetime of the jaws, do not crush damp materials. When crushing pieces of semi-hard material, the crushing of materials with maximum incoming dimension of 15 cm is allowed. If the above instructions are not observed, serious problems will occur to the sliding wedges and to the entire area surrounding the jaws. If these materials are continuously crushed, the overall structure of the bucket will also be subject to considerable fatigue.

**MB S.p.A. in the above cases shall not be liable for any premature wear of components.**

**Scheduled maintenance work must have been performed on the Bucket as indicated in the table on chap. 6 of the following manual.**

**Scheduled maintenance work must have been performed on the Bucket components subject to wear as indicated in the table on chap. 6 of the following manual.**

- Components subject to wear and marked with the letter (C) in the attached “periodic replacement of components” diagram, are replaced at the user’s expense as the fact that they are worn does not mean the product is defective.

**For all repairs and replacements covered by the warranty, the following conditions apply:**

- All transport costs to and from the authorised MB S.p.A. workshop shall be charged to the customer.
- All labour costs for making the repairs shall be charged to the petitioner
- All mission expenses relative to requests for technical work made to the parent company shall be charged to the customer.
- MB S.p.A. reserves the right to replace a component found to be faulty with an identical spare, following prior analysis by the manufacturer.
- Any accidental damage to the Bucket must be repaired using original MB spare parts. The use of unoriginal components prejudices / invalidates the warranty.
- The warranty does not cover damage to the Bucket caused by transport and/or handling.
- The warranty does not cover damage to the Bucket caused by errors made by the machine operator.
- The warranty does not cover damage to the Bucket caused by the incorrect setting of the hydraulic system of the operating machine connected to the Bucket.
- The warranty does not cover damage to the Bucket caused by the malfunction of the operating machine connected to the Bucket.
- For any points not covered above, consult the “USE AND MAINTENANCE” manual supplied with the Bucket.

The manufacturer reserves the right to make changes, adaptations and improvements without having an obligation to the user or the owner.



## **1.6 STRUCTURE OF THE MANUAL**

---

### **1.6.1 PURPOSE OF THE MANUAL**

The purpose of this manual is to provide the customer with all the information necessary not only to use the machine properly, but also to be able to manage it in the safest and most autonomous way possible.

### **1.6.2 IMPORTANCE OF THE MANUAL**

The manual contains important safety information; it describes methods for carrying out particular operations that, if not carried out, could cause damages to people, property and equipments. You could also find other useful information, that will improve your knowledge about the machine, as well as how to install and service it.

The Manual:

- is an integral part of the machine supply;
- is an essential instrument for machine use, running and maintenance;
- must be kept in good conditions for the entire life of the machine, and may be eliminated only after the machine has been scrapped;
- must be updated every time that manual update documentation is provided;
- must be provided to the machine purchaser, if it is sold to another user;
- reflects the technical status at the moment that the machine is sold.

### **1.6.3 CONTENT OF THE MANUAL**

This manual provides all the necessary information to install and service the Bucket Crusher machine. We request you to follow the instructions, in order to obtain optimal performances and a correct machine functioning.

Instructions contained in the manual:

- general information;
- safety regarding the machine use;
- machine description;
- machine transport;
- machine functioning;
- machine maintenance;
- machine demolition.

This manual was written in compliance with the instructions contained in:

- Directive 2006/42/EC and within Italian borders, d.Lgs 27 Jan 2010, nr. 17.
- UNI EN ISO 12100:2010
- Directive PED 2014/68/EU (article 4 subparagraph 3)

### **1.6.4 ADDRESSEES**

This manual is directed towards:

- the transport workers;
- workers employed in the installation, for connecting the machine to the auxiliary services (hydraulic);
- the responsible for functional test and personnel training;
- the machine operator;
- maintenance people;
- the responsible for final demolition;
- operators in charge of personnel security.

This manual must be kept by the assigned person in a suitable location, so that it is always available for consultation, and maintained in good conditions.

In case of loss or deterioration, the replacing documentation must be required directly to:

**MB S.p.A.**  
Via Astico, 30/A  
36030 - FARA VICENTINO (VI) - ITALY

---

**WARNING !**



It is mandatory that this manual is read before starting with any operation. The guarantee of the machine's correct functioning depends on the right application of all the instructions contained in this manual.

---

**1.6.5 RESPONSIBILITY OF THE USER**

The instructions provided in this manual do not replace, but integrate the obligations within the current legislation, concerning safety and accident prevention regulations.

With reference to what stated in this manual, **MB S.p.A.** declines all liability in case of:

- adverse use from national safety or accident prevention laws;
- incorrect preparation of the structures where the machine will be placed;
- failed or incorrect observation of the instructions provided in the manual;
- unauthorized changes on the machine;
- exceptional events.

The manual reflects the machine construction at the moment it is placed on the market. It is an integral part of it, and it complies with all laws, directives and standards that were effective at that time; it cannot be considered inadequate only due to successive updates based on new laws or new experiences. Any manual supplements, that the manufacturer considers appropriate to send to the users, must be kept together with the manual, as integral parts of it.

**1.6.6 CONSERVATION OF THE MANUAL**

It is obligatory to keep this manual and all its attached publications in an easily and accessible location near the machine, known to all users (operators responsible for running the machine and personnel responsible for servicing it).

Therefore:

- operators and maintenance people must be able to find it quickly at any moment;
- in case of loss or destruction, both for the manual and its attached publications, the customer may request a copy to **MB S.p.A.** (mbservice@mbcrusher.com);
- it must be kept, and follow the machine until its final demolition.

**1.6.7 SYMBOLS AND DEFINITIONS USED IN THE MANUAL**

The following symbols are used in the manual to point out particularly important information:



**ATTENTION - DANGER**

Signal of elevated danger: it indicates the extreme importance of the instructions to which it refers, and it is reported where there are dangers for the safety and health of the exposed people.



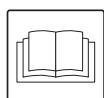
**INFORMATION AND PRECAUTIONS**

Useful instructions and recommendations: general useful information and instructions, to be observed and not disregarded, for all operators working with the machine.



**OPERATING INSTRUCTIONS**

Indicating a particular operating sequence.



**INSTRUCTION MANUAL**

Read carefully the information contained in the instruction manual.

---

## 2 SAFETY REGARDING THE MACHINE

---

### 2.1 GENERAL SAFETY WARNINGS

---

In order to guarantee maximum operating reliability and safety, **MB S.p.A.** has carefully selected the material and the components to use in the construction of its machines, inspecting them regularly prior to delivery.

A good performance in the course of time depends also on a correct use and suitable maintenance, according to the instructions contained in this manual.

Trained people must regularly perform the required maintenance, inspection and overhaul operations in order to prevent breakdowns or accidents.

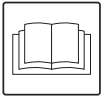
Operating anomalies are due, in most cases, to an incorrect maintenance.

**In case of doubt regarding the functioning, stop the machine immediately!**

The machine has been built according to the current technical level and the known technical safety rules in force.

The operator's failure to observe the safety instructions, or his imprudence in using the machine, could cause serious accidents to the operator himself or to other people, animals, or could also cause machine breakages or damage other properties.

For this reason, it must be kept in mind that the machine's safety devices guarantee protection against accidents only if used correctly, and according to the safety instructions described in this manual.



**BEFORE USING THE MACHINE, IT IS OBLIGATORY TO READ CAREFULLY THE SAFETY, USE, MAINTENANCE AND INTERVENTION INSTRUCTIONS, TO PROTECT ONE'S OWN AND OTHER PEOPLE'S SAFETY.**

---

#### **DANGER !**



**Be very careful and use maximum care when using the machine, as imprudence is the most frequent cause of accidents. The machine must be used by a competent adult.**

---

---

#### **ATTENTION !**



Before connecting the Bucket Crusher to the excavator, make sure that it is suitable to support all its foreseen characteristics and functions.

---

#### 2.1.1 ESSENTIAL CHARACTERISTICS OF THE MACHINE TOOL

Before you connect the crusher bucket to the operating machine and start it up, it is recommended to make sure that the basic requirements described here below are present in order to operate safely, safeguarding people's health.

- The final user has to make sure that the total weight of the load (weight of the bucket + weight of loaded material + coupling + any optional accessories) does not exceed the arm lifting capacity of the operating machine indicated in its manual; this check must be carried out for all positions with which you can operate. Remember to take into account the actual conditions of the operating machine, for example: arm type, carriage, counterweights, etc.
- The final user has to verify that the overturning capacity of the operating machine is suited for using the crusher bucket; this check must be carried out for all positions with which you can operate.
- To verify if your operating machines satisfies the minimum requirements, it is very important to contact the manufacturer / distributor.
- Driving the operating machine for the purpose of starting the equipment must be carried out exclusively by a competent and skilled adult, duly trained in driving site equipment.
- The activation command of the bucket must be a switch or a pedal, but must be of maintained operation type. To start the bucket, it is mandatory to keep the command pushed, to stop the bucket it is enough to release the command.
- The machine must be equipped with an emergency stop command capable of stopping all crusher

bucket movements as quickly as possible.

- Make sure the operator has fully understood the meaning of all commands and their functioning.
- The operator has to be familiar with and apply the safety conditions for using the machine in the workplace, in compliance with the laws in force in the user's country.
- In reference to right side, left side, front part and rear part, this refers to the view from the driver's seat of the excavator.
- The operator has to be familiar with and properly interpret all indications contained in the instructions manual and the signs affixed to the machine: this will help prevent damage to people, property and the operating machine.
- Absolutely comply with the instructions contained in the Operating and Maintenance Manual and with general EC accident-prevention standards, as well as with the standards in force in the user's country.
- Always use the personal protection equipment required by directives EEC 89/686 and EEC 89/656 and according to the laws of the country where the machine is operating.
- Carefully read all the information printed on the adhesive labels concerning safety affixed to the machine.
- The operator has to avoid using the Crusher Bucket under unsuitable conditions or when under the influence of alcohol or drugs.
- It is important to organize the worksite so as to carry out the lowest number of operations, consistent with the job to be carried out.
- It is important to organize the worksite so as to be able to carry out safe bucket loading operations; approach the pile slowly and load along the wall, safeguarding safety and health; loading operations should be carried out only on material that has been loosened up first.

### VERY IMPORTANT



#### REQUISITES OF THE WORK VEHICLE:

The weight of the work vehicle upon which the MB-L is installed, in order to maintain good stability and therefore manoeuvrability, is the following:

	MB-L120 S2	MB-L140 S2	MB-L160 S2	MB-L200 S2
LOADER	≥ 4 < 10 TONS	≥ 4 < 10 TONS	≥ 7 < 10 TONS	≥ 7 < 10 TONS
BACKHOE LOADER	≥ 4 < 10 TONS	≥ 4 < 10 TONS	≥ 7 < 10 TONS	≥ 7 < 10 TONS
SKID LOADER	≥ 2.8 TONS	≥ 3 TONS	≥ 4.5 TONS	≥ 6 TONS



#### ATTENTION !

Before setting the machine tool, make sure that no one is near it or in its working range.

- **Keep children, people and animals away** from the machine tool while using the Bucket Crusher.
- **It is forbidden to climb** the machine structure.
- **It is absolutely forbidden** to come nearer to the machine while it is functioning.



#### DANGER !

If the machine jams, before carrying out any operation, turn the machine tool off and secure it (excavator, etc...).



#### ATTENTION !

The machine must not be used in case of anomalies. All liabilities are declined in case of injuries to people and/or properties, if the operator uses the machine with anomalies.

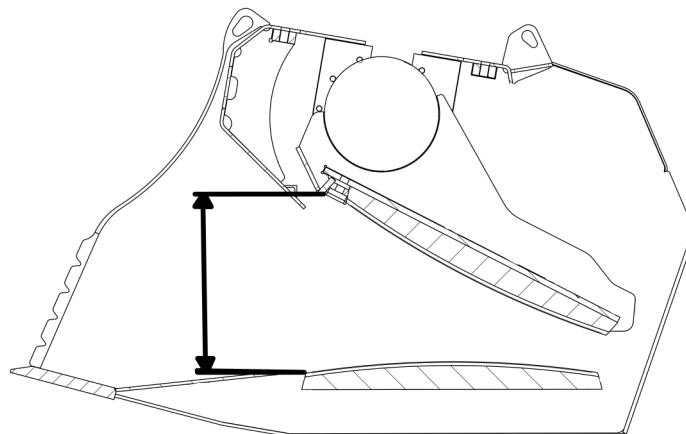
## 2.2 FORESEEN USE

The crusher bucket (commercially known as Eco-Crusher) is an interchangeable piece of equipment that changes the function of a machine; it is sold to be assembled on a set of different machines (excavators or similar equipment), as long as they meet the minimum requirements in terms of weight and characteristics of the hydraulic system. It is designed to crush inert materials and/or demolition residue; the minimum specific requirements are detailed in chapter 3.

It is intended exclusively for professional use, as there are no other foreseen or foreseeable situations that may vaguely suggest the use of the machine for non-professional applications; since this is a piece of equipment which, in terms of intended use and construction, can only function when coupled to an operating machine, it is expected that the machine be used only by professionally competent and specifically authorized operators.

In order to operate, the crusher bucket does not require the presence and/or the assistance of other people in addition to the operator of the main operating machine, so it is not expected for other people to be exposed to risks and/or dangers. As regards maintenance, it must be carried out as described in the Operating and Maintenance Manual, and only by skilled personnel. The specific requirements are listed on chapter 6 in the Operating and Maintenance Manual. In case it is necessary for other people to be working or standing in proximity of the equipment while it is operating, defining the dangerous zone as the zone in which there may be dust generated by the processing activities, other people's exposure to risks and/or dangers can be limited through the use of PPE (face masks, specific filters, helmets, etc.) and according to the laws of the country where the machine is operating.

The Crusher Bucket is used for the crushing and volumetric reduction of inert materials coming from demolitions. With regards to this, please note that the crushing of materials with maximum incoming dimension of 15 cm is allowed, whereas the crushing of extremely hard materials such as porphyry or granite is not allowed.



---

## 2.3 UNFORESEEN USE

---

The crusher bucket is not prepared for other purposes not listed in paragraph 2.2.

Uses and/or jobs other than the ones for which the equipment was built are not foreseen:

either as instinctive reactions in connection with possible malfunctions / breakdowns / accidents or other operating anomalies (no anomaly can generate abnormal situations that cannot be dealt with by simply cutting off power to the machine);

or as a consequence of any negligence in using the machine by an incompetent or inadequate person (the equipment depends on a main operating machine whose use must be considered subject to authorization due to the use, for example, of an ignition key).

**Furthermore, the equipment is NOT intended for the following uses:**

- Direct extraction or excavation
- As something to lean the operating machine against
- With temperatures above 100°C or below -20°C
- To transport people, animals and things
- In the presence of flammable or explosive materials or materials that may generate flammable, explosive, toxic or harmful dust
- For lifting operations

**The following is also forbidden:**

- Approaching the crusher bucket while it is working
- Climbing onto the frame of the equipment
- Carrying out any type of job on the crusher bucket while it is working
- Carrying out any type of operation that may jeopardize the operator's safety or the safety of people or property located nearby
- Using the Crusher Bucket in potentially explosive atmospheres
- Crush materials and various rocks with the outer part of the case, in other words as a hammer.
- Operating with the Bucket submerged in liquids
- Using the Bucket to move material using the external parts of the case other than the front cutter.
- Using the Bucket to crush metals
- It is forbidden to operate the bucket on operating machines whose hydraulic parameters are not suitable for the correct working of the bucket



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**ATTENTION !**

MB S.p.A. does not take on any liability in case of damages to people and/or properties, due to unforeseen uses of the Bucket Crusher, by the customer or a third part.

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**WARNING !**

Do not use the bucket crusher turning the flow of oil to the contrary in any circumstances; this operation could lead to a damage to the seals of the motor support, and consequently to damage to the hydraulic motor itself.

---



---

**WARNING !**







The bucket crusher should only be used with the system simple effect (use type hammer).

---

## 2.4 USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

Before the operator, designated by the employer (customer) to use this machine, begins with starting, using, servicing or making other interventions on it, he must wear all the personal protective equipment (PPE), necessary to guarantee his protection, according to what is foreseen by the general accident prevention laws in force in the Country in which the machine is used.

The personal protective equipment that the operator must use is listed below:

	Use protective garments
	Use protective footwear
	Use protective gloves
	Use protective glasses
	Use protective headsets
	Use protective helmet



### ATTENTION !

**MB S.p.A.** declines all liability for any accidents that may occur to the operator, due to the lack of use of the personal protective equipment.

## 2.5 ADHESIVE SAFETY LABELS

Adhesive safety labels are applied to the Bucket Crusher.

**All the adhesive safety labels listed here below must be always in perfect conditions and well visible.**

### INFORMATION

Before using the machine, the operator must read the information in the instruction manual regarding the area pointed out by the label.

It is obligatory to replace the damaged labels, requesting them to **MB S.p.A.**












### ATTENTION !

The operator must know and comply with the contents of the adhesive labels applied to the Bucket Crusher. Failed observation could in fact cause serious accidents.

The adhesive labels applied on the Bucket Crusher are arranged as shown in the figures here below, using the progressive numbers indicated in the label key as a reference.

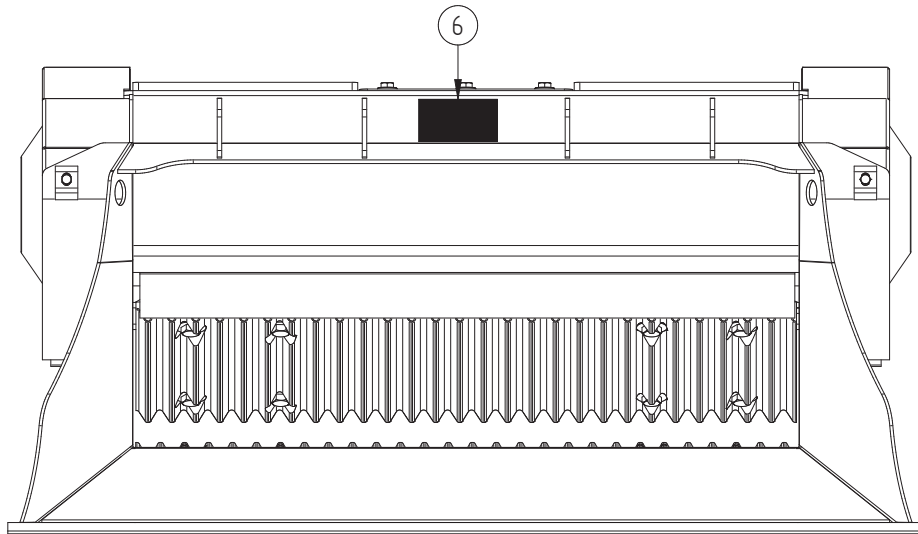
**For every label, a code is provided for reordering.**

The safety labels are represented and explained in the following table:

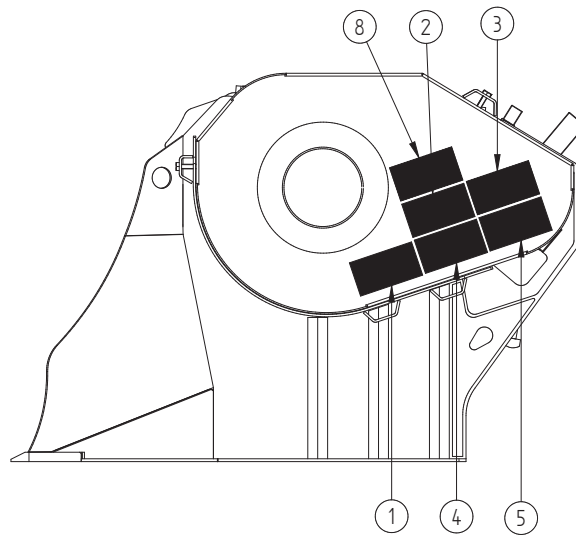
	<p><b>1. ATTENTION:</b> It is forbidden to approach or stand near the Bucket Crusher. Crushing hazard. COD. 801000101</p>
	<p><b>2. ATTENTION:</b> It is forbidden for the operator or other people to climb the Bucket Crusher.  COD. 801000201</p>
	<p><b>3. ATTENTION:</b> Before using the Bucket Crusher, read the manual in order to adequately understand the instructions and its functioning. The Bucket Crusher must be used only by a competent adult. Pay attention and take care when using the machine, as imprudence is the most frequent cause of accidents. COD. 801000301</p>
	<p><b>4. ATTENTION:</b> It is forbidden to start and use the machine without the safety protections.  COD. 801000401</p>
	<p><b>5. ATTENTION:</b> Turn the machine's motor off and remove the keys from the panel before working on the Bucket Crusher. COD. 801000501</p>
	<p><b>6. ATTENTION - RESIDUAL RISK:</b> It is forbidden to go near jaws while the machine is working and feeding hoses are connected. COD. 801006002</p>
	<p><b>7. ATTENTION:</b> Lifting hook</p>
	<p><b>8. ATTENTION:</b> It is forbidden to approach or stop near the Bucket Crusher. Danger of object expulsion. COD. 801001801</p>
	<p><b>9. OBLIGATION:</b> Obligation to use the personal protective equipment (PPE) necessary to guarantee protection to the operator, according to the general accident-prevention regulations in force in the country of operation of the machine.</p>



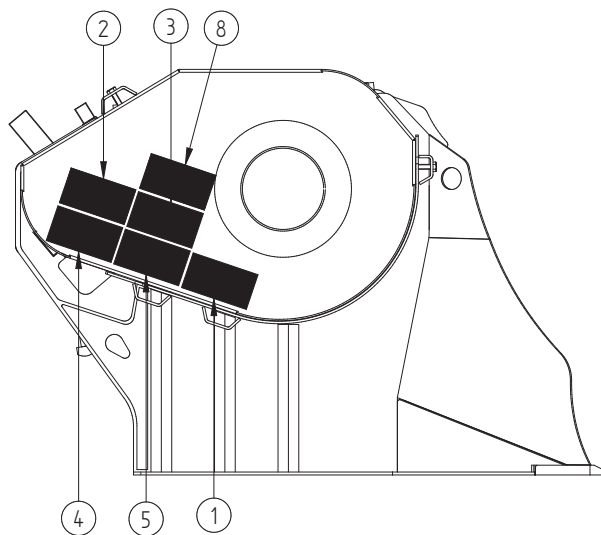
FRONT SIDE



RIGHT SIDE



LEFT SIDE



## 2.6 RESIDUAL RISKS

<p><b>Residual risks</b></p> <p>In case there are some residual risk, even if all protection's measures have been taken and attached to the project of the machine, the operator must take all others protection measures.</p>	<p>The residual risk interests jaws, the working part of the machine. It's not possible to enclose them or to protect them with further devices that deny the risk to be kept in touch with jaws.</p> <div data-bbox="927 398 1193 577" data-label="Image"> </div> <p>Please consider that a part from the operator who uses the excavator, nobody else is supposed to be in the action ray of the machine. All residual risks are marked in the Use and Maintenance manual supplied together with the machine.</p>
<p><b>Risk estimation</b></p> <p><b>Damage entity:</b> High <b>Probability:</b> Remote</p>	<p><b>Risk evaluation</b></p> <p>Negligible risk</p>
<p>In order to avoid damages to persons or things, connected to the residual risk, it is important the machine is used by trained personnel, who will have to read this Use and Maintenance Manual, paying attention to all safety labels. The user, in case of maintenance on the machine, has to make sure the machine is not working and feeding pipes are not connected.</p>	

### 2.6.1 STANDARD EQUIPMENT - KIT BOLTS

Following Directive 2006/42/CE, all the protection case needs min 2 bolts for the fixing, despite the fact that also with only one bolt there is no risk that this moves from its place (the bolt has to be correctly fixed with the right key furnished together with the equipment).

Every bucket has been equipped with a kit screw (see the table down), together with standard equipment, so the substitution of the screw is immediate in case of loss or damage. This facilitates the customer and the customer can work in high security. It is important to replace the damaged component immediately.



#### ATTENTION !

Before you proceed with the removing of protection case, it is necessary to check that the operating machine is off and the oil supply hoses are disconnected

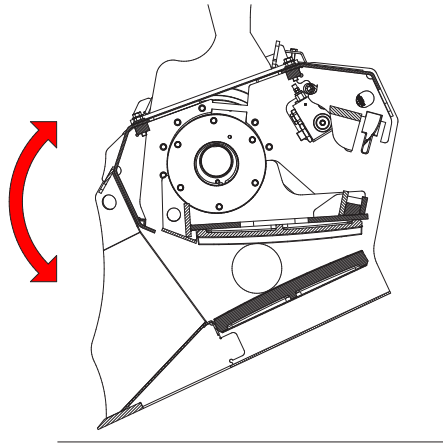
cod. KBDM2006		
Product Code	Description	Quantity
100102001	screw TE M10x20zn	6
100102501	screw TE M10x25zn	6
106103001	plate washer M10x30 sp.4 zn	12
108001001	washer DE M10 zn	12

If you need the spare parts, the bolts and screws of blocking case, MB S.p.A. is at your disposal. The bolts that are used for the clamping are commercial and you will also find them easily in your country.

## 2.7 ADDITIONAL SAFETY DIRECTIVES

### 2.7.1 PROCEDURE FOR UNBLOCKING THE MATERIAL

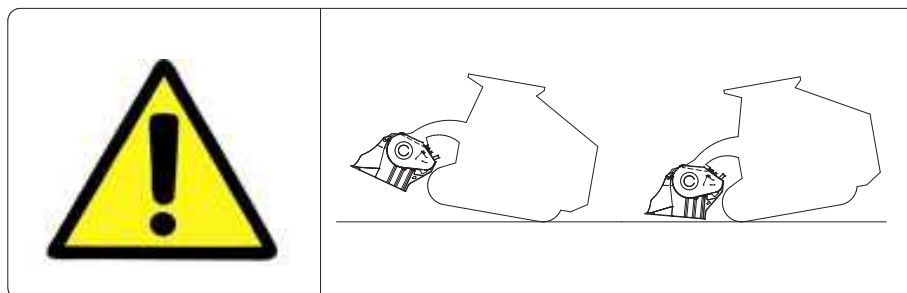
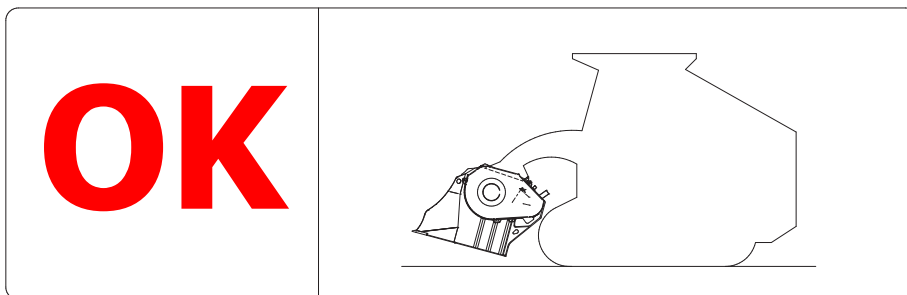
If material gets jammed inside the bucket crusher and blocks it, position the bucket crusher vertically with the blade facing downwards and lightly strike the ground until the jammed material falls out of the mouth. The operator must never personally and/or manually remove any pieces of material jammed inside the bucket. MB declines all liability if the above is not observed.



### 2.7.2 STABILITY OF THE SYSTEM “WORKING MACHINE AND BUCKET CRUSHER”

Make sure the load capacity of the operating arm of the working machine is greater than the fully laden weight (own weight plus the weight of the loaded material) of the bucket crusher (to prevent the danger of tipping when the arm extends and rotates by 360°).

#### CORRECT POSITION OF THE WORKING MACHINE



#### RISK OF TIPPING

#### ATTENTION!

**IF THE SKID LOADER WEIGHT IS NOT SUITABLE, YOU MAY FACE A REAL TIPPING HAZARD.**



### 3 TECHNICAL DESCRIPTION OF THE BUCKET

#### 3.1 TECHNICAL DATA MB-L

Description		MB-L120 S2	MB-L140 S2	MB-L160 S2	MB-L200 S2
Length +/- 3 %	mm	1230	1230	1300	1435
	inch	48	48	51	56
Width +/- 3 %	mm	1230	1530	1630	2030
	inch	48	60	64	78
Height (without connector and plate) +/- 3 %	mm	800	800	835	835
	inch	31	31	32	32
Max. Capacity +/- 20 %	mc	0,19	0,20	0,35	0,43
	cyd	0,25	0,26	0,45	0,56
Unladen weight (without connector and plate) +/- 5 %	Ton	0,95	0,98	1,45	1,50
	lb	2090	2160	3196	3306
Oil flow range allowed	l/min	95 / 115	95	110 / 130	120 / 140
	gpm	25 / 30	25 / 30	30 / 35	35 / 40
Pressure range in the IN line	bar	200 / 220	200 / 220	200 / 220	200 / 220
	PSI	2900 / 3200	2900 / 3200	2900 / 3200	2900 / 3200
Cautionary limit back pressure not to be exceeded	bar	10	10	10	10
	PSI	145	145	145	145
<b>BUCKET INLET MOUTH SIZE</b>					
Length +/- 1%	mm	800	800	1185	1185
	inch	30	30	46	45
Height +/- 6%	mm	250	250	280	280
	inch	10	10	12	12
<b>OUTPUT ADJUSTMENT</b>					
Minimum +/- 20%	mm	15	15	15	15
	inch	0,6	0,6	0,6	0,6
Maximum +/- 10%	mm	70	70	50	50
	inch	2,7	2,7	2	2

#### ATTENTION!

Jaw wear will change the values indicated above.

#### INFORMATION

The correct way to measure the flow coming from the operating machine is to use a flow meter connected to the IN & OUT pipes coming from it. Depending on the model, the flow meter is also able to check the pressure combined with the flow supplied.



**CAUTION!**



The hydraulic force generated by the load-bearing machine is translated into effectiveness of the kinematic movement. The incorrect hydraulic setting, whether higher or lower than the values indicated in the above table, causes serious malfunctions and structural damage/stress.

**CAUTION!**



The minimum pressure and flow rate values must be simultaneously present in the auxiliary system. The lack of one or the other value determines, in addition to a performance lower than the potential of the equipment, malfunctions and even serious structural damage.

**ATTENTION!**



The minimum pressure and flow rate values must be simultaneously present in the auxiliary system. The lack of one or the other value determines, in addition to a performance lower than the potential of the equipment, malfunctions and even serious structural damage.

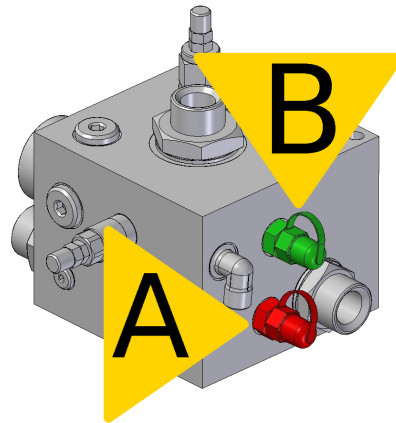
**INFORMATION**



The correct way to measure the flow coming from the operating machine is to use a flow meter connected to the IN & OUT pipes coming from it. Depending on the model, the flow meter is also able to check the pressure combined with the flow supplied.

Delivery and return pressures on the bucket can be measured by connecting the pressure gauges supplied as standard with the equipment (or other of suitable scale) to the pressure testers on the hydraulic unit located inside the rear compartment.

- A:** POINT OF CONNECTION DELIVERY PRESSURE
- B:** POINT OF CONNECTION RETURN PRESSURE



**3.1.1 OIL SPECIFICATIONS**

Viscosity at 100°C	mm <sup>2</sup> /s 6,8
Viscosity a 40°C	mm <sup>2</sup> /s 45
Viscosità index	100
Flashpoint OC	212°C
Pour point	-27°C
Volumetric mass at 15°C	0,880 Kg/l
Filter porosity	Max 3 micron

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### 3.2 EXCAVATOR'S HYDRAULIC REGULATION

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The excavator must be adjusted as indicated by its manufacturing company; if these indications are not followed correctly, structural failures could occur.

Check that:

- The carrying capacity of the working arm is greater than or equal to the weight at full load (its own weight, plus the weight of the loaded material) of the Bucket Crusher (to prevent overturning while the arm is traveling, or rotating 360°);
- The control of the oil delivery to the Bucket Crusher must be of maintained operation type;
- The machine must be equipped with an emergency stop control, that can stop the movement of the Bucket Crusher in the shortest period of time possible.

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### 3.4 INTERFACES

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In order to function, the crusher bucket requires the operator to carry out special manoeuvres; the operator interface is located on the operating machine. The operation that regulates the sending of the equipment takes place by means of a special ON / OFF command with continuous action, such as a switch or a pedal directly; they are both located inside the control cab of the operating machine. As regards the handling operation of the crusher bucket, the operator has to use joysticks that, depending on the operating machine type and model, allow movement of the excavator arm, which is in turn connected to the bucket. Movement takes place by means of hydraulic pistons managed precisely by the joysticks positioned inside the cab.

Driving the operating machine for the purpose of starting the equipment must be carried out exclusively by a competent and skilled adult, duly trained in driving site equipment.

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## 4 GENERAL DESCRIPTION

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### 4.1 GENERAL DESCRIPTION

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#### ATTENTION !

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Make sure that the transport and handling areas cannot be accessed by unauthorized people.

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The Bucket Crusher is prepared for the transport to the customer by **MB S.p.A.**, which is responsible for the packaging and shipping phases.

In addition, the following is supplied together with the machine:

- Information kit (instruction manual, hydraulic circuit warning and CE certificate).

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### 4.2 MACHINE TRANSPORT

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The transport must be done by professionally qualified people.

The machine must be transported avoiding damages to the parts.

Before handling the machine, check that:

- All protections and guards are correctly closed and secured;
- With relation to the type of transport, the machine and its components should be protected from all possible impacts and stresses.

Normally, the machine is sent to the user by land, or by truck.

When the machine arrives, the user must:

- Control the Bucket Crusher upon delivery, to check if there are possible damages (breakages or substantial dents) caused by the transport.

- In this case, it must be reported immediately to the transport company, and the clause “**Accepted with reservation**” must be written on the delivery note.

**If there are damages, contest them to the transport company, via a written report within eight days from the machine receiving.**

If damages caused during transport are noticed upon delivery, this must be reported promptly to **MB S.p.A.**

It is also necessary to check that the material that has arrived corresponds to what listed in the detailed shipping list. Also in this case, any irregularities must be reported promptly to **MB S.p.A.**

#### 4.2.1 MACHINE TRANSPORT: FASTENING

Each time the Bucket Crusher must be transported, it must be anchored to the truck’s loading floor using cables that pass through the specific anchoring points, as shown in the following photos.



#### ATTENTION !

Fasten the package using a belt in order to avoid it moves during the transport.



#### 4.2.2 UNLOADING AND MOVING THE CRUSHER BUCKET



#### ATTENTION !

Upon arrival to the customer site, the machine must be handled with maximum care and moved both outside and inside, with suitable means for its capacity, with regard to its own weight.



All parts of the machines, where the lifting hook can be used are properly indicated by this sticker.

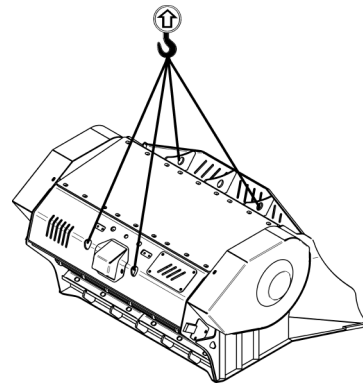
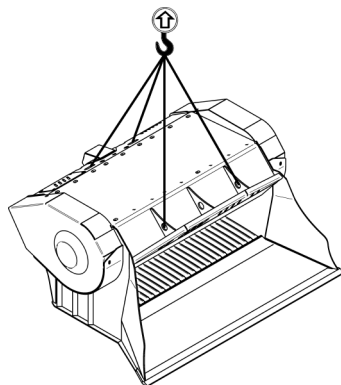


### OPERATING INSTRUCTIONS

- The unloading, lifting and handling operations must be directed by a single responsible person, and be carried out by suitably instructed, qualified people. They must wear the proper accident prevention protections, and have suitable equipment, available before proceeding with the operations.
- Before starting with these operations, identify and check the entire machine handling area, including where the transport vehicle will be parked and the installation site, in order to identify any dangerous points.
- It is forbidden to climb up the machine, to stand and/or pass under it during handling.
- It is forbidden for all unauthorized people to access the transport and handling areas.
- All operators must keep a safety distance, in order not to be hit in case the machine or its parts fall to the ground.
- The vehicle used for lifting and transport must have a carrying capacity suitable for the weight to raise.
- Check that the lifting cables are certified and have the label reporting the manufacturer and carrying capacity data.
- Inspect the cables before using them: they must not be damaged, have broken wires or signs of wear.
- Do not twist or knot the cables. Follow the instructions indicated by the manufacturer.
- The same warnings must be applied to the use of chains.

### LIFTING REGULATIONS FOR UNLOADING THE BUCKET CRUSHER

- Prepare the lifting system (travelling crane) with a length and a carrying capacity suitable for the weight to support.
- Proceed with the settlement, moving the lifting system with short movements, until optimal stability conditions are obtained.
- Lift slowly, hooking to the specific lifting hooks (see following photo), and move with maximum care, avoiding oscillations.



### 4.2.3 EQUIPMENT STORAGE

The equipment must be stored in a covered place, protected from atmospheric agents that can cause the rapid oxidation of the ferrous components, and at temperatures between  $-10^{\circ}$  and  $+40^{\circ}$ . Exposure to atmospheric agents and temperatures outside the specific range, may deteriorate the ferrous wear components and, above all, the plastic / rubber gaskets.

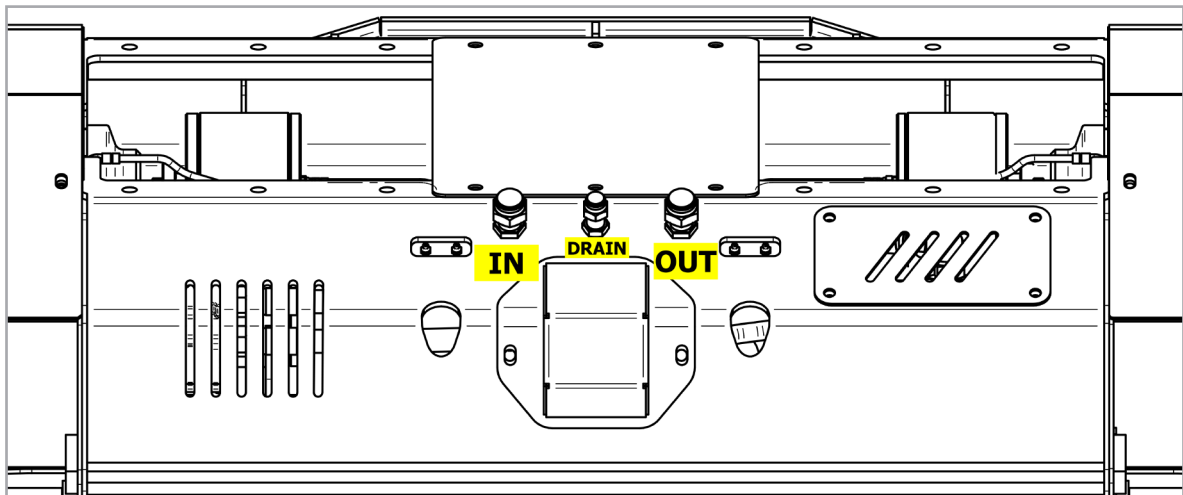
We recommend keeping the equipment clean during storage. Make sure to plug the supply pipes so as to avoid contaminating the hydraulic circuit. Pay particular attention to removing the hydraulic oil residues. The equipment must rest on the ground or, in any case, on plana surface such not to cause the risk of overturning. We recommend lubricating the moving parts before each start-up if the equipment has been stationary for more than 30 days.



### 4.3 HYDRAULIC SYSTEM CONNECTION

The Crusher Bucket is operated by using the hydraulic circuit of the work machine it is attached to. The supply, return and, where required, draining hoses must be connected to function and operate properly. For the MB-L model range, the universally used threading for the fittings are British Standard Pipe Parallel (BSPP) type fittings. All the fittings are considered to be “male” type fittings. The hose coming from the heavy machinery, or excavator, must be mounted to a “female” type fitting. The specifications of the fittings on the buckets of the range are detailed below, in order to prepare the connection flexible hoses to the excavator with the correct coupling.

	IN	OUT	DRAIN
<b>MB-L120 S2</b>	3/4 inch BSPP	3/4 inch BSPP	1/2 inch BSPP
<b>MB-L140 S2</b>	3/4 inch BSPP	3/4 inch BSPP	1/2 inch BSPP
<b>MB-L160 S2</b>	3/4 inch BSPP	3/4 inch BSPP	1/2 inch BSPP
<b>MB-L200 S2</b>	3/4 inch BSPP	3/4 inch BSPP	1/2 inch BSPP



The IN line flexible pipe must have a minimum diameter of 3/4 inches and be suitable for a pressure tolerance of minimum 250 bar.

The return line flexible pipe must have a minimum diameter of 3/4 inches and be suitable for a pressure tolerance of minimum 50 bar.

The drain line flexible pipe must have a minimum diameter of 1/2 inch and be suitable for a pressure tolerance of 50 bar.

#### ATTENTION!

Check that the hydraulic pipes used for the connection correspond to the characteristics required by UNI EN ISO standard 4413: 2012 standard and that in any case they have suitable flow and pressure tolerance characteristics as indicated in chapter 3.1 of this manual .

In case the hosting machine hydraulic layout presents the delivery line the opposite way of the IN fitting present in the MB-L crusher bucket it is possible adapt the hydraulics of the unit. remove the pipe connected to the IN feed-through and plug it to the OUT one and do the same with the OUT one in the IN. Pay attention to swap the labels too.

#### CAUTION!

During the swapping operation of the flexible hoses on the IN and OUT fittings, make sure that the machine is oil free, by closing the valves that connect the flexible hoses to the excavator . In any case, collect any spills in appropriate containers.

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## 5 MACHINE FUNCTIONING

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### 5.1 INSTALLATION

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In this chapter, an outline for common operations during the installation phase is reported.



#### 1) CHECK OF THE EXCAVATOR'S CALIBRATION

CHECK THAT THE EXCAVATOR IS CORRECTLY CALIBRATED, WITH THE REQUIRED PRESSURE AND FLOW (THE CALIBRATION OF THE EXCAVATOR MUST BE DONE BY THE CUSTOMER, AT HIS COST AND RESPONSIBILITY).



#### 2) GENERAL CHECK OF THE BUCKET CRUSHER

CHECK THAT THE BUCKET CRUSHER IS EQUIPPED WITH ALL THE NECESSARY THINGS, ITS GENERAL SUPPLY (ADJUSTMENT SHIMS, MAINTENANCE AND USE MANUAL, STANDARD EQUIPMENT).



#### 3) CHECK OF THE CONNECTION OF THE FLEXIBLE HOSES

CONNECT THE FLEXIBLE HOSES FROM THE EXCAVATOR TO THE BUCKET CRUSHER. PAY ATTENTION TO THE FEED AND RETURN HOSE.



#### 4) CHECK THE VALVE OPENING ON THE EXCAVATOR'S ARM

CHECK THAT THE VALVES ON THE EXCAVATOR'S ARM ARE OPEN.



#### 5) CHECK OF THE PRESSURE ON THE RETURN LINE (GREEN PRESSURE TEST)

CHECK THE PRESSURE ON THE RETURN LINE - TEST THE PRESSURE ON THE GREEN VALVE ON THE HYDRAULIC PLANT.

#### 6) CHECK OF THE PRESSURE ON THE FEED HOSE (IF POSSIBLE, BLOCKING THE BUCKET CRUSHER)

TO BE VALUED IN THE CASE THAT THE BUCKET CRUSHER DOES NOT WORK CORRECTLY.

#### 7) CHECK OF THE SPRING

CHECK THE WORK AND THE CORRECT MOVEMENT OF THE SPRING.

#### 8) MAINTENANCE AND PERIODICAL CHECKS

READ CHAPTER 6 OF THE USE AND MAINTENANCE MANUAL.

### 5.2 MACHINE START-UP

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#### ATTENTION !

Before connecting the Bucket Crusher to the machine tool, make sure that it is suitable for all the foreseen characteristics and uses (see the previous paragraphs 2.1 and 3.2).

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#### ATTENTION !

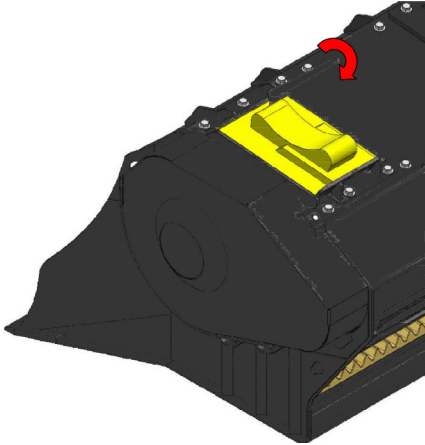
Make sure that the machine tool, that operates the Bucket Crusher, has a hydraulic circuit with a minimum load, a delivery pressure and a return backpressure as indicated in table 3.1.

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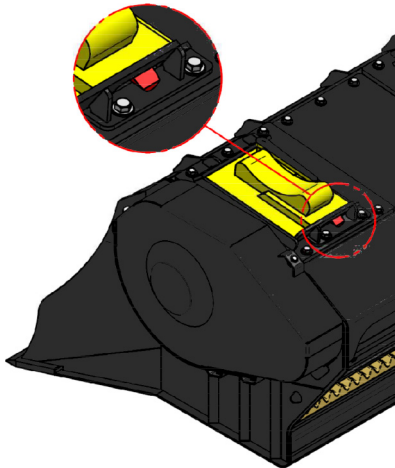
### 5.2.1 CONNECTING THE MACHINE WITH A MECHANICAL COUPLING



Position the skidloader so that the plates of the male coupling can lay on the female plates.



Turn the blocking leads so that the posterior safety pin, marked in red can come out. If the pin will not block the plate safely, remove the male coupling and repeat the operation.



Block pins using the safety devices against the accidental disconnection.

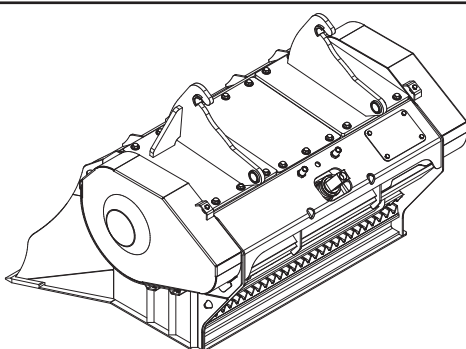
Then, connect the hydraulic hoses according to the instructions provided in chapter 4.



**ATTENTION !**

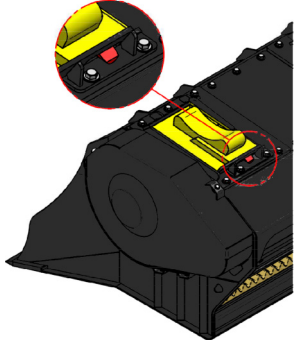
These operations have to be done by the same machine operator.

### 5.2.2 CONNECTING THE MACHINE WITH AN HYDRAULIC COUPLING



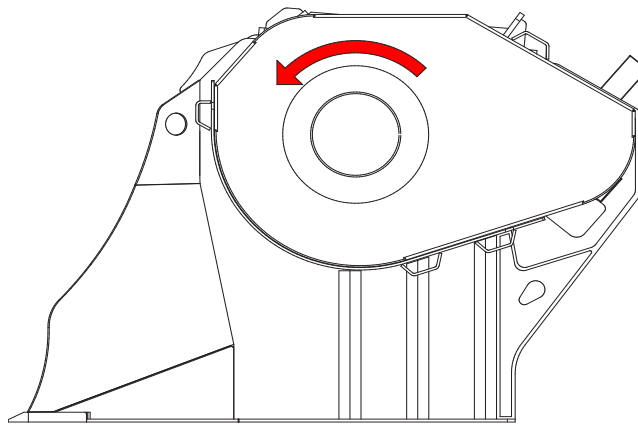
Take position with the machine so that the posterior pins lay on the female coupling.

Acting on the leads of the machine, center the posterior pin in the female bush of the coupling.



Acting on the leads of the machine, operate the hydraulic system to block the coupling. Verify that the operation has been completed in the correct way.

- Once the Bucket Crusher has been connected, turn the machine tool's motor on, and let it idle.
- Activate the rotation control, on the control panel located in the cabin, in a slow and gradual manner, making sure that the jaw rotates in counter-clockwise direction, looking from the transmission side.
- Let the motor run for few minutes.  
During winter, with low temperatures, leave it started up for approximately 10 minutes, so that the temperature of the hydraulic oil increases of around 40° before starting to work.
- At this point, stop the Bucket Crusher rotation, start with the filling phase, activate again the control in a slow and gradual manner, increasing the speed to the specified maximum, as explained in the chapter 5.
- Then, rotate the Bucket Crusher slowly, so that the outlet faces downward, helping the crushed product to exit.
- Once the product inside the Bucket Crusher has been crushed, repeat the loading operation.



### 5.3 JAMMINGS

#### **ATTENTION !**

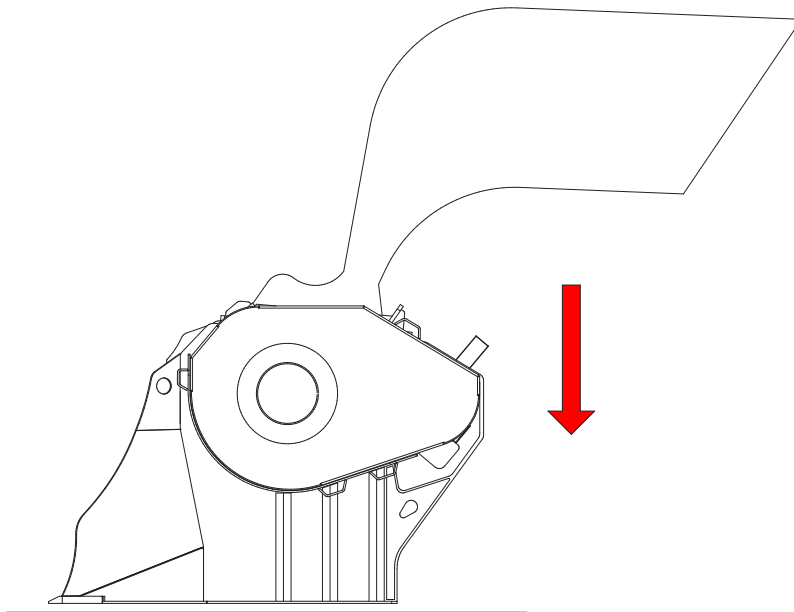
If the machine jams, it is severely forbidden to bang the Bucket Crusher on the ground. In case of damages caused by this operation, the manufacturer refuses all liability.

If the Bucket Crusher jams, proceed as follows:

- Stop the jaw movement;
- Position the Bucket Crusher so that the loading entrance faces downward;
- Unload the material contained in the Bucket Crusher;
- Move the jaw slowly;
- If necessary, shake the Bucket Crusher slightly, to its stop position.

The pictures shows the way the bucket MUST NOT be hit on the ground.





**ATTENTION !**

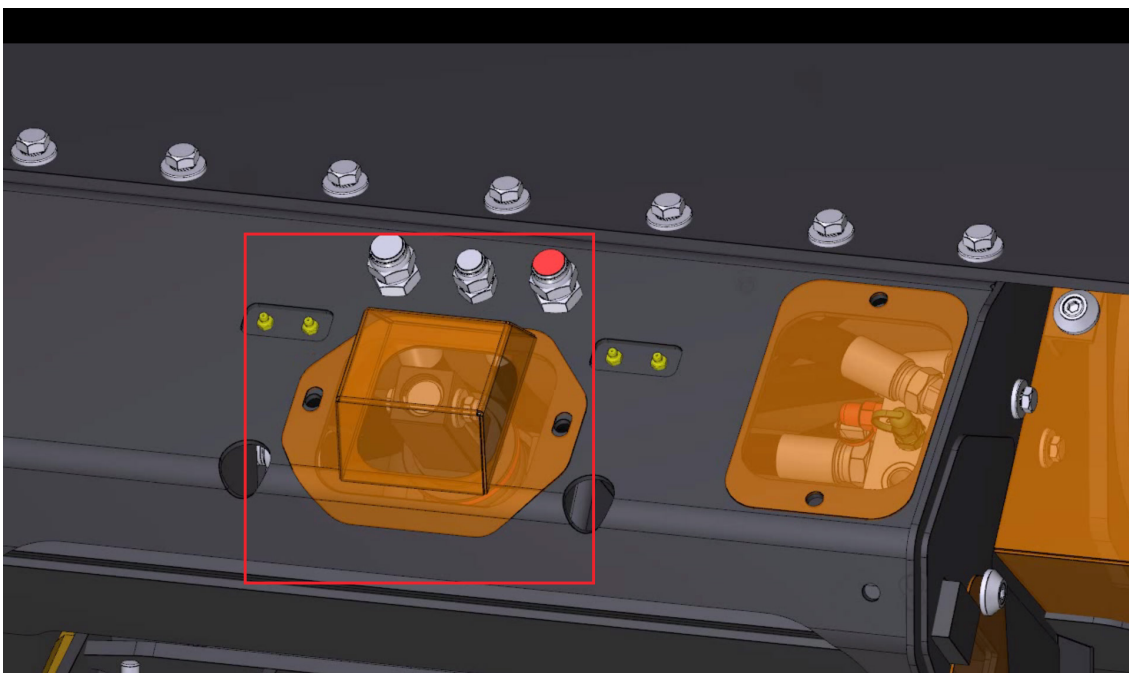
It is strictly forbidden to hit the bucket on the ground in its horizontal position, as showed in the picture here above. In case this indication will not be respected, the machine could suffer some damages and MB S.p.A. will not recognize any liability.

**5.4 ADJUSTMENTS ON THE MACHINE**

**5.4.1 JAW DISTANCE ADJUSTMENT**

THE IMAGES BELOW ARE AS EXAMPLE

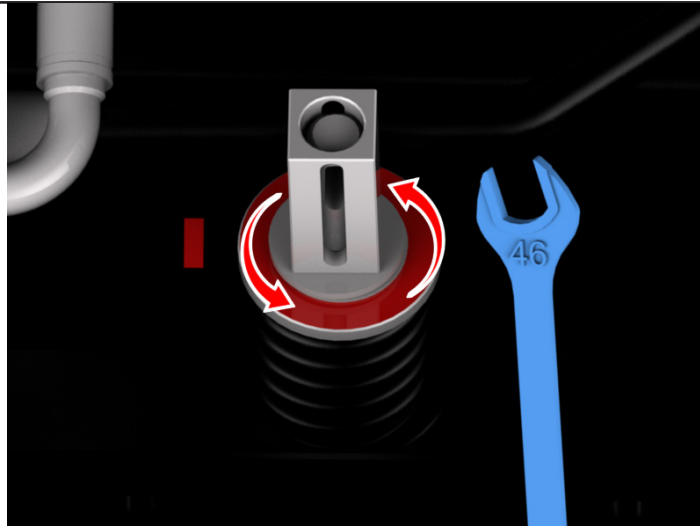
To adjust the distance between the jaws, remove the rear compartment casing. Each bucket is equipped with the matching wrenches to perform the adjustment.



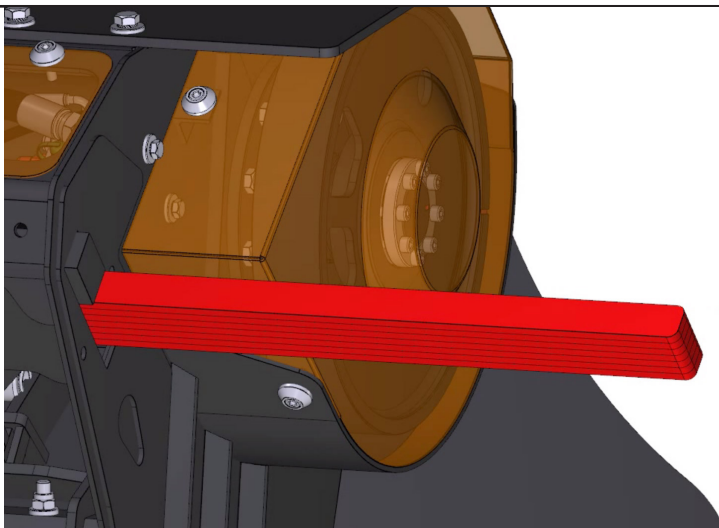
1: remove the safety screw blocking the square pipe/s by using the two 17 wrenches.



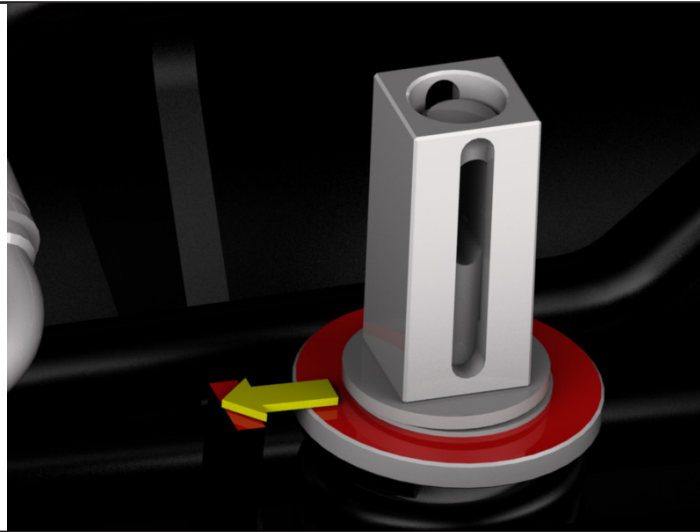
2: unscrew the square pipe by using the 46 wrench. In this way the upper jaw shall descend



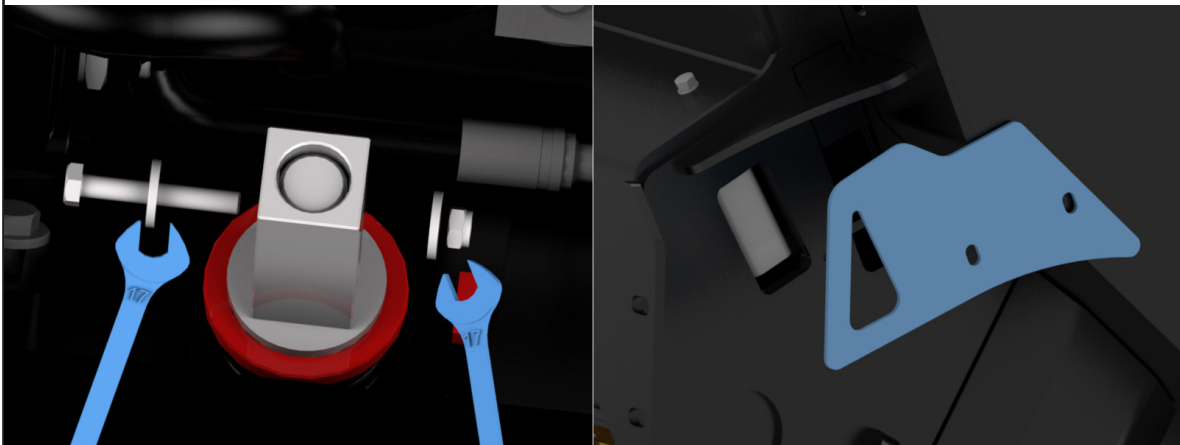
3: Thus the space where to enter the shimming bars will be created. Remove the shims from the storage compartment and enter them in the specific compartment. Insert them to decrease the size of the exiting material, vice-versa remove them to increase the size of the granulometry.



4: screw back into place the loosened square pipe. Make sure that the red perimeter is parallel to the indicator to maintain the correct spring compression.



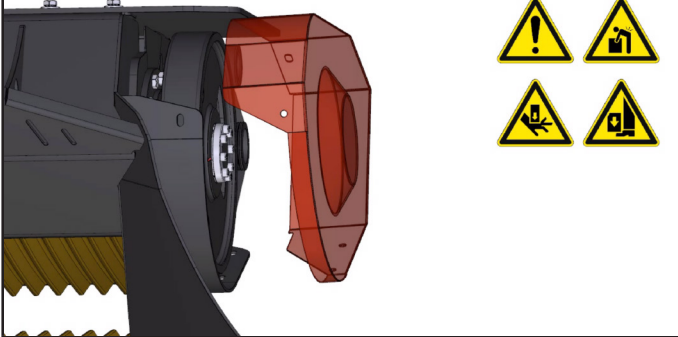
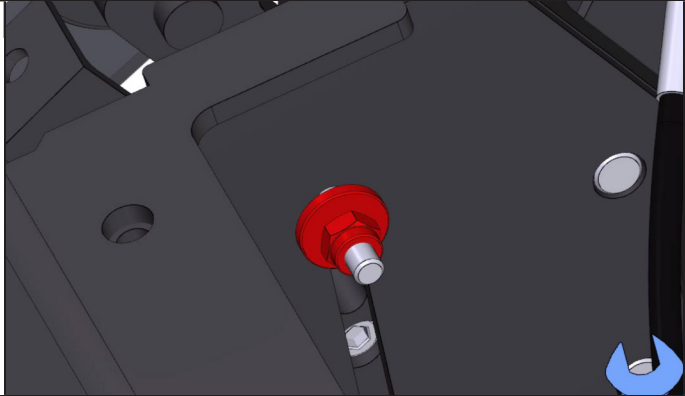
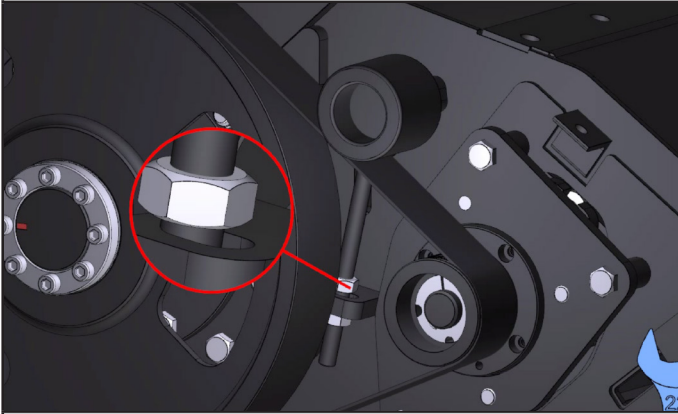
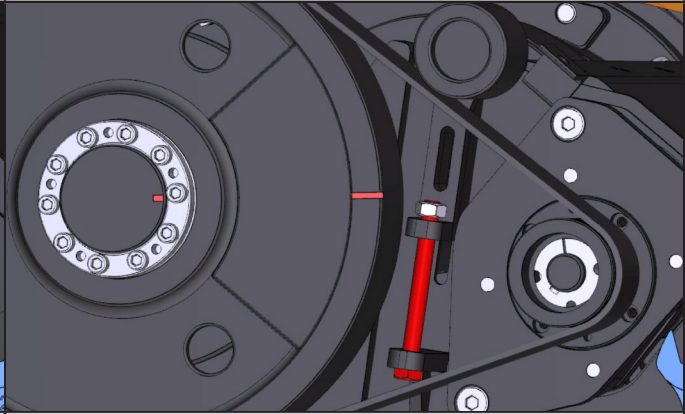
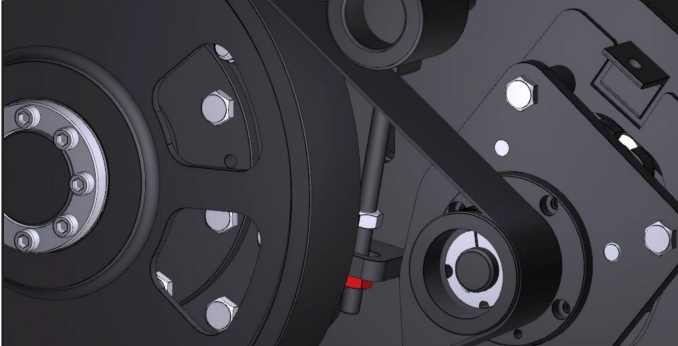
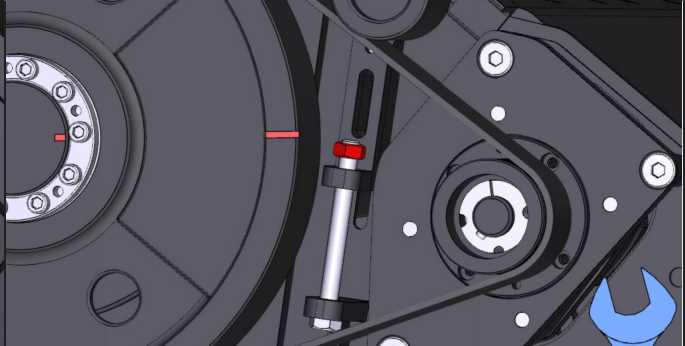
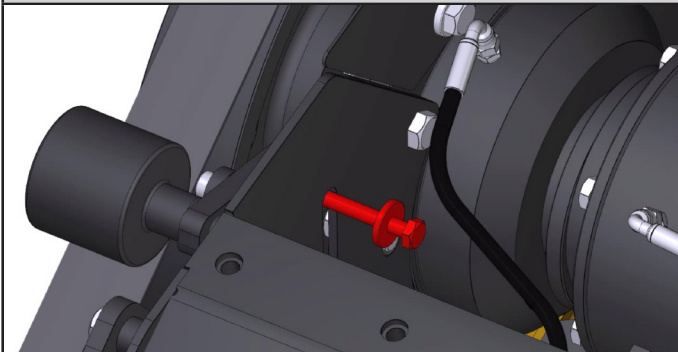
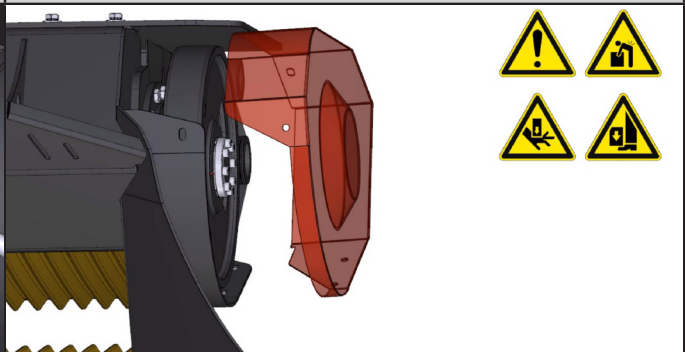
5: reinsert the safety screw making sure that it passes through the threaded bar hole. Check that the shims are tight with the structure and close the compartment by re-tightening the casing screws.



**ADJUSTMENT SHIMS LIST**

MODEL	MB-L120 S2	MB-L140 S2	MB-L160 S2	MB-L200 S2
NUMBER OF ADJUSTMENT SHIMS IN STANDARD EQUIPMENT	7	7	7	7
MAX SHIMS TO BE INSERTED FOR ADJUSTMENT	6	6	6	6
ADDITIONAL SPARE SHIM	1	1	1	1

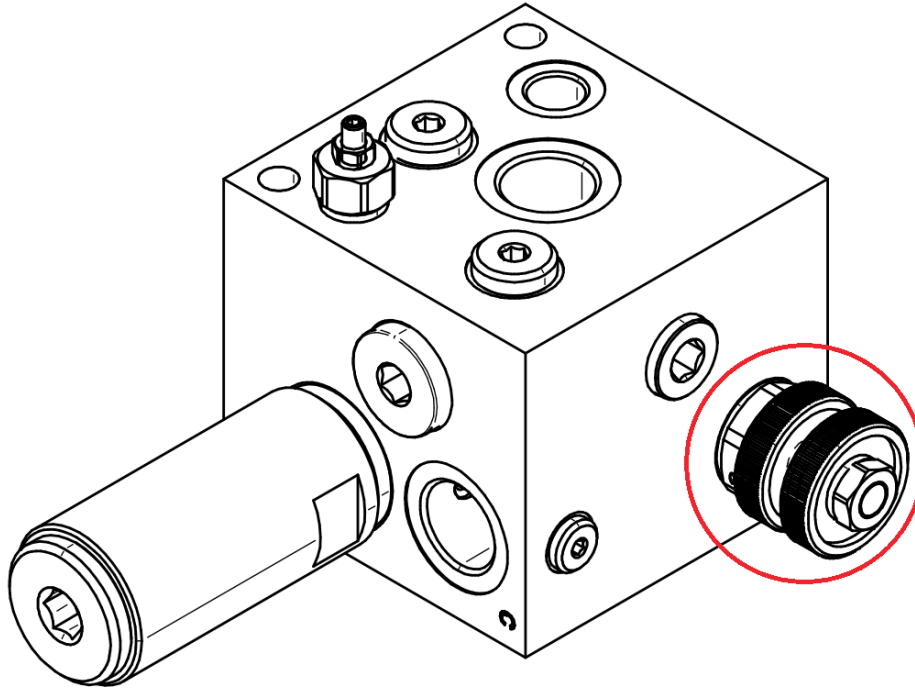
**5.4.2 BELT TENSIONING**

<p>1: Remove protection case</p>	<p>2: loosen the counter-nut inside the tightening roller</p>
	
<p>3A: (MB-L120 S2 / MB-L140 S2): tighten the external nut in order to drag downwards the roller which will, by consequence, press the belt</p>	<p>3B (MB-L160 S2 / MB-L200 S2) tighten the bolt from the head in order to drag downwards the roller which will, by consequence, press the belt</p>
	
<p>4A (MB-L120 S2 / MB-L140 S2): tighten the locking nut</p>	<p>4A (MB-L120 S2 / MB-L140 S2): tighten the locking nut</p>
	
<p>5: Tighten with the correct tightening torque the bolt that locks the tightening roller</p>	<p>6: Put back the protection case</p>
	



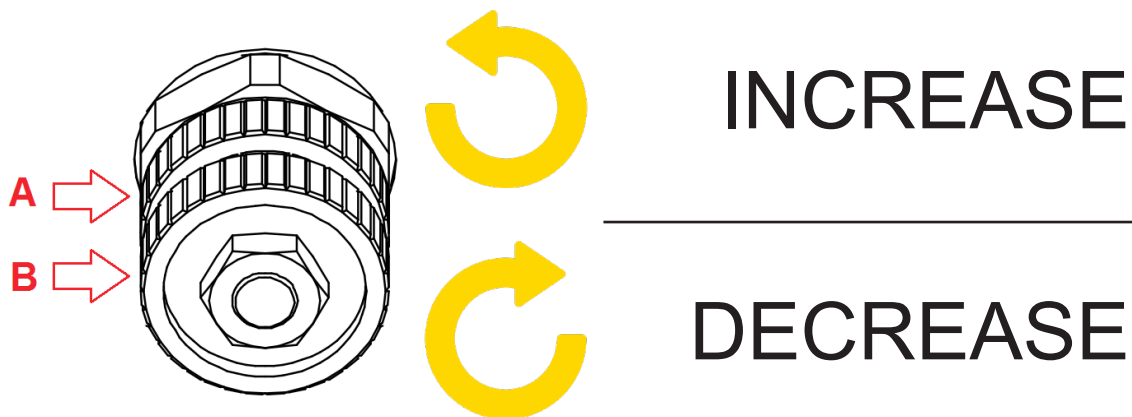
### 5.4.3 RMP CALIBRATION

The motor rotation speed is factory calibrated, according to the values contained in the chart below. Adjustments may be necessary to achieve better levels of performance, depending on the crushed material, or to reduce vibration. The motor rotation adjustment handwheel is located in the hydraulic control unit, as illustrated by the following figure. It is sealed with a specific wire, which however enables a slight variation for the reasons aforementioned.

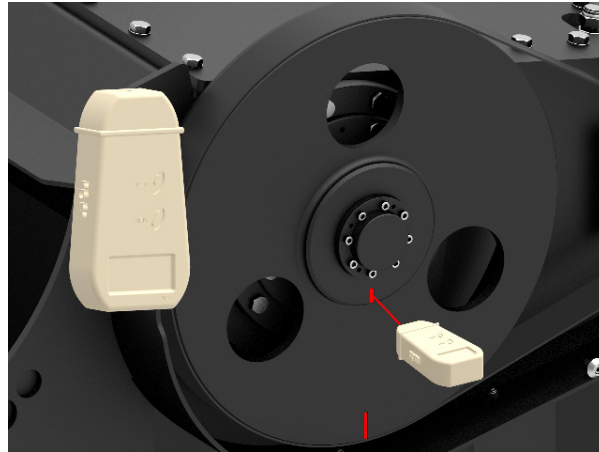


MB-L	MB-L120 S2	MB-L140 S2	MB-L160 S2	MB-L200 S2
<i>RPM min</i>	395	395	395	395
<i>RPM max</i>	405	405	405	405

To adjust the speed just release the inner locking washer (A) in an counter clockwise direction, and turn the external handwheel (B) clockwise to decrease the flow to the motor, and turn counter clockwise to increase it. Once the adjustment is done, block the handwheel with the socket sealing ring..



The measurement for the crusher bucket's revolutions is considered correctly performed if carried out with a rev-counter, pointed at a line drawn in the fly-wheel, as demonstrated in the image below.



## 6 MACHINE MAINTENANCE

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### 6.1 GENERAL WARNINGS

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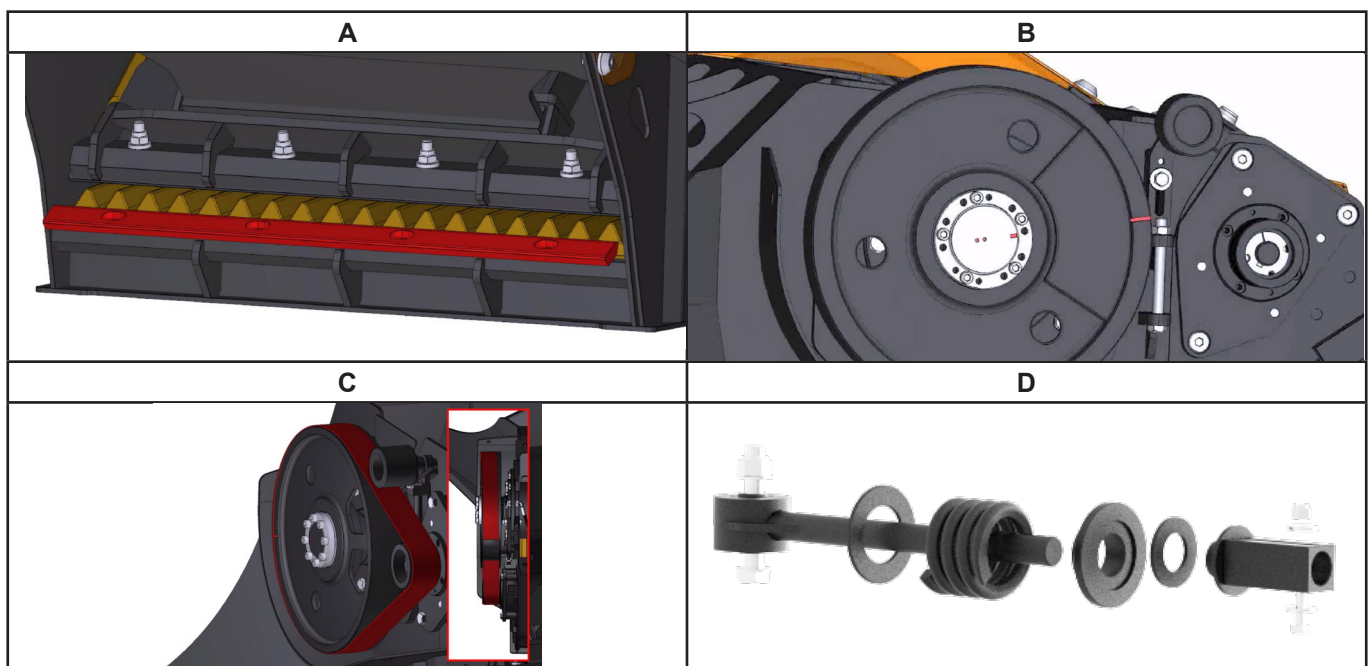
The interchangeable equipment is subject to scheduled routine maintenance. Below please find the basic requirements and general warnings in order to operate in the best way possible while abiding safety rules and safeguarding workers' health.

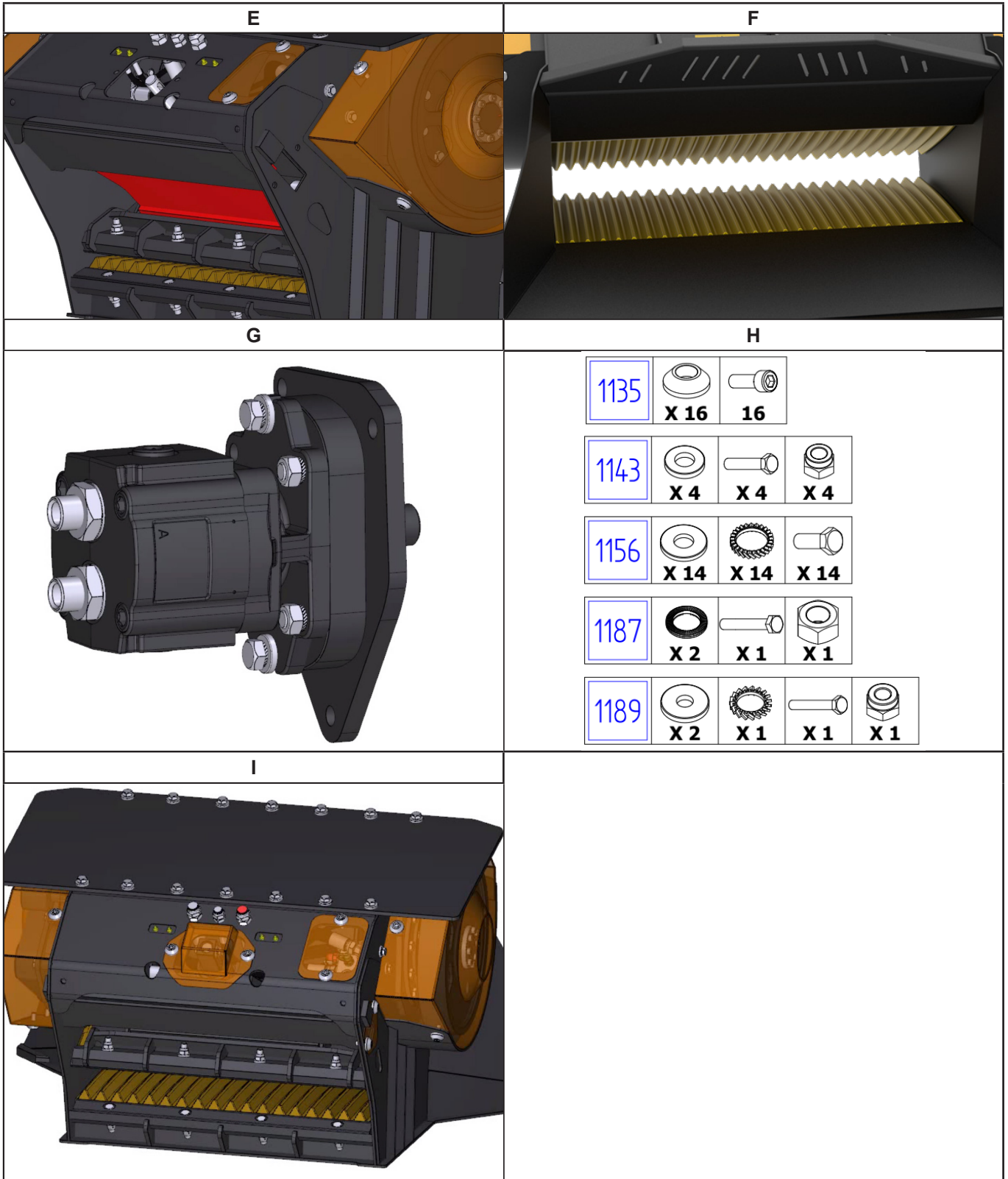
- All maintenance operations must be carried out by an adult, competent and qualified person after having read the maintenance instructions contained in the Operating & Maintenance Manual.
- The operator has to be familiar with and properly interpret all indications contained in the instructions manual and the signs affixed to the machine: this will help prevent damage to people, property and the operating machine.
- The assigned personnel must not carry out inspection, cleaning and maintenance operations under the effect of drugs or alcoholic beverages.
- It is absolutely mandatory to abide by the instructions contained in the Operating and Maintenance Manual and with general EC accident-prevention standards, as well as with the national standards in force in the user's country.
- Always use the personal protection equipment required by directives EEC 89/686 and EEC 89/656 and according to the acting laws of the country where the machine is operating.
- Carefully read all the information printed on the adhesive labels concerning safety affixed to the machine.
- Before you remove any fixed guards from the equipment, it is important to make sure that the operating machine has been turned off and that the hydraulic supply hoses have been disconnected.
- In case of a safety-related component of the machine breaks or malfunctions, it must be replaced immediately by a competent and qualified person.
- The tools needed for routine maintenance jobs are commercial tools that can be easily found on the market.

## 6.2 MACHINE MAINTENANCE

REF	Part	Periodic check	Description	Suggested replacement
A	Jaw blockage wedge	Every 4 hours for the first 20 hours. Then every 40 hours	Tighten locking bolts. Check wedge wear status	Every 400 hours
B	Flywheel	Every 40 hours	Check bolts tightening. Re-align if necessary	800 hours
C	Transmission belt	Every 160 hours	If necessary tension. Check presence of shreds	Every 800 hours
D	Threaded bar assembly	Every 40 hours	Check position and compression of the spring. Check the silent block wear status	Every 400 hours
E	Toggle	Every 40 hours	Check position and wear of lower surface	Every 800 hours
F	Jaw / wear plate	Every 160 hours	Check overall wear and crests consumption	If height of the crests below 10 mm or overall wear > 40 %
G	Motor	Every 160 hours	Check leakages of oil, power, temperature	Gaskets: every 400 hours Motor: every 1200 hours
H	Bolts and nuts	Every 200 hours	Complete bolts tightening	Every 2000 hours
I	Frame	Every 1000 hours	Check wear and thicknesses	If necessary

The estimated time shown in the chart may vary according to the level of maintenance, working conditions, operator skills, and external agents. Strictly comply with what is stated above. The partial or total failure to perform routine maintenance can cause potentially severe malfunctions.





**INFO!**

Delivery times and warehouse availability may vary. Contact your dealer or directly at [mbservice@mbcrusher.com](mailto:mbservice@mbcrusher.com) for procurement of spare parts.



**ATTENZIONE !**

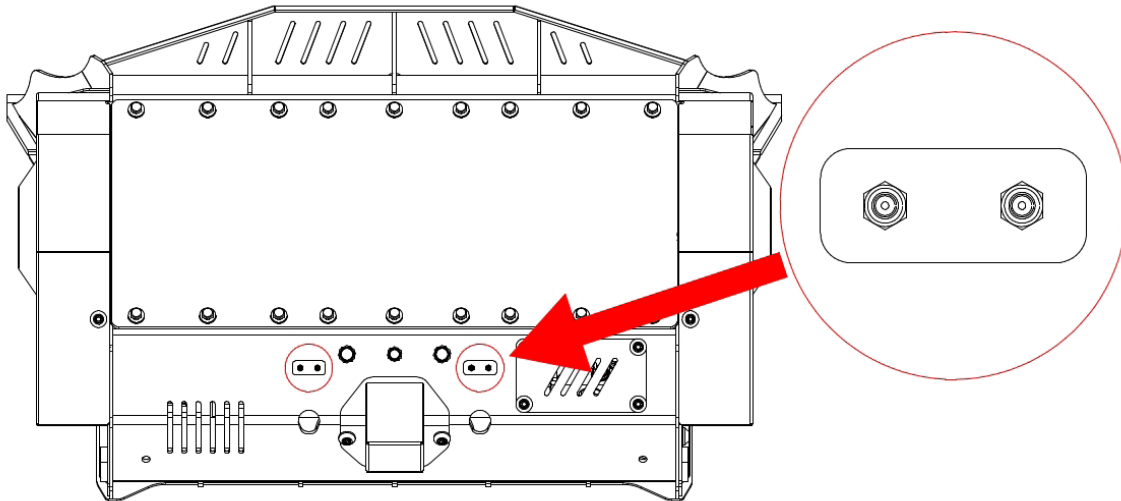
The customer is mandatorily asked to purchase only genuine original parts. assembly of unofficial components result in warranty void.

### 6.3 GREASING

Every 10 hours grease the kinematics bearings during the first 100 hours of the machine lifespan. Then every 30 hours.

20 pumps every nipple each greasing intervention

The greasing nipples are indicated in the drawing below:



SUGGESTED LUBRICANTS		
BRAND	MODEL	TEMPERATURE
AGIP	AGIP GR30	243 K / 393 K (-30°C / +120°C)
BP	ENERGREASE LS-ES 2	248 K / 413 K (-25°C / +140°C)
CASTROL	SPHEEROL EPL 2	253 K / 393 K (-20°C / +120°C)
ELF	EPEXA 2	243 K / 393 K (-30°C / +120°C)
ESSO	BEACON EP 2	253 K / 393 K (-20°C / +120°C)
IP	ATHESIA EP 2	248 K / 373 K (-25°C / +100°C)
MOBIL	MOBILUX EP 2	253 K / 398 K (-20°C / +120°C)
KLUBER LUBRIFICATION	CENTOPLEX 2 EP	248 K / 403 K (-25°C / +130°C)
SHELL	SHELL ALVANIA EP 2	248 K / 403 K (-25°C / +130°C)

#### ATTENTION!



Excessive greasing represent a thread for the bearings. Never exceed in pumping grease in order to avoid damages and failures of the bearings.

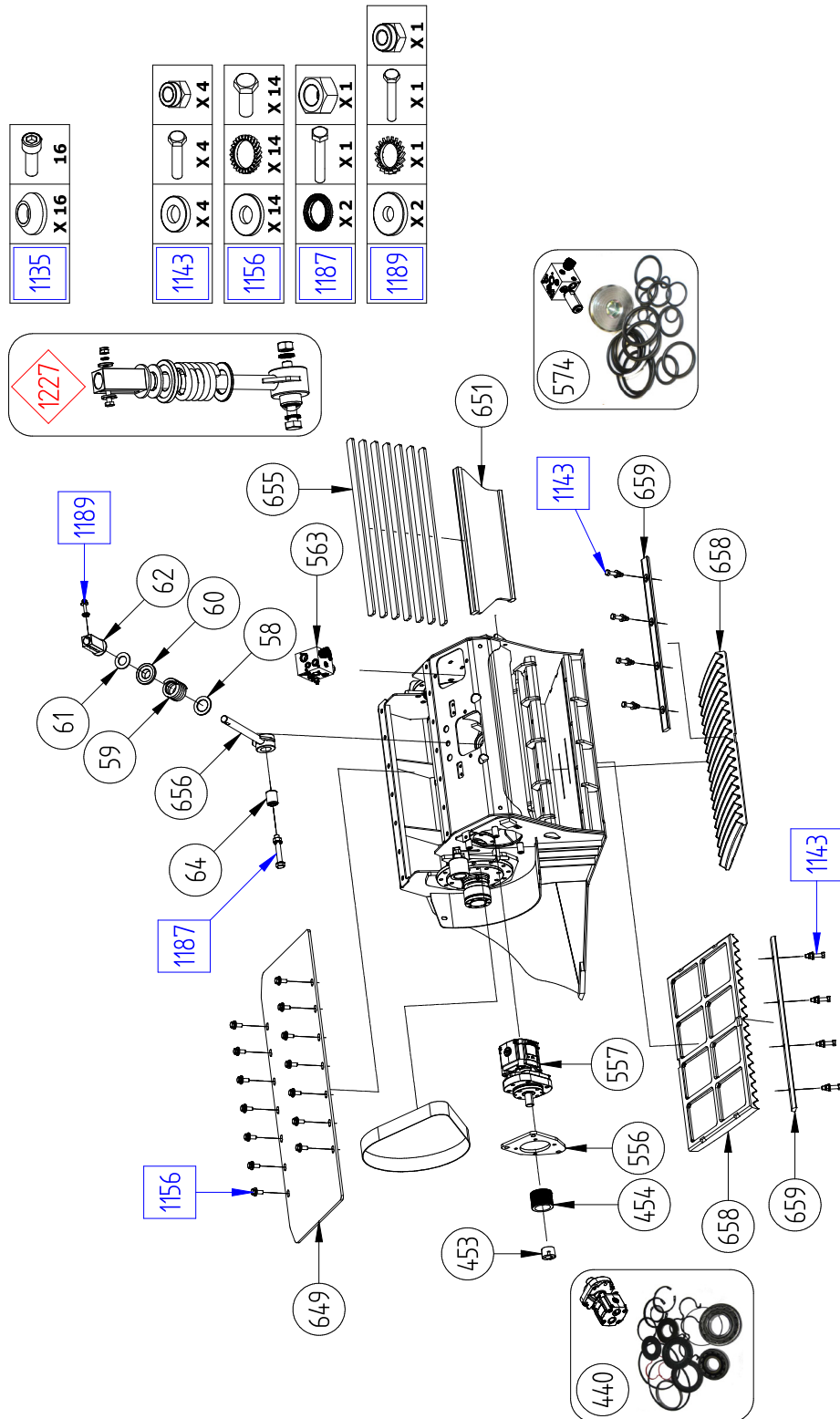
#### ATTENTION!



A partial or total lack of greasing will result in damages to the bearing rollers and subsequent failure of the machine not pertaining to a domain of warranty.

## 7 HEAVY AND WEARING PARTS EXPLODED VIEWS

### 7.1 MB-L120 S2 / MB-L140 S2



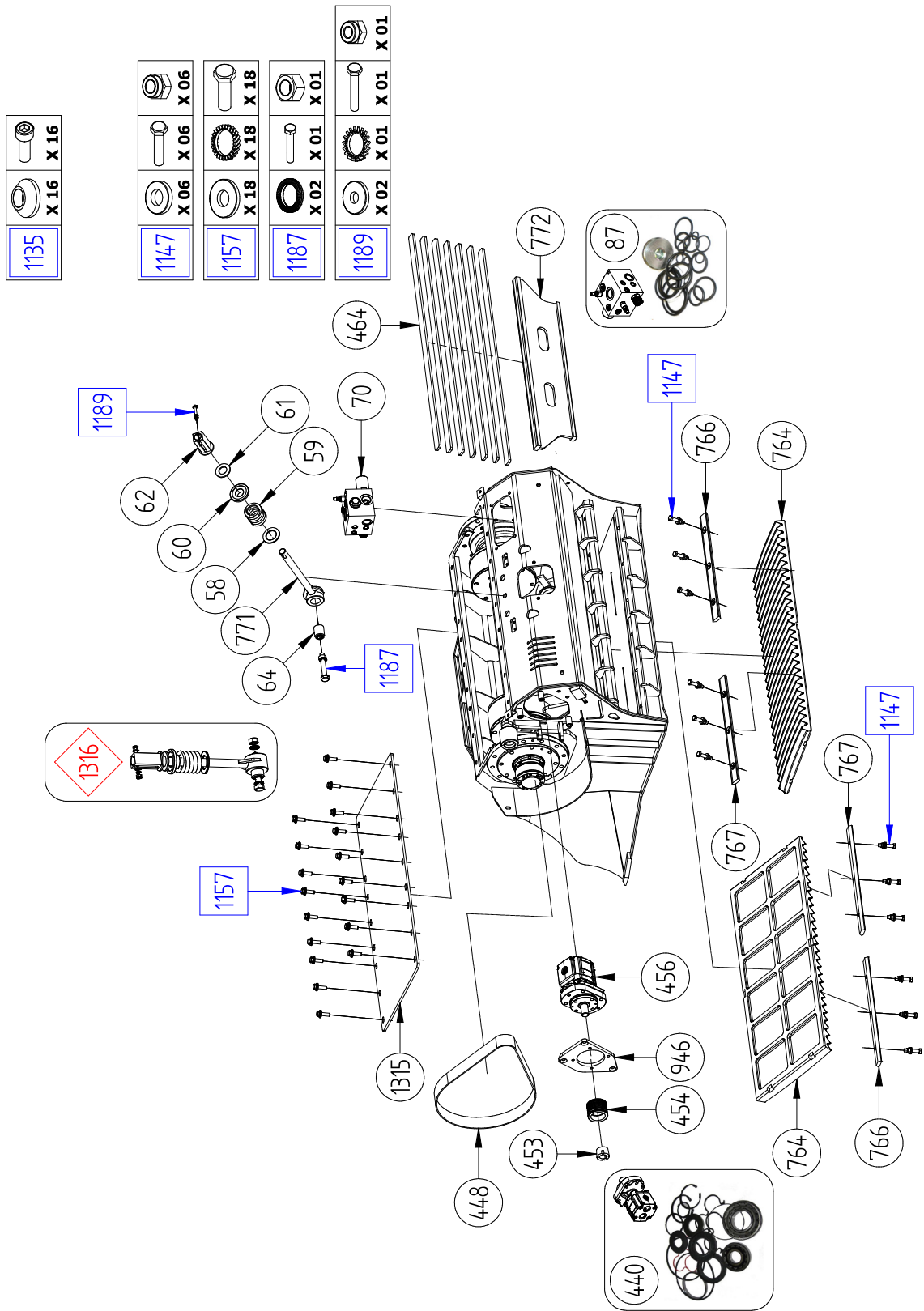
**HEAVY PARTS: 659, 658, 557, 649, 563, 651, 1227**

**INFO!**

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**7.2 MB-L160 S2 / MB-L200 S2**



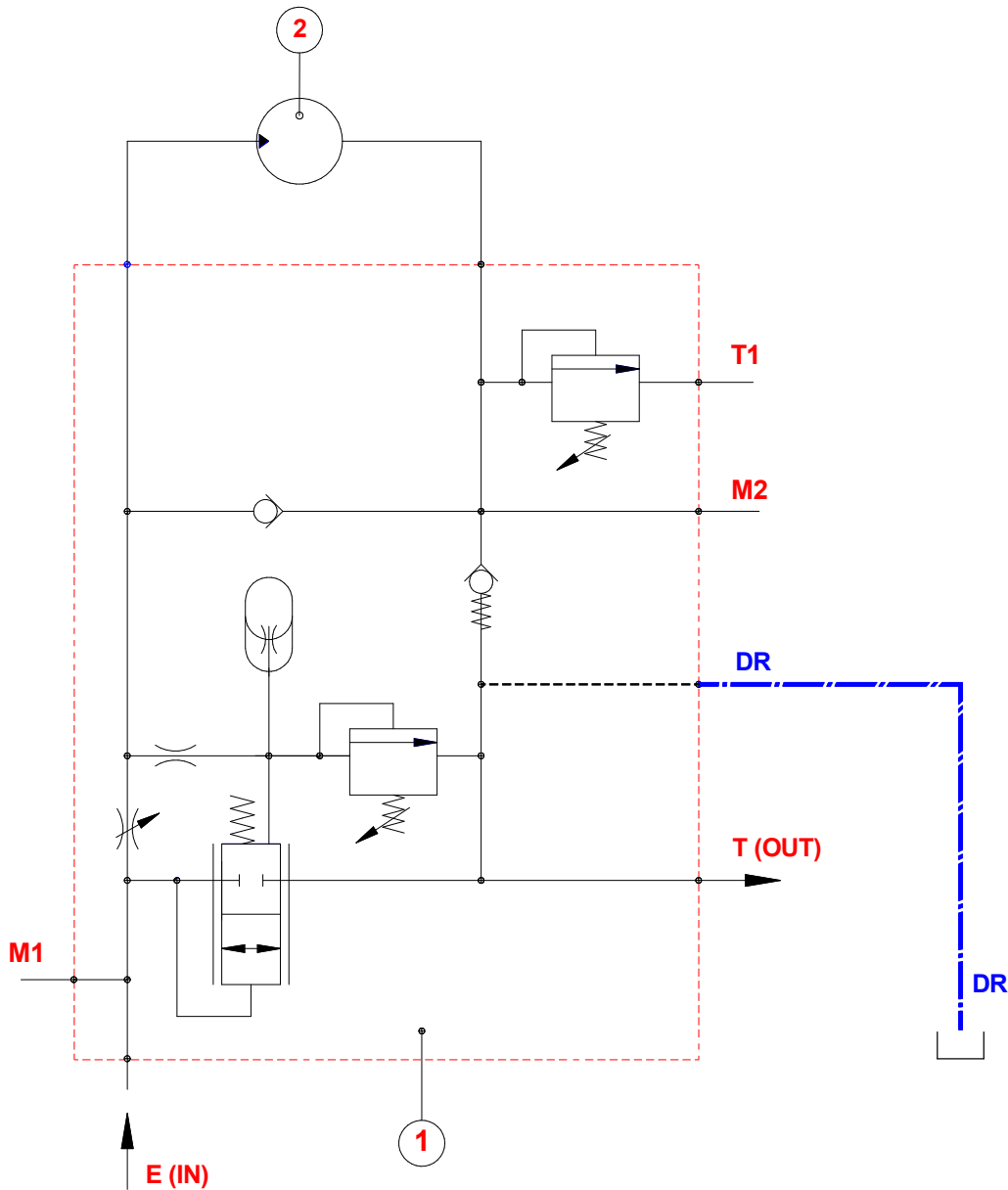
**HEAVY PARTS: 766, 767, 772, 70, 1315, 456, 764, 1316**

**INFO!**

Delivery times and warehouse availability may vary. Contact your dealer or directly at [mbservice@mbcrusher.com](mailto:mbservice@mbcrusher.com) for procurement of spare parts.

## 8 HYDRAULIC SCHEMES

The following hydraulic layout is valid for crusher buckets model:  
 MB-L120 S2, MB-L140 S2, MB-L160 S2, MB-L200 S2



REF	MB-L120 S2	MB-L140 S2	MB-L160 S2	MB-L200 S2
1	Block of valves	Block of valves	Block of valves	Block of valves
2	Hydraulic motor 43 cc	Hydraulic motor 43 cc	Hydraulic motor 51 cc	Hydraulic motor 51 cc
DR	Drain line. Directly connected to the oil tank. Maximum pressure 10 bar	Drain line. Directly connected to the oil tank. Maximum pressure 10 bar	Drain line. Directly connected to the oil tank. Maximum pressure 10 bar	Drain line. Directly connected to the oil tank. Maximum pressure 10 bar
OUT	Return line (without clogging agents) maximum pressure 15 bar	Return line (without clogging agents) maximum pressure 15 bar	Return line (without clogging agents) maximum pressure 15 bar	Return line (without clogging agents) maximum pressure 15 bar
M1	Pressure tester IN	Pressure tester IN	Pressure tester IN	Pressure tester IN
M2	Pressure tester OUT	Pressure tester OUT	Pressure tester OUT	Pressure tester OUT
T1	Vent to the atmosphere for safeguard back-pressure	Vent to the atmosphere for safeguard back-pressure	Vent to the atmosphere for safeguard back-pressure	Vent to the atmosphere for safeguard back-pressure



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## 9 MACHINE DEMOLITION

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### 9.1 WASTE DISPOSAL

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The machine's working phase does not generate waste or rubbish that must be recycled or disposed of, according to the laws in force in the Country of use.

If a part has to be replaced, or when the machine has to be scrapped, the elements used for the equipment (oil, rubber tubes, etc.) must be brought to an authorized disposal center, in compliance with the requirements of the current applicable law in the machine's Country of use.



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#### ATTENTION !

**MB S.p.A.** declines all liability in case the customer does not use authorized centers for the machine's equipment disposal.

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### 9.2 MACHINE DEMOLITION

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When the machine has to be scrapped (for any reason, limited use, impossibility of repair, or others), it is necessary to:

- Wash the machine thoroughly, with a water jet;
- Drain the oil from the hydraulic circuit, and place it in a specific vessel;
- Remove the flexible hoses from the hydraulic system;
- Dismantle the machine's parts as possible (cases, etc.), dividing them upon type (ex. rubber components, ferrous material, etc...).



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#### ATTENTION !

Any irregularity committed by the customer before, during or after the machine's components scrapping and disposal phases, with regard to the interpretation and application of the current laws in force, is of exclusive responsibility of the same.

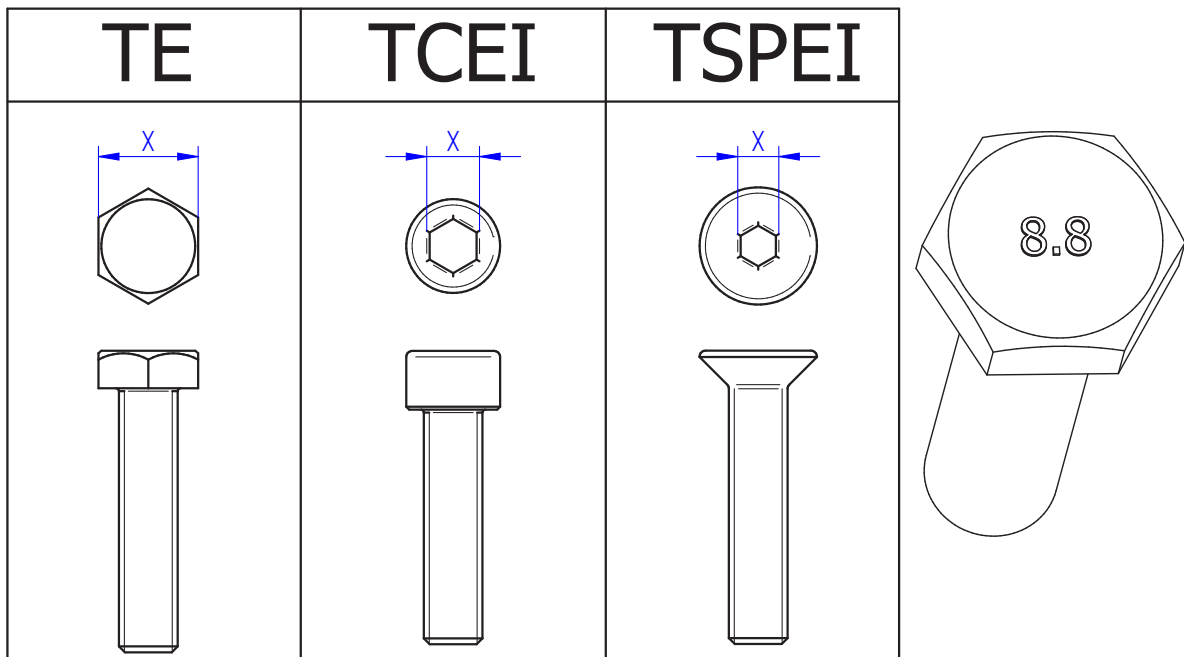
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## 10 TIGHTENING TORQUES TABLE

The M tightening torques of the table are valid approximately for the following conditions:  
The tightening moment is presumed applied slowly with torque wrenches.

To identify the correct tightening torque, proceed as follows:

1) Identify the screw type and the resistance class.



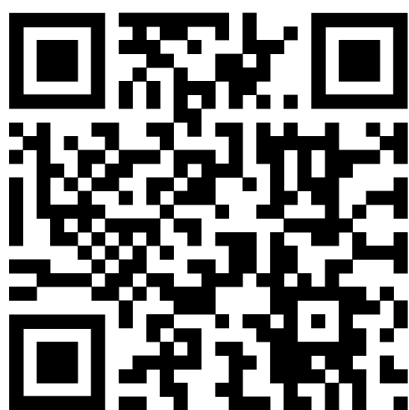
2) Measure the quota indicated (X, in mm) and, based on it, identify the screw diameter ( $\emptyset$ ).

3) Check the correct tightening torque to be applied (in Nm) in the following table.

SCREW TYPE	$\emptyset$ TE	$\emptyset$ TCEI	$\emptyset$ TSPEI	8.8	10.9	12.9
	mm	mm	mm	Nm	Nm	Nm
M8	13	6	5	25	35	42
M10	16	8	6	50	70	84
M12	18	10	8	85	119	143
M14	21	12	10	135	190	228
M16	24	14	10	212	298	357
M18	27	14	12	290	402	490
M20	30	17	12	413	580	697
M22	34	17	-	568	798	958
M24	36	19	14	714	1004	1204
M27	41	19	-	1050	1477	1772
M30	46	22	-	1429	2009	2411
M33	50	24	-	1941	2729	3275
M36	55	27	-	2497	3511	4213



**SERVICE  
ONLINE ▼**



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