

CE



# Shredder

**TE 145•160•180•200•220**

**USE AND MAINTENANCE MANUAL**

® 903684002~00



ORIGINAL INSTRUCTIONS



MADE IN ITALY



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# Congratulations on your purchase of the

## Shredder

The shredder TE is built by SICMA S.p.A., which for over 40 years manufactures agricultural machinery.

TE Shredder meets all the safety and quality requirements you expect from this type of equipment.

Remember that to get the best performance and to maximize the productivity features, you must thoroughly know the instructions and information contained in this manual and follow them.

## 1. INTRODUCTION

### 1.1 SOME NOTES ON THE USE MANUAL

It should be remembered that the USE MANUAL is not an accessory of the shredder, but it is AN INTEGRAL PART, and actually is SAFETY MEASURE (EN 12100-1).

For this reason, you must:

- store and keep it in good condition
- store it in the vicinity of the equipment itself
- deliver it to any new operator, use, maintainer, handler or owner (in case of change of ownership).

In this way, the shredder can be used at the best of all its features and with the maximum safety conditions.

The manual must not be damaged, it must remain integral (do not tear off pages) kept away from humidity and heat. Do not apply grease on it while consulting, avoiding deteriorating legibility.

In case of loss or damage of this manual, request for a copy from the manufacturer or the dealer nearest to you.

To facilitate consultation, the manual has been divided into parts so that every phase is well described.

With these measures, SICMA intends to draw unequivocally the operator's attention on the dangerous situations that may arise.



## 1.2 DECLARATION OF CONFORMITY

The machine is delivered accompanied by the following Declaration of Conformity.

### EC DECLARATION OF CONFORMITY

The company

Sicma s.p.a. - C.da Cerreto, 39 - 66010 Miglianico (Ch) - Italy  
Tel.: +39 0871 95841 - Fax: +39 0871 950295  
e-mail: info@sicma.it - <http://www.sicma.it>

hereby declares that:

product: SHREDDER  
model: TE  
serial number:

complies with the essential requirements for safety and health of Directive 2006/42/CE.

To fulfil the above mentioned Directive have been applied the following harmonised standards:

- UNI EN 745:2010, UNI EN ISO 4254-1:2010, UNI EN ISO 12100-1:2009, UNI EN ISO 12100-2:2009

and the technical standards and specifications

- ISO 11684:1995, ISO 13852:1996, UNI 9456:1989.

The person authorised to compile the technical file is Mr. Lorenzo Aurora (amministratore unico)



Miglianico, 10-01-2014

**Lorenzo Aurora**  
AMMINISTRATORE UNICO



### 1.3 LIST OF RESIDUAL RISKS

Although SICMA has done everything possible to make sure that the machine is in line with the state of art on safety and complies with all directives, laws and regulations, it still exist the possibility, albeit reduced, for some residual risks:



- RISK OF CUTTING/CRUSHING ON CONTACT WITH TOOLS (rotor)
- RISK OF ENTANGLEMENT/Dragging (rotor and drive shaft)
- RISK OF TIPPING/CRUSHING (shredder)
- RISK OF BURNING (multiplication box)
- RISK OF CUTTING/SHEARING

Therefore, those who use the machine or maintain it must be educated persons and aware of the fact that the machine still poses residual risks that, despite all the safety guards used to try to minimize them, it was not possible to eliminate them entirely.

The staff assigned to these operations must always have this available at hand this use and maintenance manual.

The use and maintenance manual reports all the information required by section 1.7.4 (Instructions for Use) of Annex 1 of the Machinery Directive, and its consultation is specifically requested, so as to avoid accidents that may cause personal injury.

## 1.4 GENERAL DELIVERY NOTES

The shredder has been manufactured in accordance with Directive 2006/42/EC and was designed observing the guidelines of technical standards for shredders.

Therefore, the machine does not present hazards to the operator when used according to the instructions in this manual and provided that the safety devices are kept in working order.

SICMA INFORMS THAT ANY CHANGES TO, OR ALTERATION TO THE SHREDDER, OR ANY TRANSACTION ACCOMPLISHED AND NOT STRICTLY REPORTED IN THIS MANUAL, ESPECIALLY THE NON-COMPLIANCE WITH SAFETY INSTRUCTIONS, NOT ONLY VOID THE WARRANTY, BUT ALSO RELIEVES SICMA FROM ANY RESPONSIBILITY FOR DAMAGE AND PEOPLE.



It is possible that some devices described in this manual are not present on your machine, depending on the setting chosen and the market to which the machine is intended for.

It should be remembered that all the technical values refer to the standard shredder (see Section 4 "Specifications") and that the drawings and any other document delivered with the shredder are the property of SICMA, which reserves all rights and points out that they cannot be made available to any third party without ITS written approval.

It is therefore strictly forbidden any reproduction, even partial, of the text and images.

The information, descriptions and images contained in this manual reflect the state of the art at the time of marketing of the machine.

The Manufacturer reserves the right to make, at any time, any changes to the machines for technical or commercial reasons. These changes do not require the Manufacturer to act on vehicles sold so far, nor to consider the present publication inadequate.

Any additions that the Manufacturer deems appropriate to provide later, will need to be kept with the manual and considered to be part of it.

The shredder, its parts and/or accessories, it is normally delivered by truck or container.

Upon receipt of the machine, check that:

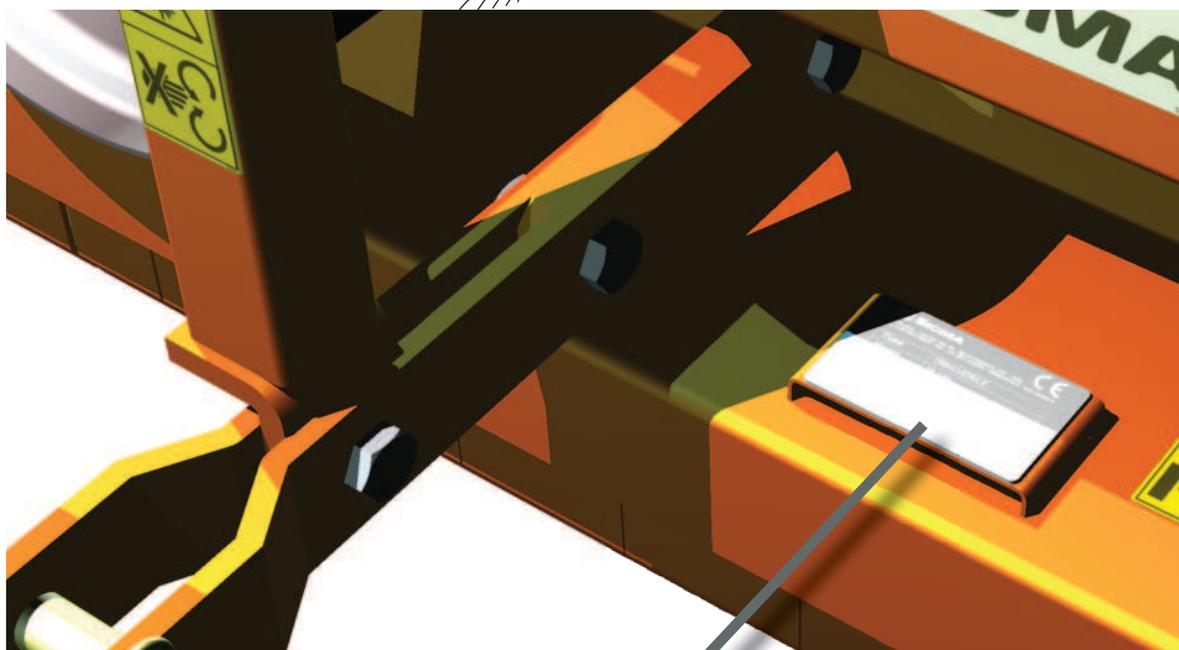
- - The supply corresponds to all order specifications (see packing-list).
- - There is no damage to the shredder or accessories
- In the event of damage or missing pieces, immediately and in a detailed way and/or with images immediately inform SICMA or its area dealers, the carrier or the warranty.
- parts or equipment supplied, at times, can be separated into specific containers.



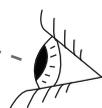
## 1.5 SHREDDER IDENTIFICATION AND MANUAL CODE

For any further assistance or information regarding the shredder contact SICMA or its service centres, always detailing the model and serial number on the nameplate of the machine,

The identification code of this manual is written on the cover. Write down the number and store it in a safe place so that in case of loss or damage of this manual you may ask for a copy to SICMA or the nearest Dealer, also citing the serial number visible on the nameplate



SICMA		CE
SICMA SPA - C.de Carreto, 39 - 66100 Miglianico (Ch) - Italy Tel.: +39 0871 95841 Fax: +39 0871 950295 - Info@sicma.it - www.sicma.it		
Type	Shredder	
Model	TE 145	
Serial No	00218	
Year	2014	
Mass	320 Kg	
Input	540 rpm	
MADE IN ITALY		



## 1.6 INTENDED USE

The TE shredder was designed to be used exclusively in the agriculture industry, for shredding grass, stalks, corn and branches up to a diameter of 6 cm, depending on the type of tool used.

The machine is driven by the tractor through three-point coupling and acts on the material to be cut by means of the rotation of the tool-holder, which rotates at high speed driven by the PTO of the tractor through cardan connection.

The machine is not intended to be used in sectors other than agriculture.

### USE ENVIRONMENT

The shredder works:

- in open fields, on land not crumbly, not too rocky, with a maximum slope of 3°
- in environments with a temperature of 0° ÷ 50° C

### IMPROPER USE

Any use other than that described in the manual is to be considered improper.

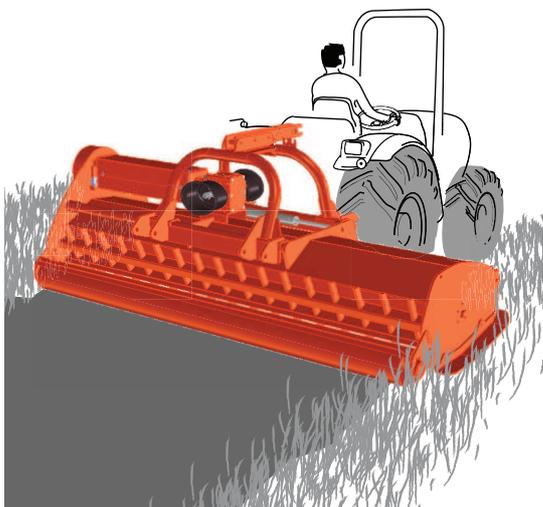
Sometimes the operator uses the shredder incorrectly, the following table lists some examples of actions that YOU SHOULD NOT CARRY OUT.

The operator should not :

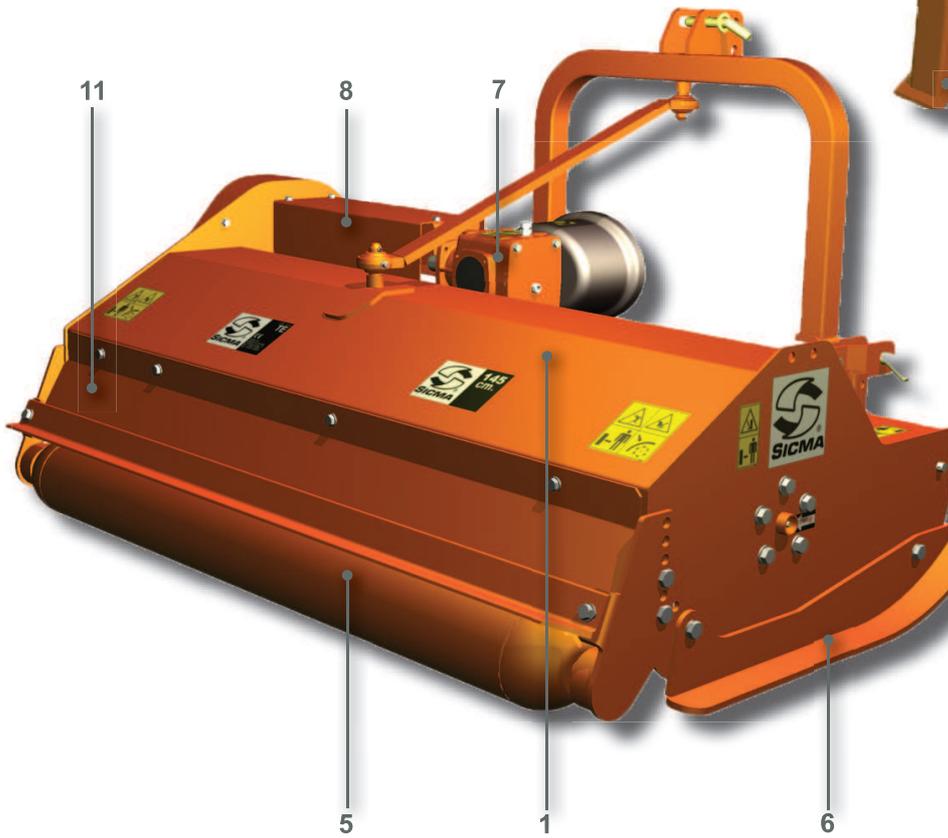
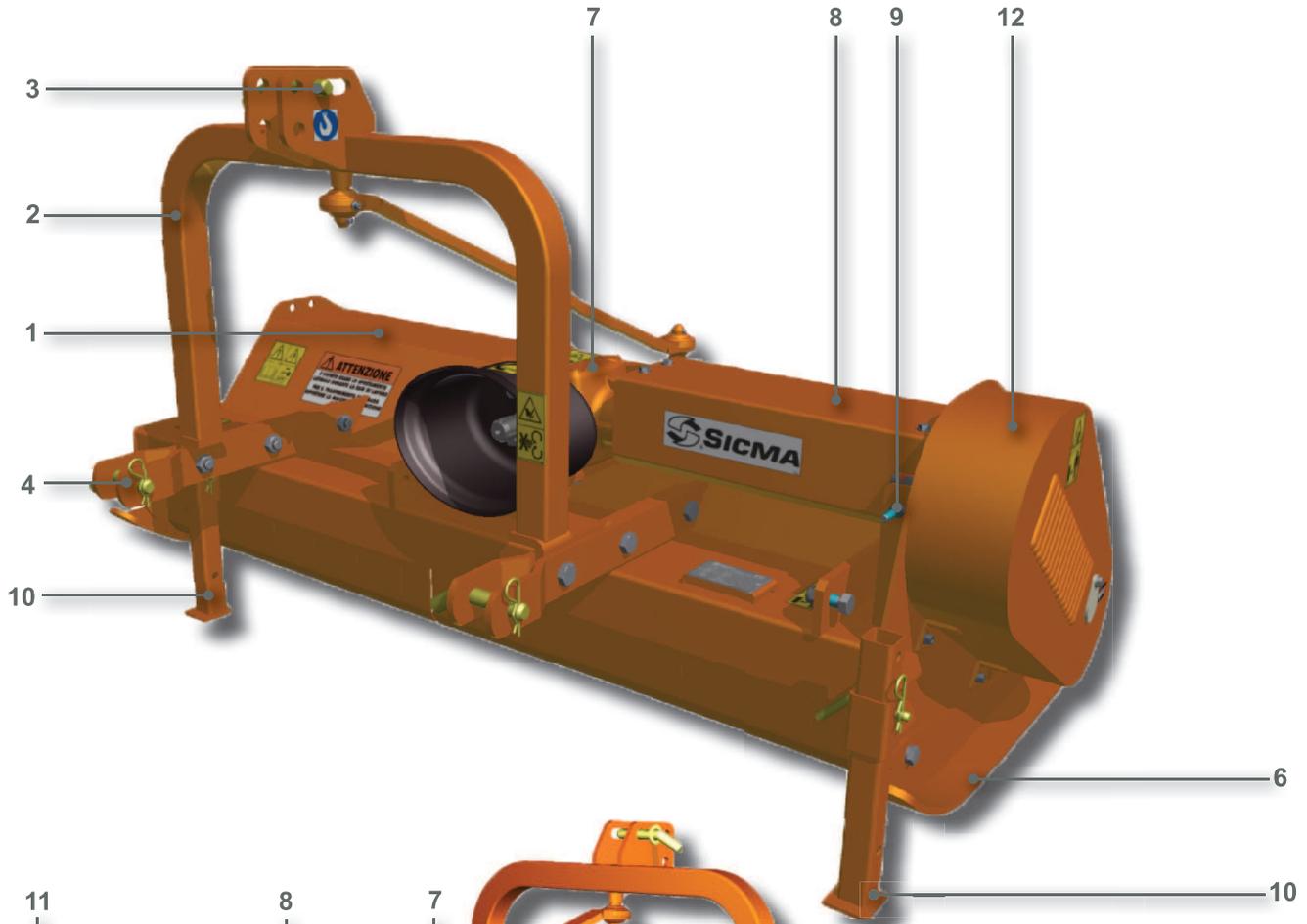
- couple the shredder to a cardan shaft with a higher or lower transmission capacity
- work in reverse.
- match the shredder to means having inadequate weight or power.
- Mount the shredder without having locked the anti-shock to the three-point coupling of the lift of the tractor.
- lift the equipment when the PTO is rotating.
- make U-turns or reversals with the shredder lowered

It is reiterated that the shredder must be used strictly for the intended purpose it was created for.

Any other use is considered improper.



## 1.7 SHREDDER SETTING



No.	Description
1.	Body
2.	Arc
3.	Third upper point pin
4.	Third lower point pin
5.	Stabilizing roller
6.	Side slides
7.	Multiplier gearbox
8.	Drive shaft protection
9.	Belt tension adjustment screw
10.	Outrigger
11.	Rear hood
12.	Belt drive casing

## 1.8 INSTALLATION

Shredder TE can be set up, during the purchase, in the following ways:

A



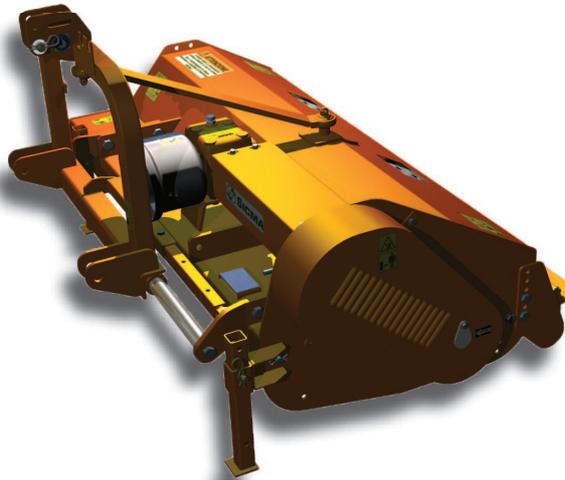
TE with 2-position fixed arc with "Y" knives ad rear stabilizing roller

B



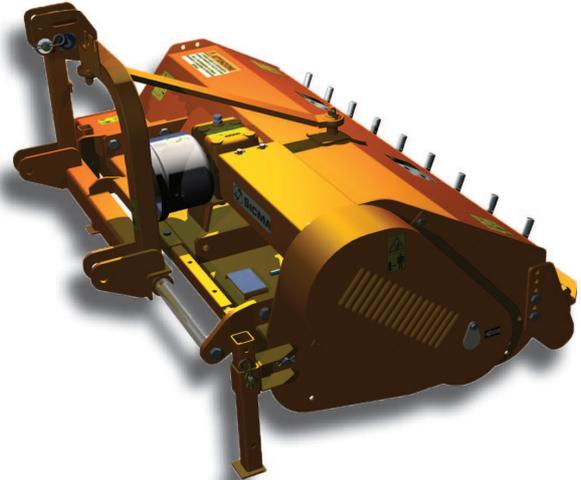
TE with 2-position fixed arc, smooth hammers, rear stabilizing roller and hooks

C



TE with mobile arc, manual movement with "Y" knives ad rear stabilizing roller

D

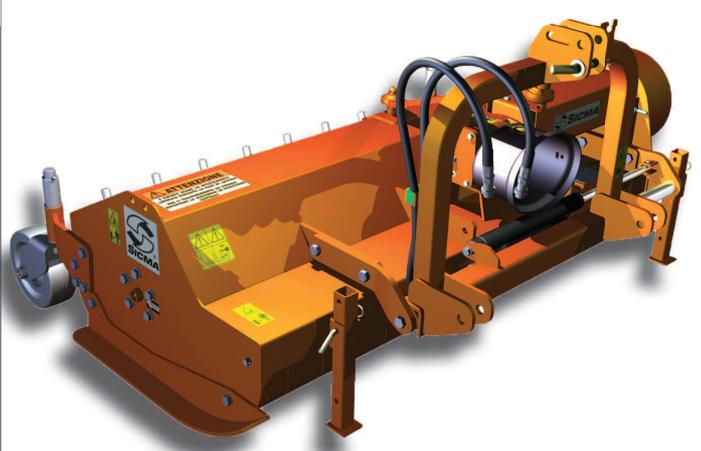


TE with mobile arc, manual movement with smooth hammers, rear stabilizing roller and hooks.

## 1.9 OPTIONAL



All equipment listed above can be equipped with side rails and iron steering rear wheels, in place of the rear stabilizing roller.



The "C" and "D" arc mobile setting can be equipped with hydraulic jack manageable by the users of the tractor

## 2. SAFETY

While consulting this use and maintenance manual, and on the equipment itself you'll find some symbols whose meaning is shown below.

### 2.1 DEFINITIONS

#### **DANGER**

A potential cause for injury or damage to the health of people.

#### **DANGEROUS AREA**

Any area within and/or near a machine in which the presence of a person represents a risk for both the person and the machine itself.

The danger zone is the area around the machine (coupled to the tractor) up to a meter away.

#### **EXPOSED PERSON**

Any person wholly or partially in a danger area.

#### **CRITICAL AREA**

The critical area is the one between the tractor and the equipment (cardan shaft area).

#### **ZERO ENERGY STATUS**

The state in which the machine must be brought before performing any cleaning, lubrication and maintenance operation.

The shredder is at ZERO ENERGY STATE when it is placed on a flat land, disconnected from the cardan shaft and resting on its outriggers.



## 2.2 CONVENTIONAL SYMBOLS



### ATTENTION GENERAL HAZARD

Informs the staff assigned that the operation described has the risk of physical injury if not performed with respect to the Safety Standards.



### NOTE

It informs the staff assigned on information whose content is of relevant consideration or importance.



### WARNING

It informs the staff assigned of information whose content, if not respected, can cause slight injury to persons or damage to the machine.



### MACHINE OPERATOR OR DRIVER

Identifies the qualified staff, i.e. with specific skills, as the the operations are completely manual. Therefore, the preparation and sensitivity of the machine operator are referred to in order to obtain the best qualitative results. It is therefore strictly forbidden to the operator to perform tasks that pertain to the maintenance technicians.



### MECHANICAL MAINTAINER

Qualified technician who works on mechanical components to carry out all the adjustments, maintenance operations and repairs necessary.



### UNSCHEDULED OPERATIONS

Any maintenance interventions highlighted by the symbol on the side must be requested to the Manufacturer or directly to authorized service centres.



### PERSONAL PROTECTION EQUIPMENT (PPE)

The presence of one of the symbols on the side requires the use of appropriate personal protective equipment by the operator, being implicit the risk of injury.



### RECOMMENDATION

Reference is made to a work method experimented in the factory, knowing well that every operator will develop his own way of working.

## 2.3 SAFETY REQUIREMENTS



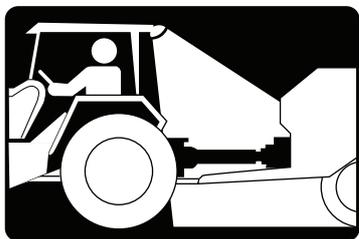
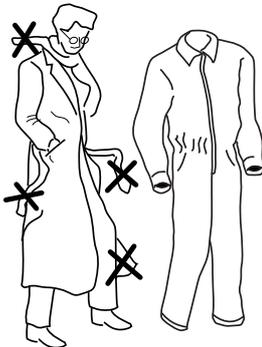
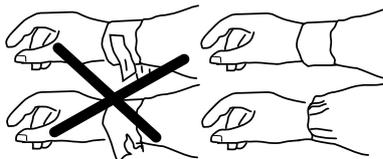
Despite SICMA has applied all the safety devices and warning signs on the equipment, it must be recalled that, if not used correctly, it can still be hazardous to your health. It is therefore recommended to carefully read and observe the safety instructions listed below.

Any operator, before using the equipment, categorically **MUST** have read and understood the safety instructions and the entire manual.

- The machine is not intended to be used in sectors other than agriculture.
- A use other than that specified is to be considered improper.
- The manual must be always at hand, so that for easy future reference. If it were lost or damaged, you must apply to SICMA for a replacement copy.
- For no reason climb, seat or lean on the equipment being it ON or OFF or at zero energy system.

## 2.4 OPERATOR REQUIREMENTS

- The machine must be used by a single operator driving the tractor.
- The machine must only be used by authorized personnel, educated and properly trained. The operator, in addition to having read and understood the instructions contained in this manual, must have gained a sufficient preparation on the proper use of the machine and must be in possession of a driving license. We remind the operator to contact the retailer or the manufacturer if you are unsure about the use of the machine and the interpretation of this manual.
- The operator must ensure that during operation of the machine no person stand within its range of action.. Never operate the machine near people standing or passing within the operating range of the machine.
- Do not use the machine if you are tired, ill or under the influence of alcohol, medication or drugs.
- The correct working position, the operator must have, is at the driving station of the tractor. From that position he must also check that there are no exposed persons in the danger zone during operation.



## 2.5 CLOTHING AND PPE

- Personnel should use safety equipment and personal protective equipment during use and maintenance of the vehicle.

The proper clothing to wear during maintenance operations and during use of the shredder is:

- gloves
- safety shoes or safety boots with iron toe
- goggles
- overalls with elastic wrists, ankles and waist

Moreover:

- given that the machine can generate emission of dust during processing, if the tractor is not equipped with enclosed cab, the operator must wear a dust mask (especially on dry and dusty ground)
- when the tractor is not equipped with sound-proof booth, the operator should wear hearing protection for noise control (especially on stony ground).
- it is recommended that the operator assigned to the machine must not wear clothing that can give rise to entanglements (scarves, belts, wide sleeves, etc..).

## 2.6 USE OF THE MACHINE

- The machine is usually used during the day; If in exceptional cases is required to use at night or in conditions of reduced visibility, it must be used the lighting system of the tractor or possibly a system of auxiliary lighting.
- Any unauthorized modification to this machine raises SICMA from any liability for damage or injury that may result to operators, third parties and properties.
- Carefully check the machine before each use.
- Daily check the tightness of all the screws (see the tightness table on section 12.1), possibly tighten and also check the metal structures and if needed have them repaired.
- Make sure that the hooks of the chains retaining the PTO shaft guard are hooked to the appropriate slot, so that the plastic guard remains fixed and does not rotate with the cardan shaft itself.
- Before leaving the tractor, and before any maintenance operation, operate the parking brake, stop the engine, remove the ignition key from the dashboard and keep it safe.
- When the machine is rutting the tools rapidly rotating: so keep a safe distance to prevent accidental contact with them or with any moving objects thrown.

## 2.7 SAFETY DEVICES

- Before using the machine, make sure that all safety devices are properly placed in their place and are in good condition; in case of breakdowns or damage to guards, replace them immediately.
- Do not tamper with or bypass for any reason the safety devices. Remember that all safety devices must be restored and/or protection guards must be re-mounted after every cleaning and maintenance intervention. Also verify that there are no tools, rags or other materials inside the transmission compartments.
- The signals applied to the machine provides a number of important indications: their observance is peculiar for your safety.
- Ensure the good condition of safety pictograms. If pictograms are damaged, they must be replaced with other original ones requested to the manufacturer and placed in the position indicated by the use and maintenance manual.

## 2.8 REASONABLY PREDICTABLE IMPROPER USE

The operator should not :

- couple the shredder to a cardan shaft with a higher or lower transmission capacity
- work in reverse.
- make changes to equipment that could compromise safety.
- make not well made repairs just to have the machine running

In addition, it is prohibited:

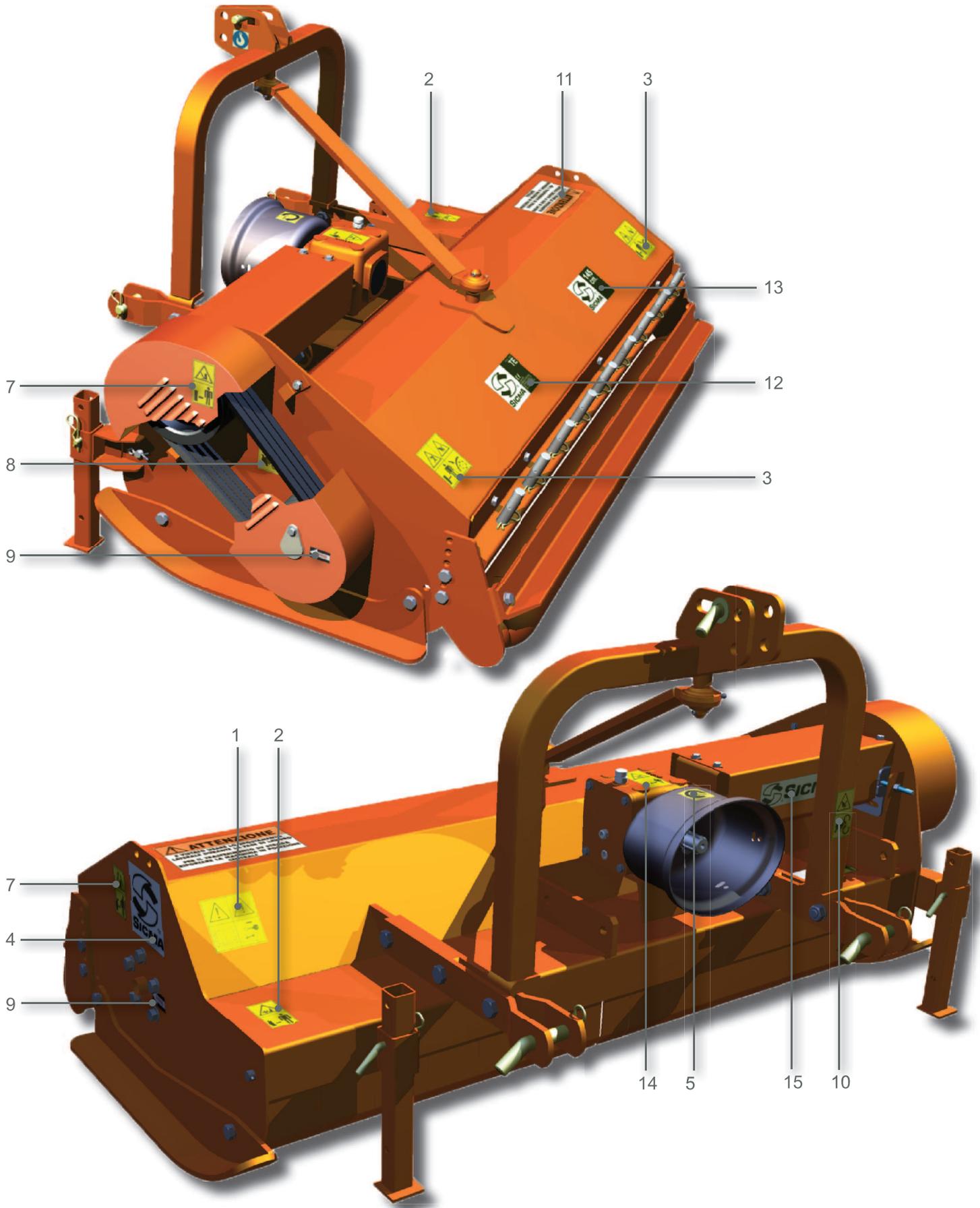
- combine the shredder to inadequate power means or weight.
- assemble the equipment without having locked the tie rods to prevent shaking to the three-point linkage of the tractor.
- lift the equipment with the PTO rotating.
- use the machine to carry and / or lift people, animals or objects.
- work on slopes greater than 3°.

Sicma disclaims any responsibility for any accidents caused by disregard of the requirements indicated above.

Given the particular stress to which the equipment is subjected and for safety reasons, in case of replacement of parts, only request for original spare parts



## 2.9 LOCATION OF THE PICTOGRAPHS ON THE MACHINE



## SAFETY PICTOGRAMS

<p>1. </p> <p>4781029 <b>WARNING</b> Carefully read the instructions and safety precautions before using the machine. Turn off the engine and remove the key before proceeding with any maintenance or repair.</p>	<p>9 </p> <p>4781009 <b>GREASE</b> Indication for injection point lubricating grease</p>
<p>2 </p> <p>4781011 <b>RISK OF INJURY TO TOE</b> Rotating tools: keep a safe distance from the machine.</p>	<p>10 </p> <p>4781013 <b>RISK OF INJURY TO THE HANDS</b> Rotating components: keep a safe distance from the machine.</p>
<p>3 </p> <p>4781019 <b>LAUNCH OF ITEMS ON THE WHOLE BODY</b> Keep a safe distance from the machine. Danger of injury to hands: Do not open or remove safety guards while the machine is running.</p>	<p>11 </p> <p>4781802 <b>WARNING</b> Danger of tipping of the machine.</p>
<p>4 </p> <p>4781016 <b>LOGO SICMA</b></p>	<p>12  </p> <p>5785801 <b>MACHINE INFO</b></p>
<p>5 </p> <p>4781010 <b>INPUT 540 RPM</b> Using the PTO at 540 rpm</p>	<p>13  <b>145 cm.</b></p> <p>000-145; 000-160; 000-180; 000-200; 000-220 <b>ABOUT LENGTH</b></p>
<p>6 </p> <p>4781031 <b>HOOKING POINT</b> To lift the machine</p>	<p>14 </p> <p>4781045 <b>DANGER OF BURNS</b> Do not touch the multiplier until completely cooled down</p>
<p>7 </p> <p>4781012 <b>RISK OF INJURY TO TOE</b> Keep a safe distance from the machine.</p>	<p>15 </p> <p>4781016 <b>LOGO SICMA</b></p>
<p>8 </p> <p>5782708 <b>ENTANGLEMENT HAZARD</b> Keep safety guards in place during operation</p>	

### 3. SHREDDER UNLOADING AND UNPACKING



**ATTENTION CRUSHING DANGER**



**ATTENTION GENERAL DANGER HAZARD**



**RISK OF CRUSHING AND ENTRAPMENT**



**CAUTION RISK OF SWIVELING AND CRUSHING**



#### WARNING

The unloading of the shredder from the truck and moving the equipment in the workplace should be performed only by qualified personnel who have read and carefully understood the safety requirements.

A person in charge of operations must always be present during loading and unloading. In all cases, make sure that there are no persons, animals or objects in the unload area and behave as described in this manual.

The shredder is generally transported on a truck, sometimes with no packaging, sometimes protected by heat shrinkable film in wooden crates.

#### WARNING

Well-read and understand all the "Safety instructions" (section 2.3) before transporting and unpacking the shredder.

#### 3.1 SHREDDER PROTECTED BY HEAT-SHRINKING FILM.

##### NOTE

Before starting to unload the equipment from the truck, read this entire sequence, so to be timely prepared when required.

Remove from the shredder any fixing devices used to better fasten it to the truck,

#### WARNING

The unloading of the shredder must be made very slowly, and the operator must ensure that there are no people, animals and objects in the discharge zone.

#### WARNING

Before you start lifting

- ensure the good condition of the ropes or chains used to lift the machine
- use ropes / chains of adequate loading capacity. Keep in mind that every single rope / chain must be able to lift the weight of the shredder (see "Specifications" in section 4)
- make sure that the shackles are tight
- in the case of chains with shorteners, make sure that they are securely connected too

After securing the shredder with ropes and / or chains, lift a few inches the equipment to verify the correct harness.

#### WARNING

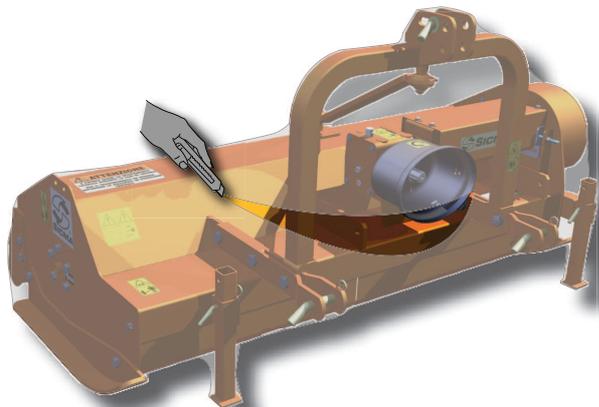
Lift the shredder from the floor of the transport mean to a maximum height of 30 cm, unless obstacles, so it does not tilt. Place the shredder on the ground in the vicinity of the tractor.

Remove chains or ropes.

Once on land, unpack the equipment as described below.



### ATTENTION DANGER OF CUTTING



### ATTENTION DANGER OF CUTTING

In the case in which the shredder is delivered wrapped in a protective film, you need to remove it with a cutter; so be careful not to injure yourself and do not damage the shredder itself.

To do this safely, the operator must:

- wear cut-resistant gloves
- have a cutter
- cut the protection material being careful not to injure yourself and do not damage the shredder.

### ATTENTION DANGER OF POLLUTION

After unpacking do not disperse in the environment the waste, but refer to authorized centres for disposal. Check with the transport document or with the packing list and in case of need behave as described in the "General notes on delivery" (section. 1.4).



## 3.2 SHREDDER IN THE WOODEN CRATE

### NOTE

Before proceeding with the unloading of the truck read this entire sequence, so as to be prepared in time for the unexpected.

In the case in which the shredder is contained inside a packaging wooden crate, for unloading use a forklift of adequate loading capacity (see the technical characteristics table to see the weight of the shredder) or use the lifting arm of the truck.

### WARNING

The unloading of the shredder must be made very slowly, and the operator must ensure that there are no people, animals and objects in the unloading area.

Insert the forks of the forklift as shown in the figure.

Raise the wooden crate from the floor for a maximum height of 30 cm, unless obstacles.

Place the crate on the ground in the vicinity of the tractor.

Wear gloves and have a suitable tool to disassemble the wooden packing.

Use a forklift of suitable capacity (see section 4 "Specifications")

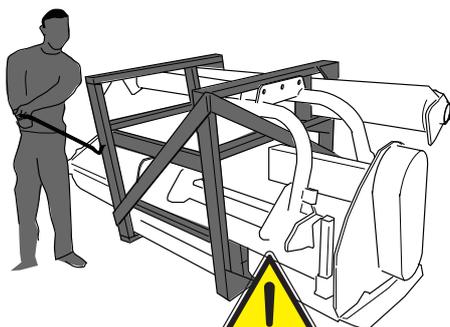
After securing the shredder with ropes and / or chains, lift a few inches the equipment to verify the correct harness.

Use ropes / chains of adequate capacity to lift the shredder.

Lift up to 30 cm the shredder from the crate and place it close to the tractor.



### RISK OF CRUSHING AND ENTRAPMENT



### CAUTION RISK OF SWIVELING AND CRUSHING





#### ATTENTION DANGER OF POLLUTION

After unpacking the cutter do not disperse the packing materials, but refer to the specialized agencies for disposal, or save it for other transports. Check the supply with the transport document or the packing list and in case of need to behave as described in the "General notes on delivery" (section 1.4).



**ATTENTION TIPPING  
DANGER**

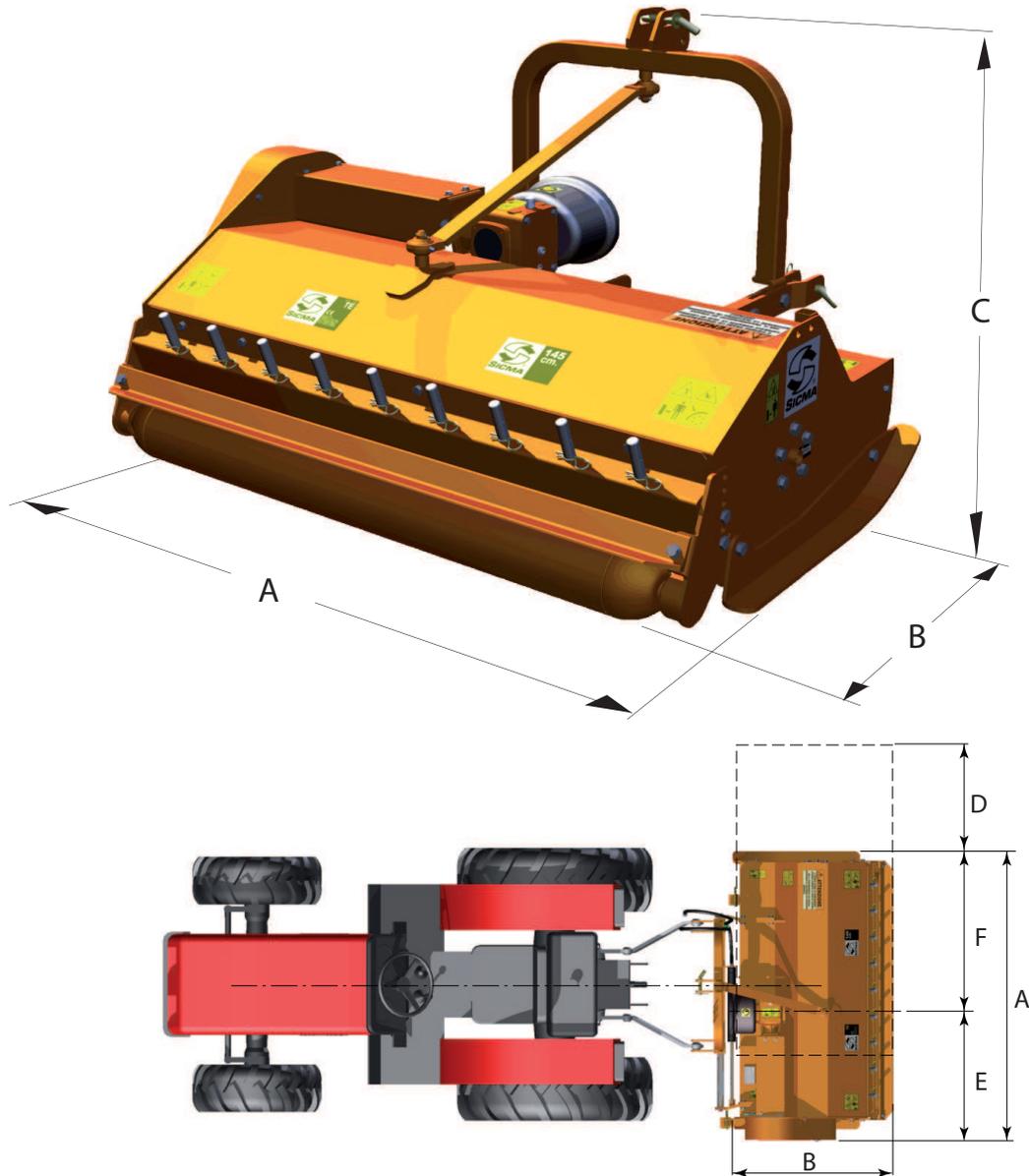
#### WARNING

Remember that as far as the equipment is stable during subsequent transport, it should ALWAYS:

- be well fastened to the truck
- be positioned in the centre of the truck, not on the edges in order to avoid the dangers of tipping in turns or rough roads.

## 4. TECHNICAL DETAILS

Below is the table with the technical characteristics of TE shredder.



### TECHNICAL DETAILS

TE

Ref.	Description	145	160	180	200	220
	Working width (cm)	1450	1600	1800	2000	2200
A	Overall length (mm)	1650	1780	1950	2250	2400
B	Overall length (mm)	965	965	965	965	965
C	Height (mm)	935	935	935	935	935
Weight (kg)	Fixed	320	350	380	420	440
	Moveable	340	370	400	440	460
	Number of revolutions (rpm)	540	540	540	540	540
	Power required (HP)	30 - 60	30 - 60	30 - 60	30 - 60	30 - 60
	Installed power (Kw)	22 - 44	22 - 44	22 - 44	22 - 44	22 - 44
D	Displacement (mm)	300	300	300	300	300
E	(mm)	732	758	833	983	1058
F	(mm)	918	1042	1117	1267	1342
	Standard Y Knives	36	40	44	52	56
	Standard Hammer	18	20	22	26	28

## 5. COMMISSIONING



**ATTENTION GENERAL DAN-  
GER  
HAZARD**

### WARNING

Only qualified operators having read and understood the safety instructions can perform the operations described below. They must also ensure that there are no people, animals and objects standing in the area where connection to the tractor is made.

The operator and any helpers must be provided with PPE (Personal Protective Equipment) and wear them according to need.

The shredder can be moved only if it is connected to the tractor; to be able to connect it, strictly follow the instructions and the order given below:

- THREE-POINT CONNECTION TO THE TRACTOR
- CONNECTION OF THE CARDAN SHAFT

### 5.1 3-POINT CONNECTION

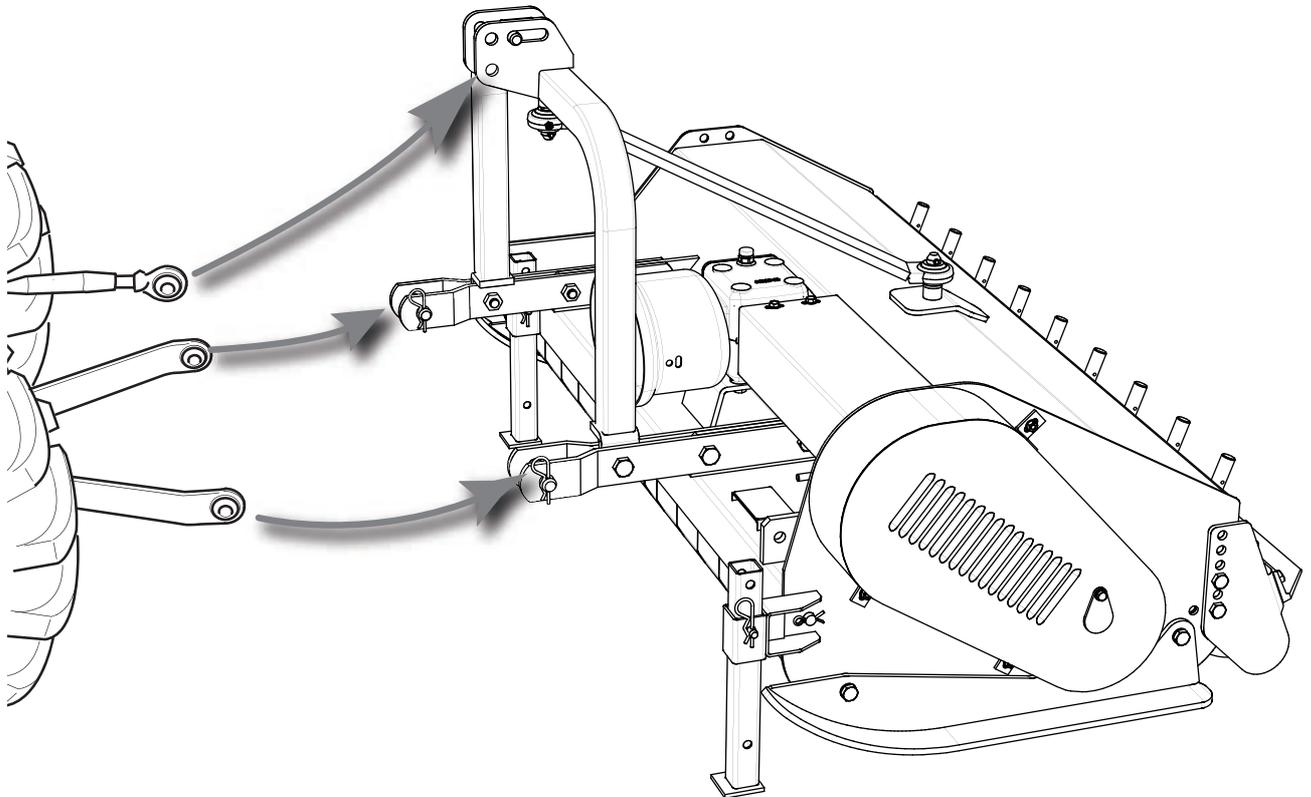
The machine must be connected to tractors of adequate weight and power and fitted with 1st class standard coupling.

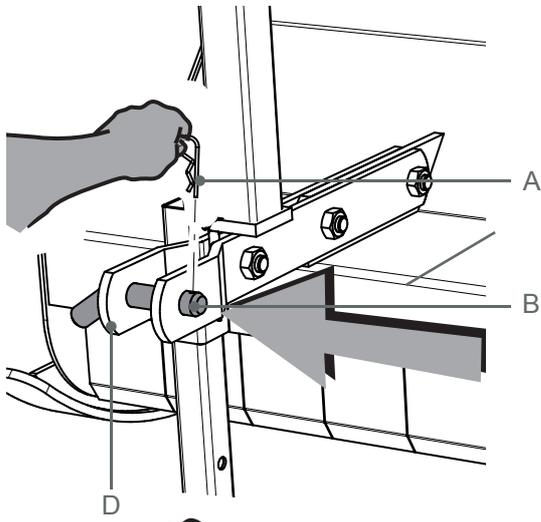
To connect the PTO shaft, the operator must:

Slowly move the tractor to the shredder and position so that the lifting arms of the tractor are aligned to the two side pins of the shredder.

Once in position pull the handbrake, turn off the engine, remove the ignition key and keep it, then get off the tractor.

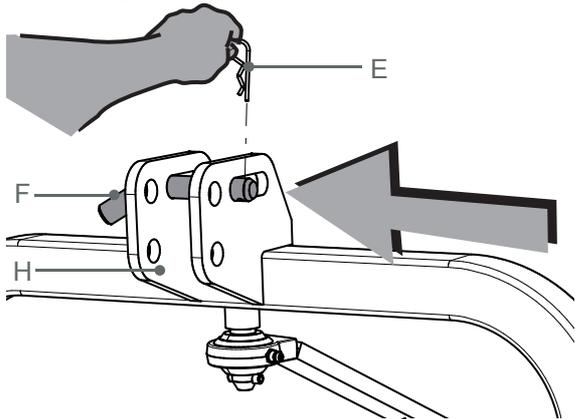
Check that the PTO shaft guard is intact, otherwise provide in this regard consulting the relevant user manual.





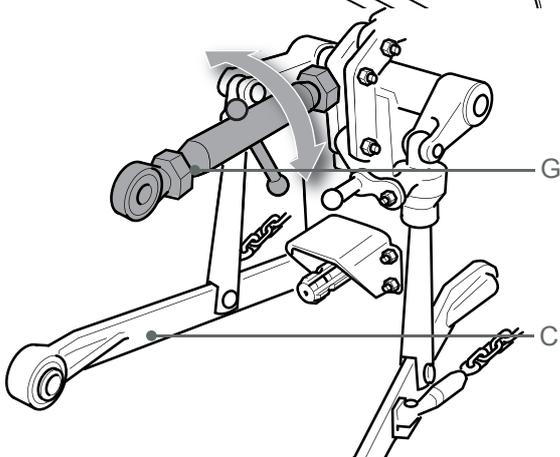
To hook the machine to the tractor, proceed as follows:

- remove the cotter "A" of the pin "B" on both sides
- pull out the "B" pin
- get on the tractor and start the engine
- remove the handbrake and move back slowly to match up to the joint of the tractor lift arm "C" in the lower third point "D" of the shredder
- turn off the engine, put the hand brake, remove the key and store it, then get off the tractor.
- Insert pin "B" in the lower hole of the third point "D" of the shredder and into the hole of the tractor arm joint "C".
- reinsert the cotter "A"
- proceed doing the same with the other lower connection.
- lock the anti-shock tie rods of the lifting arm of the tractor to prevent the machine from oscillating laterally, compromising the transverse stability of the complex.



To make the connection of the upper third point, the operator must:

- Remove the cotter "E" and the pin "F" from the third top point of the shredder.
- remove the pin "F"
- unhook the rod "G" in the upper third point of the tractor and place it in the upper third point "H" of the shredder
- reinsert the pin "F" and the cotter "E" in the upper third point of the shredder and in the joint of the tie rod "G" of the tractor
- if you use the third top floating point make sure that it enables the machine to tilt forward and backward and that the output shaft is parallel to the ground
- if you do not use the third top floating point, adjust the length of the rod so that the PTO is parallel to the ground



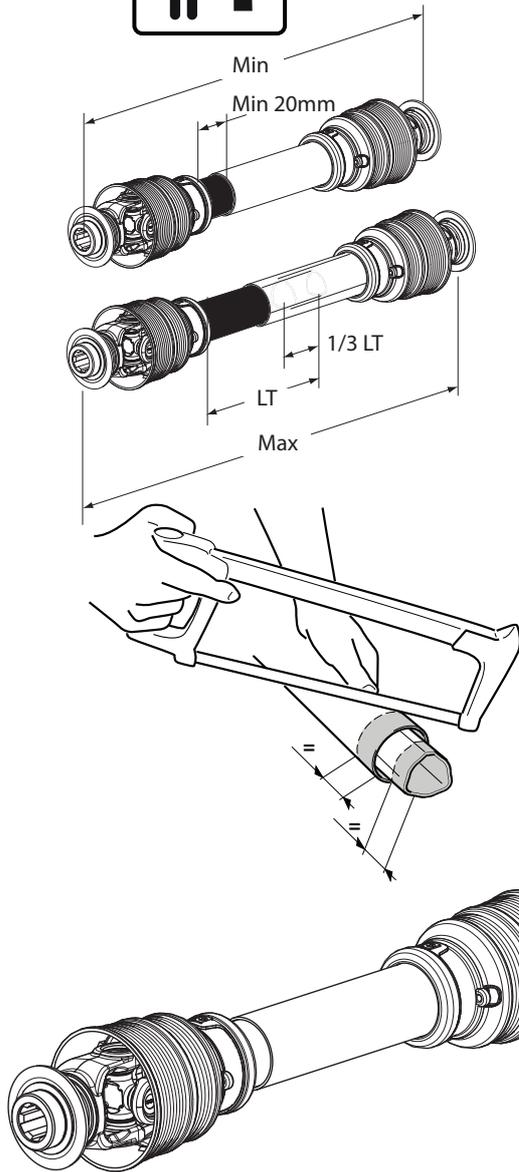
It is always a good practice to make sure that the PTO of the shredder is parallel to the ground, to minimize the stress on the PTO and to prolong the service life of the shredder.



## 5.2 CARDAN SHAFT CONECTION

Before installing the cardan shaft, the operator must:

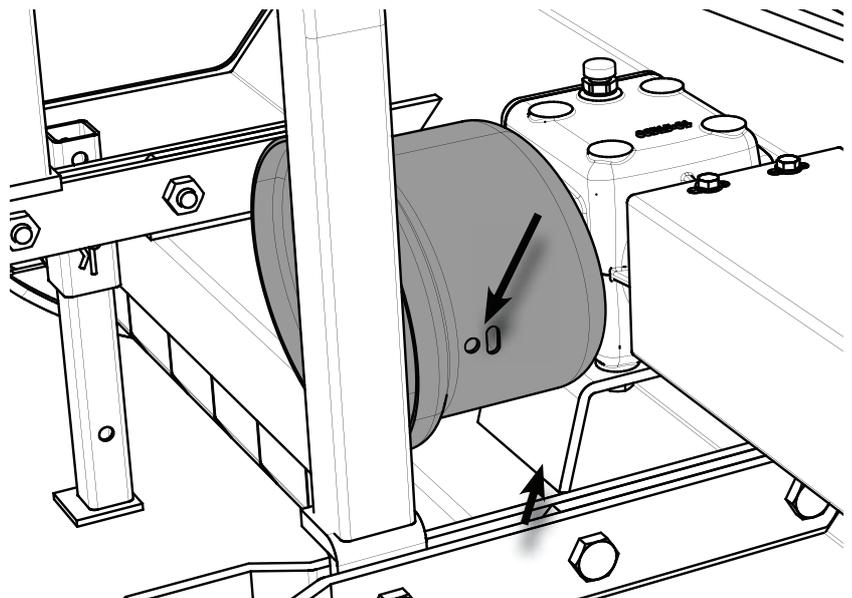
- Read the manual of both the cardan shaft and the tractor
- Make sure that the number of revolutions of the PTO of the tractor match those of the shredder (the choice of the number of revolutions of the shredder must be made at time of purchase). Otherwise, please consult the technical department
- Verify that the minimum and maximum length of the cardan shaft are those required by the shredder-tractor coupling. It should be remembered that the maximum extension tubes must overlap by at least one third of the length of the inner tube. In addition, in the position of maximum closure of the tubes the minimum gaps allowed by plastic guards must be at least 2 cm, to avoid damage to guards and to the multiplier. In the case it requires to be cut adequately, cut accordingly; consult the use and maintenance manual of the cardan shaft or turn to an authorized dealer who will know how to proceed.
- Use cardan shafts with power/torque transmission capacity and rotational speed suitable than recommended.



Orient the cardan shaft in the right direction, referring to the figure of the tractor stamped on the outer protective tube.

Enter the first hub of the cardan shaft on the PTO of the shredder, holding pressed the safety plug or collar of the fork; release it and move backwards with the cardan shaft until it does not engage with an audible "clack" into place. Then repeat the process with the opposite hub of the shaft, by inserting the PTO of the tractor.

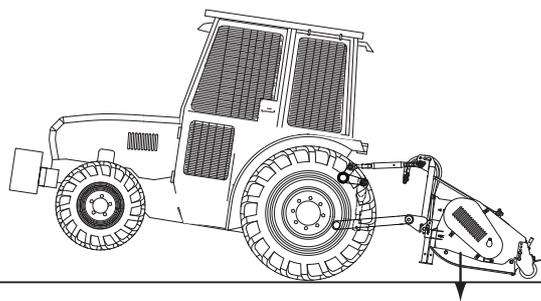
Then hook the hook of the retaining chains of the PTO shaft in the adequately guard retaining cap in its seat on the Security PTO shredder shown. Do the same on the PTO of the tractor.



### 5.3 CHECKING THE STABILITY OF TRACTOR-SHREDDER UNIT

The weight of the shredder change the stability of the tractor-shredder unit, influencing the ability of steering and braking, so we need to proceed at a moderate speed. In particular, it should be noted that the front axle must always be carrying a load of at least 20% of the weight of the tractor-shredder unit.

Check the lifting capacity and stability of the tractor using the following formula and, if necessary, before applying the front weights.



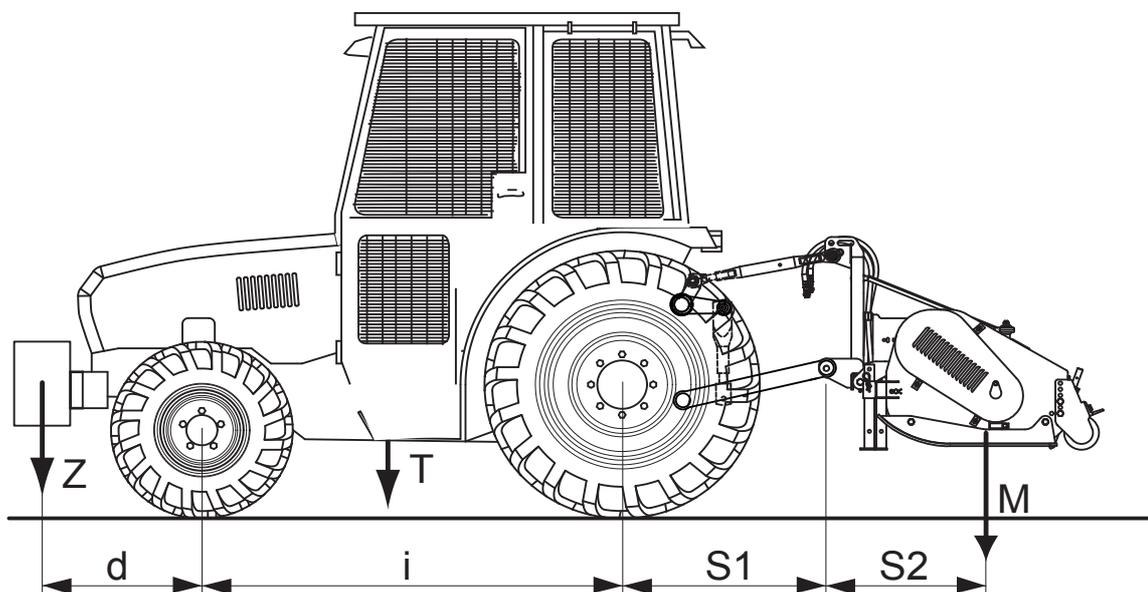
$$M \times (S1+S2) \leq 0.2 T \times i + Z \times (d+i)$$

$$M \leq 0.3T$$



ATTENTION TIPPING HAZARD

- i** = wheel base
- d** = Distance from the front axis of the ballasts
- S1** = Distance between the centre of the rear axle and the centre of the lower coupling
- S2** = Distance between the centre of lower coupling points and centre of gravity of the shredder
- T** = Mass of the tractor + 75Kg (operator)
- Z** = Mass of the ballast
- M** = the mass of the machine;



### 5.4 TRANSPORT BY ROAD

Before transport on public roads it is essential to consult the Highway Code, and in particular art. 61 and 104. For other Countries please refer to the applicable code.



## 5.5 MACHINING

Once all checks and adjustments are carried out, with the tractor connected to the shredder (for half to three-point coupling, but with the cardan shaft disconnected) turn on the tractor and move to the working area, remembering to keep the shredder raised so that the tools do not touch the ground (at least 20 cm).

To operate the shredder, the operator must refer to the manual of the tractor because the controls are placed inside the cab of the tractor itself.

### WARNING

Before starting work, make sure that there are no people or animals within the operating range of the machine.

Make sure that all guards are in place and efficient.

The machine must be used by a single operator located inside the passenger driving cab of the tractor.

Make sure that there are no ties to prevent movement. If there are, free the machine from any bond.

### PREVENTIVE MAINTENANCE

Before using the machine for the first time or after a long period of inactivity, you must do the following:

- check that the machine is not damaged
- check that the mechanical parts are in good condition and not rusted
- Check the wear and tear condition of the tools
- Carefully grease all moving parts
- verify that there are no oil leaks from the transmission unit
- verify that all guards are fully assembled.
- visually inspect the machine before each use; in the case of loose bolts tighten them according to the table of tightening torques stated in section 12.1
- check the oil level in the gear box of the multiplier, and if necessary, top up to restore the level (see Sec. 7, "Routine Maintenance")
- grease the supports of the rotor and of the rear roller (see par. 7.2)

For greasing use the following lubricants:

- Oil **AGIP-ENI BLASIA 150**
- grease **AGIP GREASE MU EP 2**



### NOTE

Prior to working with the equipment read this entire sequence, so as to be prepared in time for the unexpected.

It is a good idea to start the equipment at reduced speed, especially in cold environments, to allow a running system, and prevent malfunction of the equipment.

Once arrived at work the operator must:

- insert the handbrake
- Switch the engine off
- remove the ignition key and keep it
- get off the tractor
- check that there are no people, animals and things in the area exposed
- connect the cardan shaft to the PTO of the tractor as described in par. 5.2.

Once the cardan shaft is connected, the operator must:

- turn off the engine of the tractor;
- release the handbrake
- operate at a maximum speed of 6 km / h, reducing it to about 2 km / h in the presence of hard shredding woody material (hard, large, etc.).



Danger of cutting and shearing hands and feet



Keep the tractor engine to an idle speed that ensures the machine with the power required in relation to the work that is taking place.

Walk a short distance with the shredder operated and check the quality of the work performed; if it were not satisfactory, repeat and revise the adjustment of the machine.

Never place your hands and feet to the tool holding rotor when spinning.

During operation, the machine can project material from the back: make sure that people and animals are at least 50 metres from it.

In the operations of change of direction, turn and reversal, disengage the PTO and slightly lift the shredder off the ground to avoid damage to the structure.

After the work, the operator must:

- insert the handbrake
- Switch the engine off
- remove the ignition key and keep it
- get off the tractor
- disconnect the cardan shaft of the tractor PTO and rest it on the suitable support hook
- get on the tractor and release the handbrake
- Switch on the tractor
- bring the shredder in the warehouse, taking care when handling that there are no persons, animals or things exposed



Danger of throwing objects

Once at the store, the operator must:

- insert the handbrake
- Switch the engine off
- remove the ignition key and keep it
- clean the shredder (see section 9 "Cleaning")
- check that there are no oil leaks, in case repair (risk of soil pollution)
- check and if necessary replace all worn parts (see section 7, "Routine Maintenance")



NOTE

If during the processing the equipment stops, refer to section 12.2 "TROUBLESHOOTING"



Danger of hands cutting  
and shearing

## 5.6 STOPS

### ATTENTION GENERAL HAZARD

Only qualified operators and that they have read and understood the safety requirements (Chapter 2) can perform the operations described below. They must also ensure that there are no people, animals and objects exposed the danger zone.

The equipment can be stopped in the following ways:

- momentary stop
- Daily ending hour
- Machine stop for long periods
- Emergency stop

Here following describes how to behave in each case.

### TEMPORARY STOP

To make the momentary stop of the shredder simply turn off the rotation of the PTO of the tractor, by operating the corresponding control panel of the tractor

In case the operator have the need to get off the tractor, he must:

- insert the handbrake
- Switch the engine off
- remove the ignition key and keep it
- get off the tractor

### DAILY ENDING HOUR

- insert the handbrake
- Switch the engine off
- remove the ignition key and keep it
- get off the tractor
- disconnect the cardan shaft from the PTO of the machine;
- clean the shredder (see section 10 "Cleaning")
- check that there are no oil leaks, in case provide repairing (risk of soil pollution)
- check and if necessary replace worn parts (see section 8 "Routine Maintenance")



### LONG DOWNTIME PERIODS

When you park the machine for long periods, you must:

- operate the parking brake of the tractor
- lower the outriggers of the machine
- place the shredder on the ground
- turn off the motor of the tractor
- remove the ignition key from the control panel and keep it
- get down from the driver's seat
- Disconnect the PTO shaft
- rest the PTO shaft on the support
- remove the cotter and the pin and remove the tie rod (third top point)
- secure the tie rod to the proper mounting on the tractor
- pull the cotter and the connection pins and then remove the arms of the rear hydraulic lifter of the tractor from the coupling points of the shredder
- climb on the tractor again
- start the tractor and get away with caution
- clean the shredder (see section 9 "Cleaning")
- lubricate all parts of the shredder that are not painted with a rust inhibitor

It is required that the ground on which the shredder rests is level and inside a protected area, in order to prevent unauthorized personnel from approaching.



Danger of hands cutting and shearing

## EMERGENCY STOP

To make the emergency stop of the shredder simply turn off the rotation of the PTO of the tractor, by operating the corresponding control panel of the tractor. At this point, pull the handbrake, turn off the engine, remove the ignition key and keep it safe.

Find out the cause which induced the emergency stop, if necessary, consult section 12.2 "TROUBLESHOOTING"

Decision making:

- if required bring the equipment to zero energy state
- if required call for technical assistance
- if you can repair the equipment

After remedying the cause that prompted the emergency stop then restart the equipment.

## 6. ADJUSTMENTS

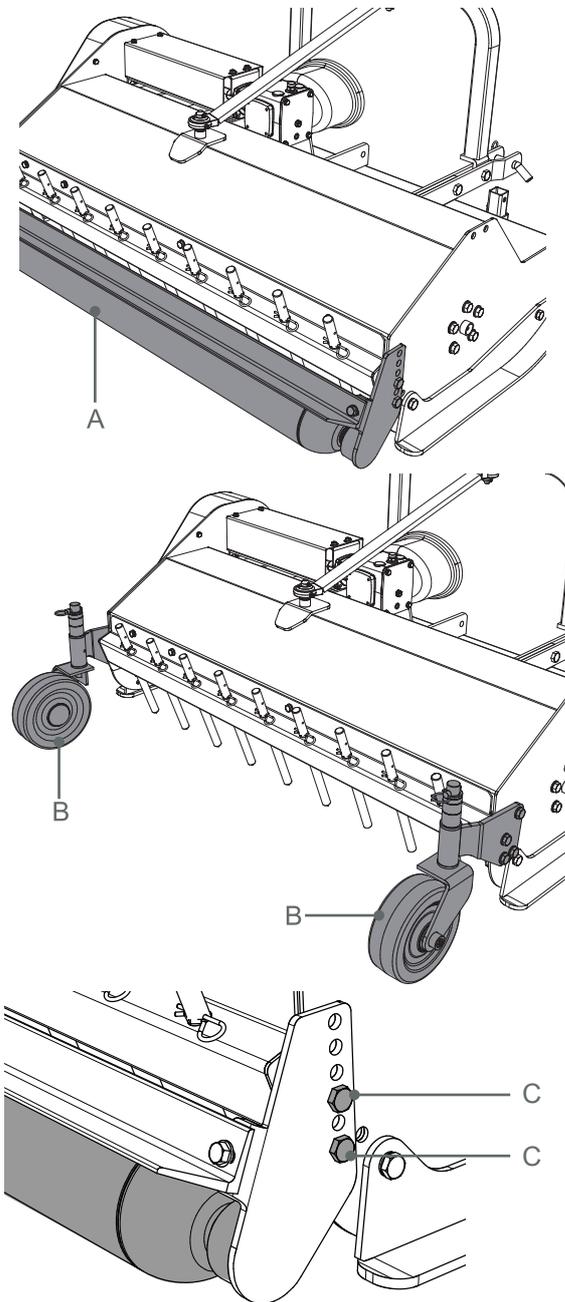
### 6.1 ADJUSTING THE WORKING HEIGHT

The working height of the machine is determined by the vertical position of the rear roller "A" or swivel wheels "B" (optional).

Lifting the roller / wheels the tools approach to the ground, and conversely, lowering them, the tools will move away from the ground. Make sure that after a change of the working, the tools are not touching the ground: a direct contact would facilitate their quick wear.

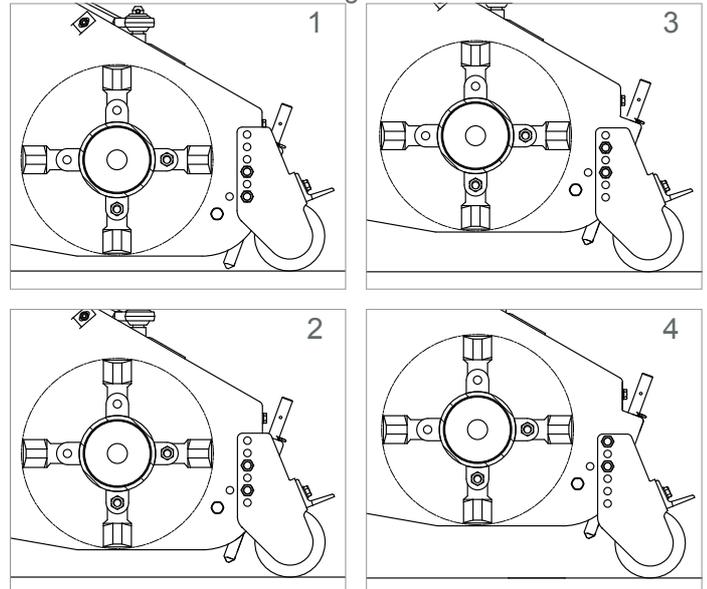
To adjust the height of the roller:

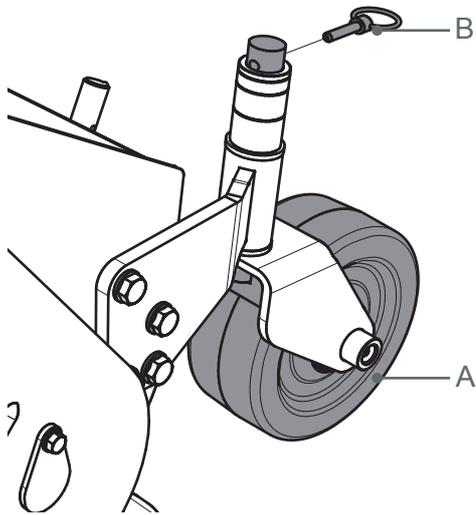
- disengage the power take-off and disconnect the cardan shaft
- lift the shredder and place it on supports to ensure stability
- unscrew and remove the bolts "C" with suitable wrench on both sides of the shredder
- position the roller according to your needs by consulting the diagram below
- reinsert and tighten the bolt "C" on both sides ensuring that the two side supports are positioned both at the same height.



Cutting height of the roller stabilizer (mm)

Pos.	Height
1	32
2	57
3	82
4	107



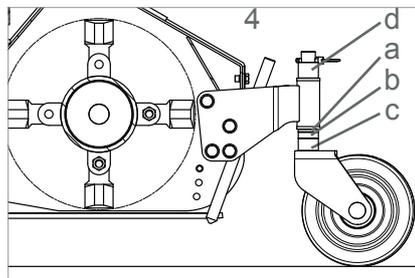
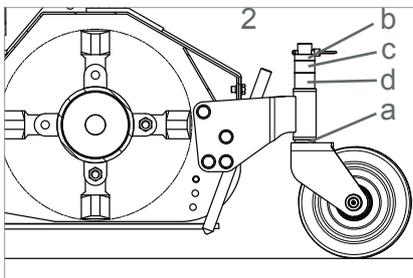
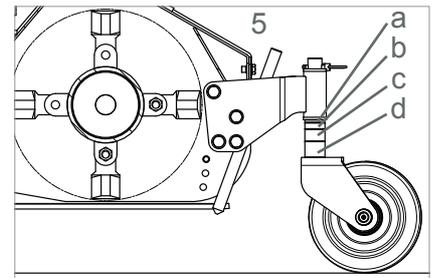
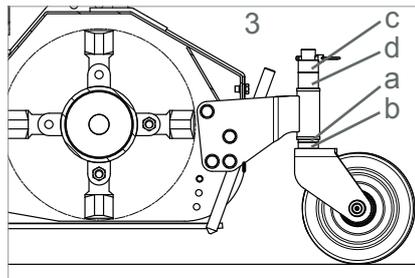
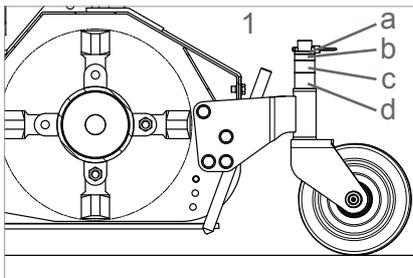


Adjusting the height of the rear wheels:

disengage the power take-off and disconnect the cardan shaft

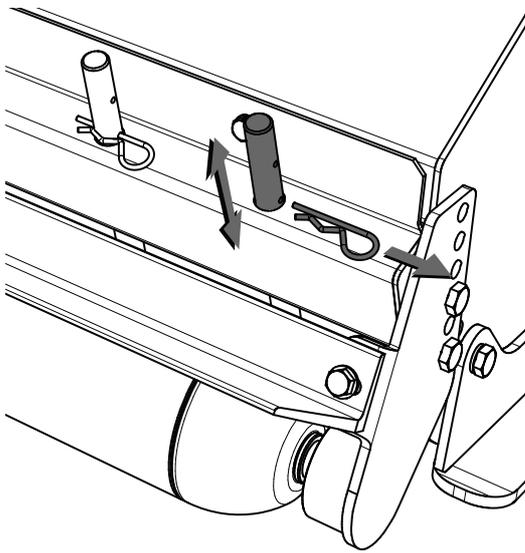
- lift the shredder and place it on supports to ensure stability
- keep steadily upward the wheel and all its support "A"
- remove the pin snap "B"
- pull the wheel full of support "A" and the spacers that regulate its height
- reposition the spacer into the lower part of the wheel support pin in order to properly adjust the height (see diagrams and tables below)
- insert the wheel support pin in its seat and reposition the spacer at the top of the pin
- reinsert the pin snap "B"
- repeat the operation on the opposite wheel making sure the spacers are positioned exactly like those of the first wheel

Height of swivel wheels spacers (mm) (optional)		Cutting height of the rear wheels (mm)	
Pos.	Height	Pos.	Height
a	6	1	70
b	12.5	2	76
c	25	3	89
d	32	4	114
		5	145



## 6.2 ADJUSTING THE SIDE SLIDES (optional)

The side slides, in the presence of stabilizer or roller swivel wheels, have the sole function of protecting the side frame plates from any direct contact with the ground. Therefore, unless special requirements, we recommend that you leave them positioned as they are configured in the factory.



### 6.3 ADJUSTING THE HOOKS

The hooks are intended to obtain a finer shredded material, keeping it for longer into the chopping chamber.

Therefore, the adjustment of hooks must be done immediately after adjusting the cutting height of the chopper, except for specific needs.

Proceed as follows:

- pull the cotter of one of the side hooks
- push downward the hook until it touches the ground
- pull out the hook until you uncover the first pin hole of the cotter
- insert the cotter into the uncovered hole
- check which hole is used for the cotter, by counting the holes from the top
- proceed adjusting all the hooks inserting the cotters in the same hole of the hook initially adjusted

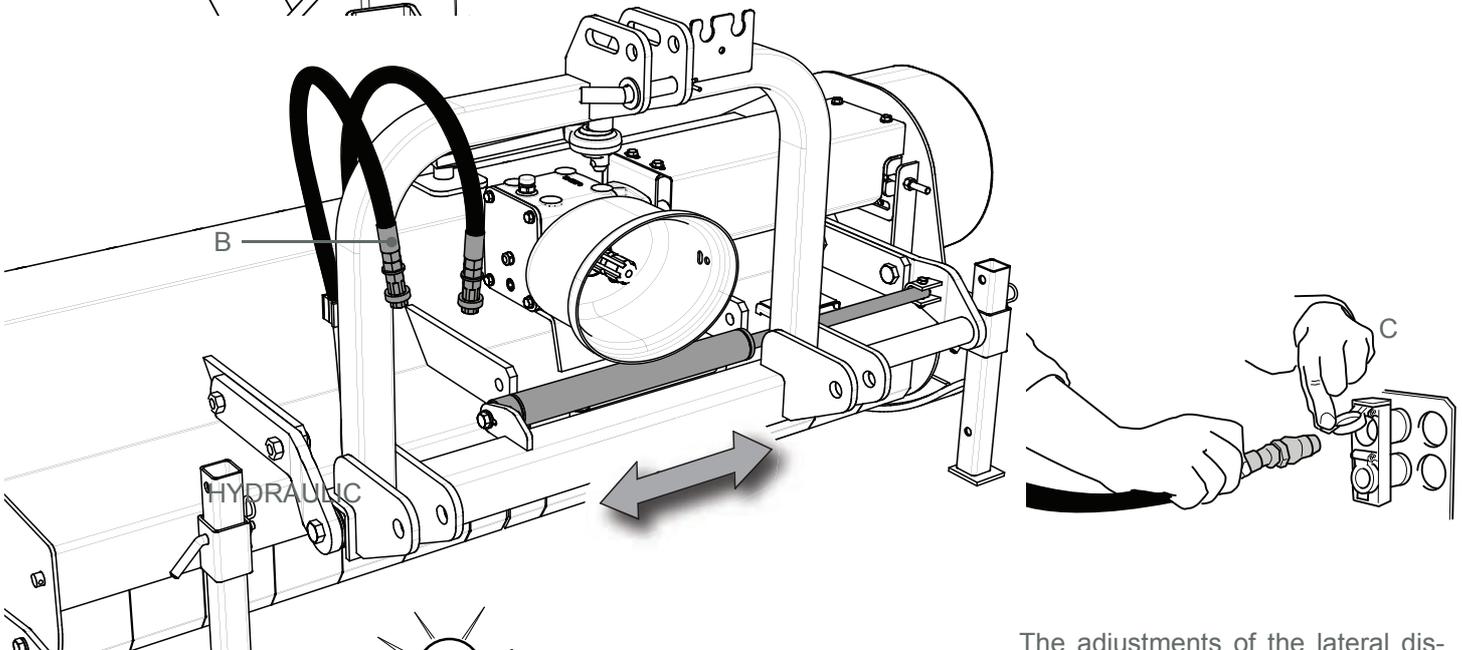
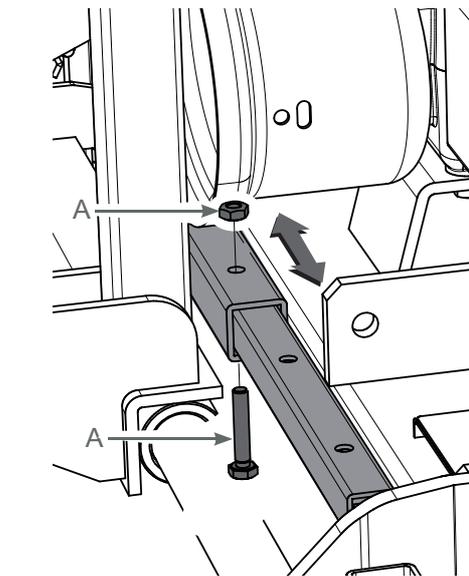
### 6.4 ADJUST OF SIDE SHIFT (if present)

The TE shredder are movable, as already seen in Sec. 1.8, and can be configured in manual or hydraulic mode.

To adjust the side position of the machine with manual jack, proceed as described:

- with PTO disengaged and cardan removed, lift the shredder
- unscrew and remove the bolt "A" with a suitable wrench
- manually move the body by pushing from its ends until reaching the optimum position overlaying the closest holes of the manual jack
- reinsert the bolt extracted earlier and tighten it firmly

If the arc is equipped with hydraulic cylinder its position can be changed at will, using the controls of the tractor itself, after connecting the quick couplings "B" to the users of the tractor "C".



The adjustments of the lateral displacement shall be made only with machine off the ground, on the ground work, PTO disengaged, handbrake on, making sure of your own and other's physical safety.

## 6.5 ADJUSTING THE TENSION OF BELTS

The tool holder rotor is rotated by a fixed belt tensioner, manually adjustable.

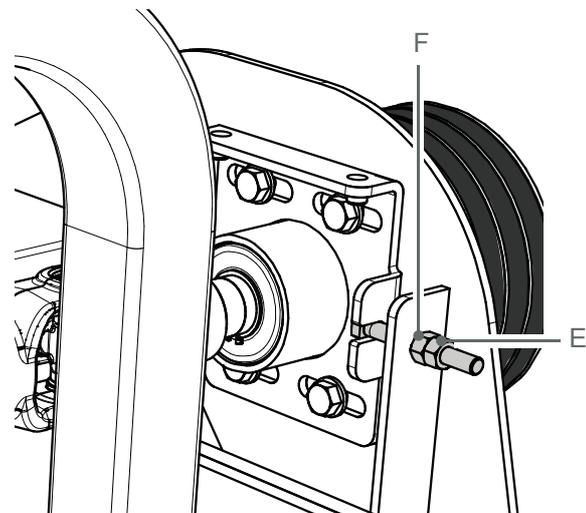
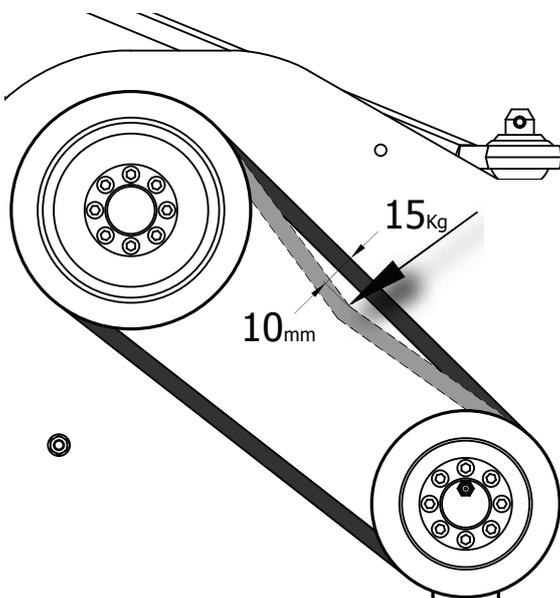
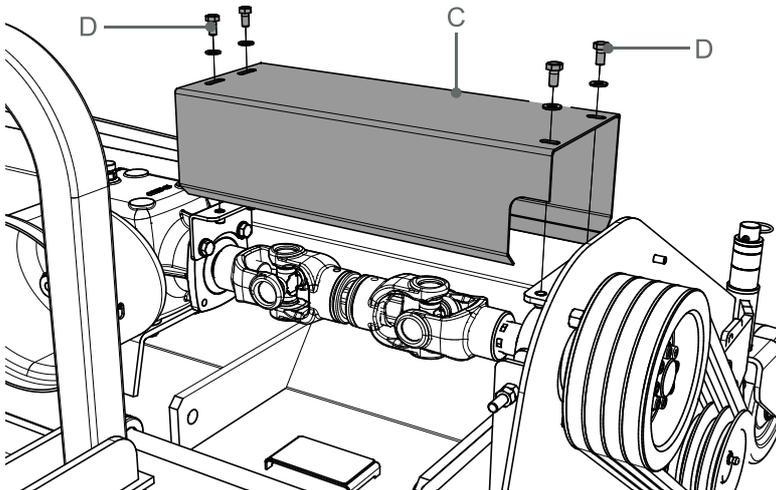
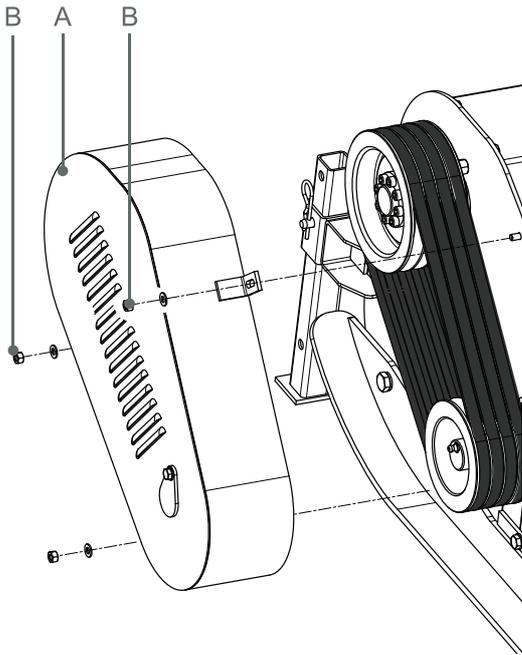
To adjust the tension of the drive belts, proceed as follows:

- remove the protective cover "A" of the belts by loosening the 3 nuts "B" that secure it, keeping their screws on the opposite side of the plate.
- remove the protective cover "C" of the cardan shaft by removing all the screws "D" that fix it to the body
- loosen the counter-nut "E" keeping the tension nut "F"
- tighten the tension nut "F" if the belts prove to be loosen; unscrew it if the belts prove to be too tight.

In case of replacement of the set of belts, loosen the tension of the belts by loosening the tension nut "F" totally.

**The belts are properly tightened if, by applying a force of about 15 kg on the centre of the set of belts, these will deflect of about 10 mm.**

- once properly adjusted the belt tension, while holding the tension nut "F", vigorously screw the counter-nut "E"
- reposition and secure the two previously removed protective casing





## 7. ROUTINE MAINTENANCE

### WARNING

Only qualified operators and that have read and understood the safety requirements (Section 2) can perform the operations described below. They must also ensure that there are no people, animals and objects exposed within the danger zone.

The operator must know and follow the directions exactly and must have completed the decommissioning of the machine.

Periodic inspections and maintenance operations described in this chapter must be performed within the time and in the manner prescribed and shall be borne by the operator.

Failure to comply with standards and maintenance time affects the proper functioning of the machine and its duration, consequently invalidating the warranty.

For any other maintenance refer to sec. 12.2 "Faults and Remedies" or contact the Manufacturer or its service centres.

Given the complexity of the equipment, repairs, modifications, special maintenance other than those listed below should NOT take place without consulting the Manufacturer or its service centre. Depending on the case, the latter will give authorisation to proceed with all written instructions necessary or will recommend the intervention to one of his own technician.

These precautions are due to the fact that, incorrect or untimely operations can lead to anomalous operating conditions, damage to the display unit and risks for staff.



### WARNING

Before performing maintenance read this entire part so as to be prepared in time for the unexpected.

### WARNING

Make sure the actual stability of the equipment (tractor and shredder) before performing any maintenance (the limit of maximum tilt of the soil should be 3°).

Before performing any maintenance operation, the operator must bring the shredder to the state energy zero (see sec. 2.1)

The maintainer and any helpers must be provided with PPE (Personal Protective Equipment) and wear them according to need.

Do not carry out repairs for which the procedure is not well known. Always follow the instructions and, in the absence of these, contact your dealer or experienced staff.



Do not use lifting devices other than those listed.

Make sure that the lifting device chosen is suitable to perform the operations in accordance with the safety regulations.

Do not hold the tractor engine running in closed areas without a suitable ventilation system to dispose of harmful exhaust gases that are concentrated in the air.



Avoid prolonged or repeated skin contact with lubricants because they could create skin disorders or other syndromes.

Do not swallow fuel / lubricants / fluids. If accidental eye contact occurs, flush immediately with plenty of water.

Do not weld in an enclosed or poorly ventilated areas.

Do not weld on coated surfaces, to prevent the development of toxic va-



pours. Remove the paint with suitable products, then wash the surfaces and allow to dry.

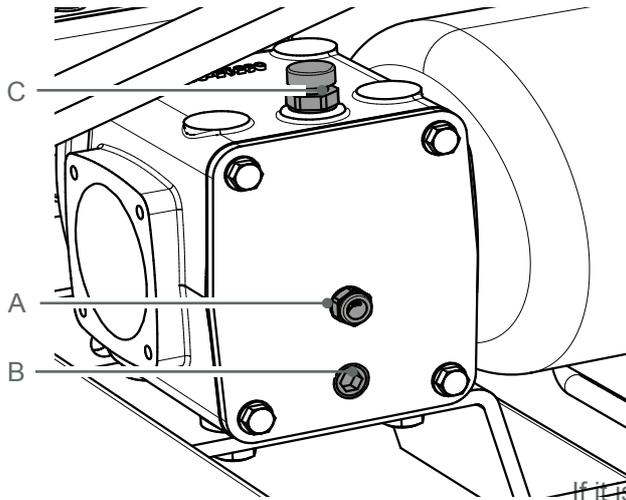
SICMA INFORMS THAT ANY CHANGES TO, OR ALTERATION TO THE SHREDDER, OR ANY TRANSACTION ACCOMPLISHED AND NOT STRICTLY REPORTED IN THIS MANUAL, ESPECIALLY THE NON-COMPLIANCE WITH SAFETY INSTRUCTIONS, NOT ONLY VOID THE WARRANTY, BUT ALSO RELIEVES SICMA FROM ANY RESPONSIBILITY FOR DAMAGE AND PEOPLE.



**ATTENTION BURN DANGER**

#### WARNING

Before touching the box of the multiplier wait until it has cooled sufficiently.



#### WARNING

The operator should be careful to oil leaks caused by faults and, where appropriate, provide for the immediate repair; he also must be careful not to pour oil on the ground when you top up or replacement.

Checking the oil level in the gear box of the multiplier unit should be performed visually, checking that the level is clearly visible from the porthole the special cap "A".

If it is necessary, top up with the following steps:

- with a wrench unscrew the oil filler cap / breather oil "C"
- Refill oil type AGIP-ENI BLASIA 150 using a funnel until the oil level is visible through the cap "A"
- replace the filler cap "C" and tighten firmly.



The oil of the multiplier should be replaced:

- After the first 50 working hours
- Every 500 working hours

To replace the oil proceed as follows:

- place a container under the oil drain plug "B" (bottom of the casing)
- Unscrew the oil drain plug "B" and drain the oil completely
- dispose of the drained oil into a suitable container for used oil
- tighten the oil drain plug "B" previously unscrewed
- unscrew the cap "C" for oil loading/unloading
- by means of a small funnel topping up with oil type AGIP-ENI BLASIA 150 pouring into the hole of the cap "C" up to the level reached
- made the topping, provide for the tightening of the cap "C".



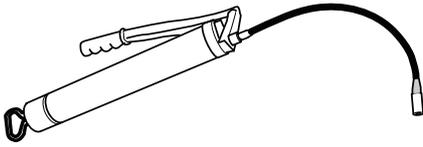
**CAUTION RISK OF POLLUTION OF SOIL AND GROUNDWATER**

Recover used oil and dispose of them properly in appropriate collection centres because, according to the current laws, it should not be released into the environment because it is classified as hazardous waste. It is therefore necessary to turn to the "Waste Oil Mandatory Consortium" ([www.cooou.it](http://www.cooou.it), Green Number **800-863048**).

For other Countries refer to the current anti-pollution laws.

## 7.2 GREASING

Re-grease should be carried out with a special manual grease pump (as an example in the figure) using grease type **AGIP GREASE MU EP 2** after cleaning the grease nipples.

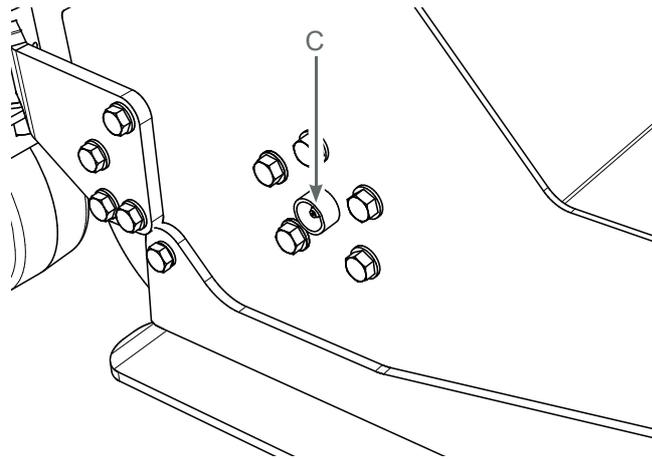
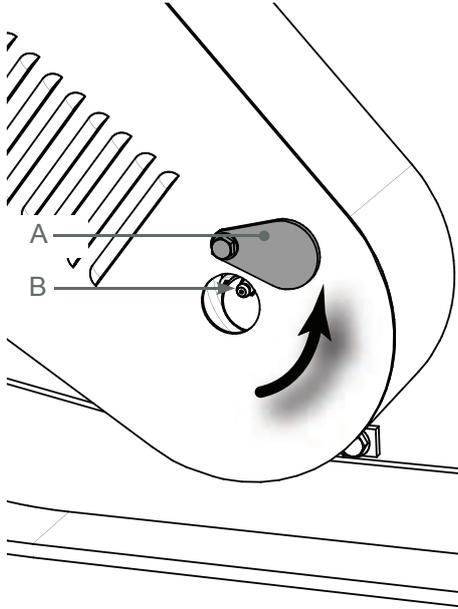


### SHAFT SUPPORT GREASING

(Every 20 working hours)

To grease supports proceed as follows:

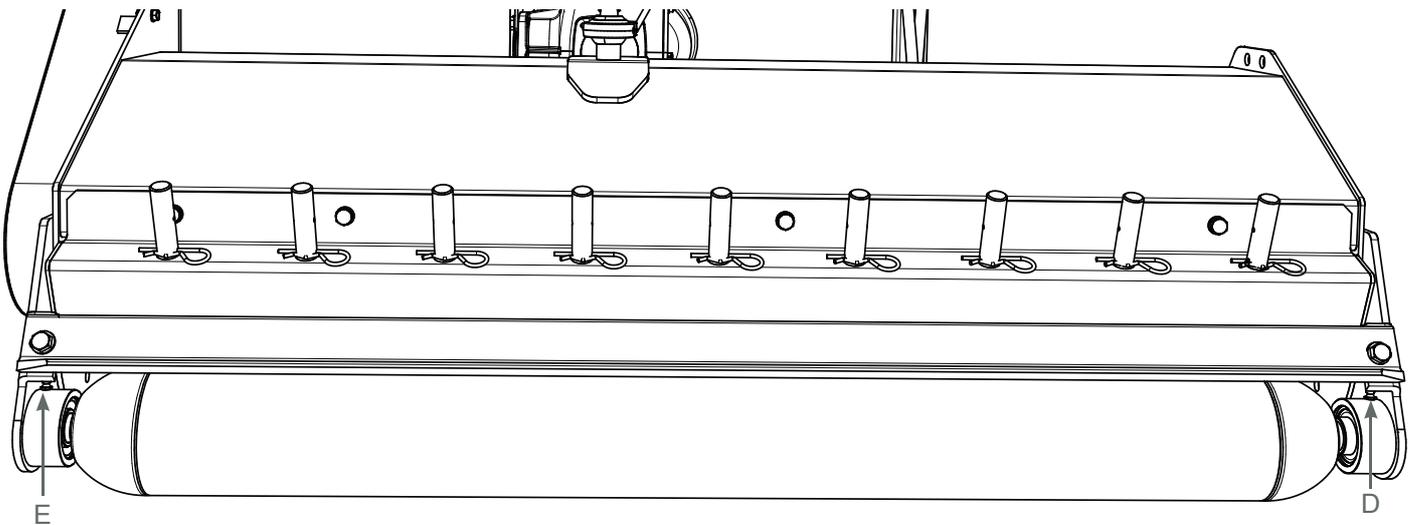
- rotate the metal cap to drop the "A" position on the transmission crankcase and inject specific grease into the greaser "B"
- inject grease into the greaser "C" located on the opposite side of the shredder



### REAR ROLLER SUPPORTS GREASING

(Every 20 working hours)

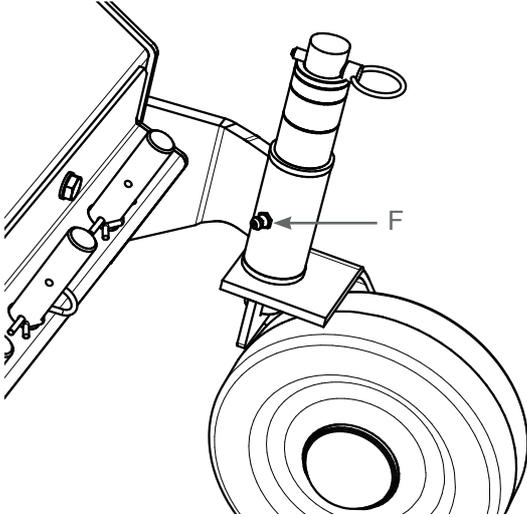
Inject grease into the grease nipples "D" and "E" located on the top inside of the supports of the rear roller.



### SWIVEL WHEELS SUPPORTS GREASING (OPTIONAL)

(Every 50 working hours)

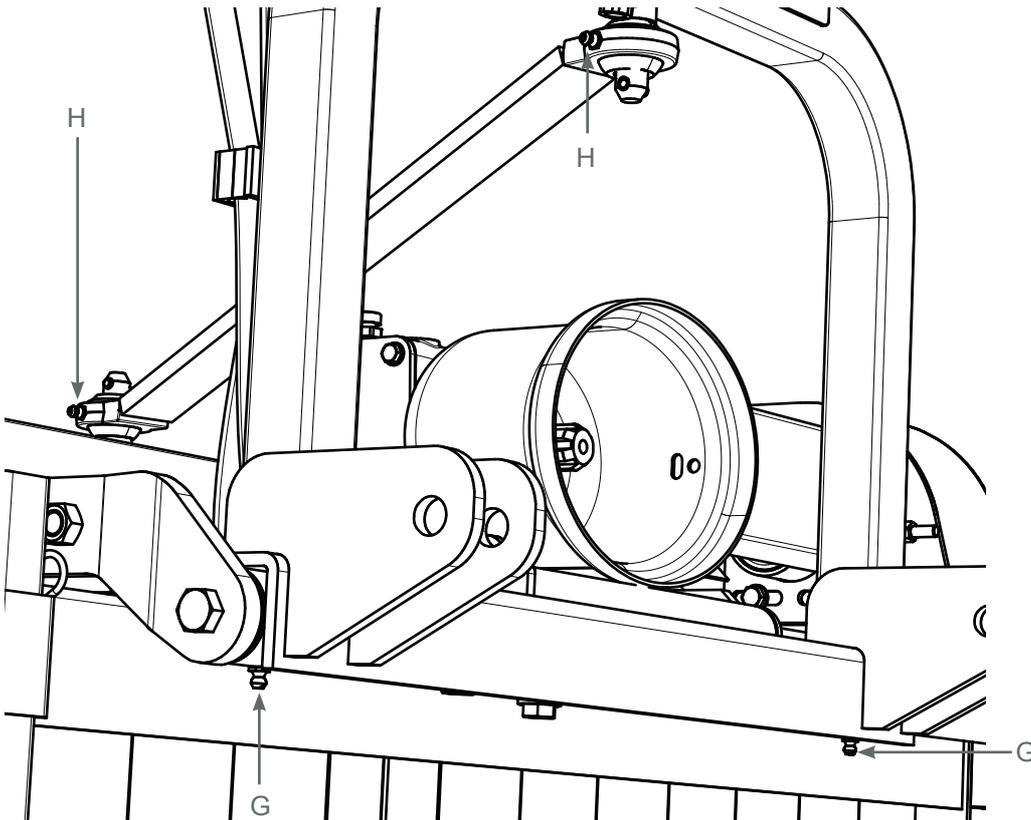
Inject grease into the grease nipples "F" located in the inner part of both supports of the rear swivel wheels.



### 3-POINT COUPLING DISPLACEMENT GUIDES GREASING (if any)

(Every 20 working hours)

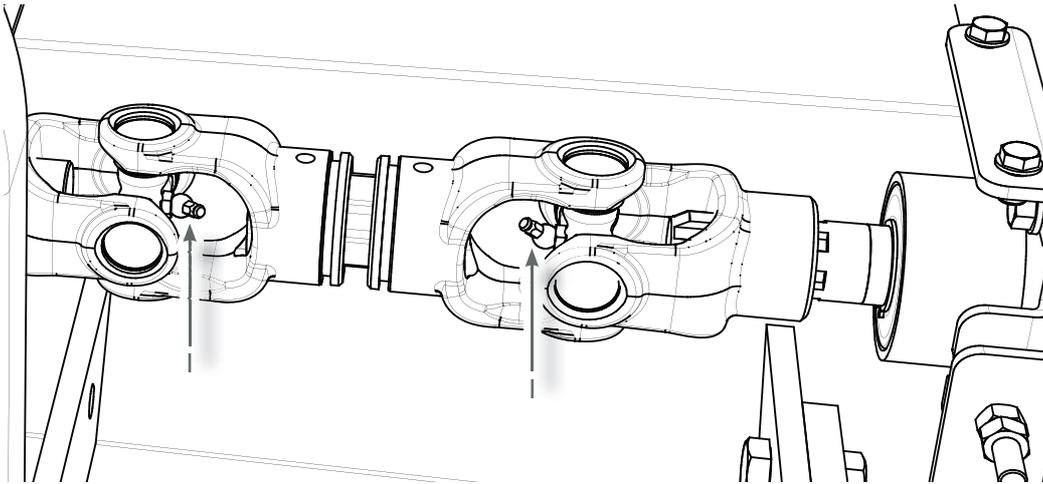
Inject grease into the grease nipples "G" and "H" on the bottom side of the supports in the displacement guides and in the side of the support tie rod joints for moving the mobile coupling.



## GREASING THE CROSS BEARINGS OF THE TRANSMISSION CARDAN SHAFT

(Every 20 working hours)

After removing the protection of the cardan shaft transmission, inject grease into the grease nipples "I".

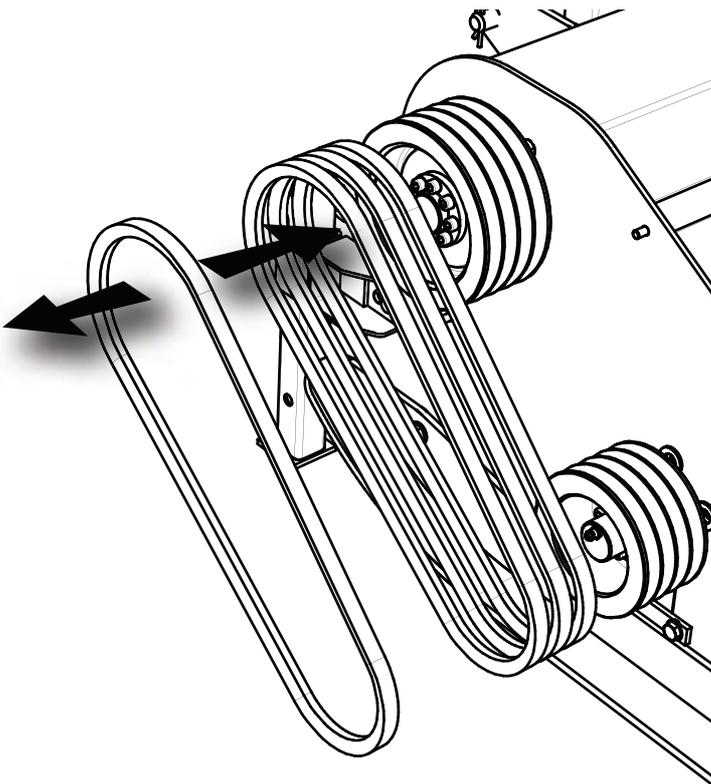


## 7.3 REPLACEMENT OF TRANSMISSION CHAINS

Frequently check the state of wear of the belts and if one or more of these prove deteriorated, replace throughout the whole set.

To replace the transmission belts, proceed as follows:

- remove the protective casing of the belts and completely loosen their set, following the procedure described in section 6.5 "Adjusting the belt tension"
- once completely loosened the belts, remove them before pulling the outer and the other in succession
- replace all the belts with a new set by running the installation in the reverse direction from the previous point
- perform the tensioning procedure as described in section 6.5 "Adjusting the belt tensioning"



## 7.4 REPLACING KNIVES/HAMMERS

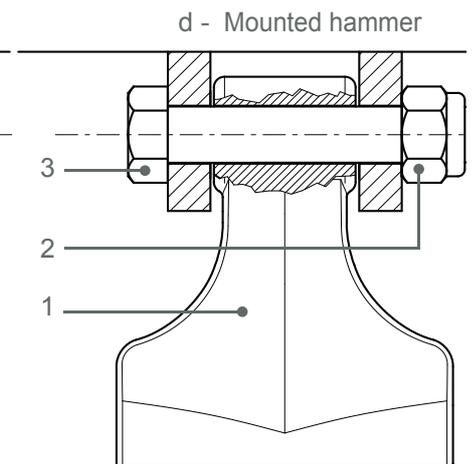
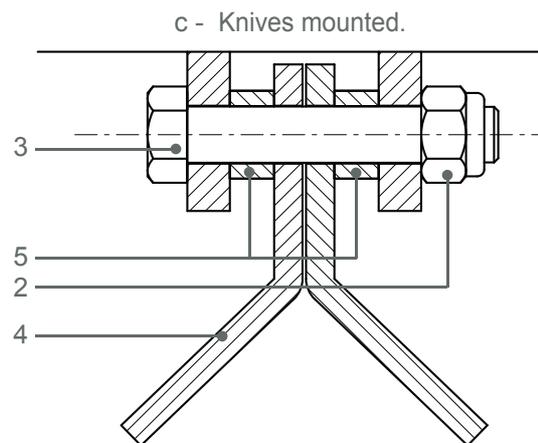
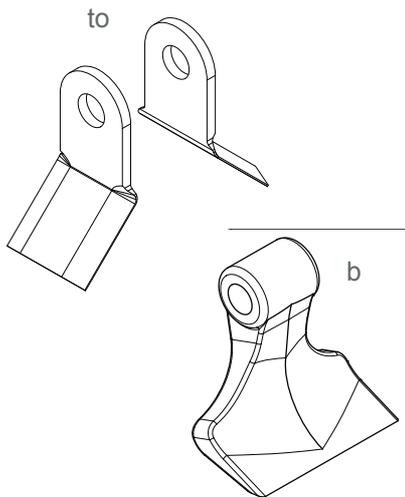
The TE can be equipped with knives or hammers depending on the work to be carried out:

- (a) Universal knives: for grass, straw (Fig. C mount)
- (b) Smooth hammer: for grass, corn, grain (Fig. D mount)

To get a perfect operation of the machine it should be checked frequently (at least every 50 hours of work) that the hammers or knives of the shredder are all in good condition and properly secured by tightening bolts; if they were broken or worn they should be replaced with new and original spare parts.



**ATTENTION DANGER OF CUTTING**



### TOOLS LIST

Ref.	Descr.	Code	QTY				
			TE145	TE160	TE180	TE200	TE220
1	Smooth hammer	5715100	18	20	22	26	28
2	Nut M16 UNI 7473	3464101016	18	20	22	26	28
3	Screw M16x95 UNI 5737	30016090	18	20	22	26	28
4	Knife	5815160	36	40	44	52	56
5	Knife spacers	5535710	36	40	44	52	56



**When the tools are worn out you have to replace the entire set of tools. Replace only some of the tools will result in a certain imbalance of the shaft.**

When working on the replacement of knives or hammers, contact your local service centre SICMA or make this operation due by trained personnel following the assembly diagrams "e" and "f". Please remember to mount tools with the cutting edge facing the direction of rotation of the rotor. It is also advisable to avoid any errors in assembly, reassemble the knives with the corresponding spacer in the same way for all groups of knives.



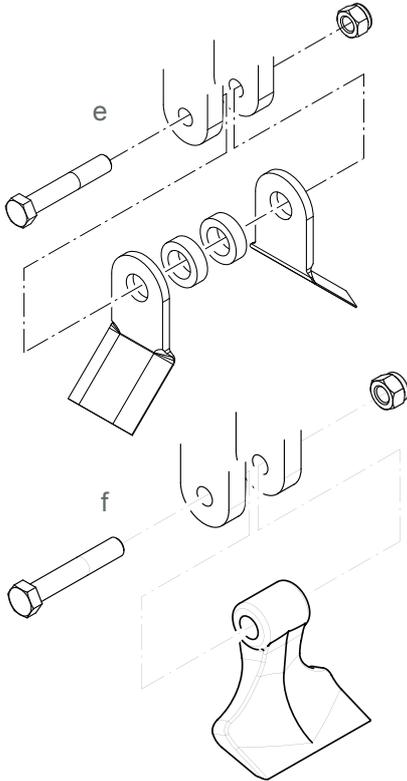
**Do not mount the original tools may result in abnormal vibrations of the machine.**

Always use original spare parts supplied by Sicma, to have the guarantee of a narrow tolerance on the weight of the tools.

Sicma does not recommend to change the type of tools originally fitted on the shaft, such as replace smooth hammers with toothed ones, or with knives and vice versa. If the user wants to carry out do this operation, it is essential to perform the re-balancing of the shaft being made by an authorized SICMA authorized centre (after installing the new tools) to prevent the onset of vibration.

**Sicma disclaims any liability from damages which may result from non-compliance with the requirements described above.**

If you require a new balance it is recommended to remove the weights added to the original balance.



## 8. CARDAN SHAFT

So much for lubrication as well as for maintenance of the PTO shaft supplied with the shredder, proceed as described in the relevant use and maintenance manual provided with it by the manufacturer.



## 9. CLEANING

### ATTENTION GENERAL HAZARD

Only qualified operators and that have read and understood the safety requirements (Section 2) can perform the operations described below. They must also ensure that there are no people, animals and objects exposed within the danger zone.



**ATTENTION  
DANGER OF  
CUTTING**

### WARNING

When cleaning use safety gloves and safety shoes.

The operator must clean the shredder on a ground not saggy and flat and bring the machine to the zero energy state.

If you use compressed air to clean the machine, you need to protect yourself with safety goggles.

Every time you stop working it is advisable to wash the exterior of the equipment with a jet of water (pressure washer), especially in the following parts:

- plane of the frame
- hammers / knives
- 3-point coupling
- Rotor
- Rotor compartment

After washing, protect the unpainted metal parts with brush lubricating oil

## 10. STORAGE AND GARAGING

If the machine is prepared for long downtime periods, it is necessary to store it in a place protected from weathering so as to prevent damage. Before storage it is recommended to thoroughly clean the entire machine and properly lubricate all mechanical parts to protect them from rust.

Before putting the machine in long downtime periods, it is advisable to proceed as follows:

- free the rotor and tools from any remaining shred
- Clean the machine thoroughly.
- perform a general visual inspection of the machine to detect any structural damage, deep scratches on the paint, the presence, integrity and legibility of the original safety pictograms and that they are placed in their original positions
- grease all the mechanical organs including the locking pins
- shelter, if possible, the machine in a covered, flat surface and consistent.



## 11. SCRAPPING

In case of scrapping, the machine must be disposed of in landfills appropriate, in accordance with current legislation.

In Italy, prior to the destruction, it is necessary to separate the parts of plastic or rubber from metal ones. Parts consisting solely of plastic, aluminium, steel, they can be recycled, if collected by the testing centres.

Recover any waste oil and dispose of in the appropriate collection centres. Used oil must be properly recovered and should not be released into the environment because, according to the current laws, it is classified as hazardous waste and as such must be given to the designated collection centres. For the collection of waste oil it is required to consult the "Waste Oil Mandatory Consortium" ([www.coou.it](http://www.coou.it), Green no. 800-863048); For other Countries refer to their anti-pollution laws.

## 12. QUICK REFERENCE TABLE

The following paragraphs show, in tabular form, the information necessary to speed up the actions described here in both maintenance and for the resolution of unforeseen anomalies.

### 12.1 TIGHTENING TORQUE TABLE

Check tightness of all bolts and nuts daily. In case of need replace repositioning (screws, washers, nuts) respecting the sequence of disassembly.

TIGHTENING TORQUES				
Thread	class of bolt			
	8.8		10.9	
	Nm	Lb-ft	Nm	Lb-ft
M6	11	8.5	17	12
M8	28	20	40	30
M10	55	40	80	60
M12	95	70	140	105
M14	150	110	225	165
M16	240	175	305	225
M18	330	250	475	350



## 12.2 FAILURE AND REMEDY TABLE



### NOTE

Before applying the suggested remedies, check with another attempt if the problem persists. In this case, start with the most basic remedies. If, despite the measures taken the fault persists, contact the service centre.

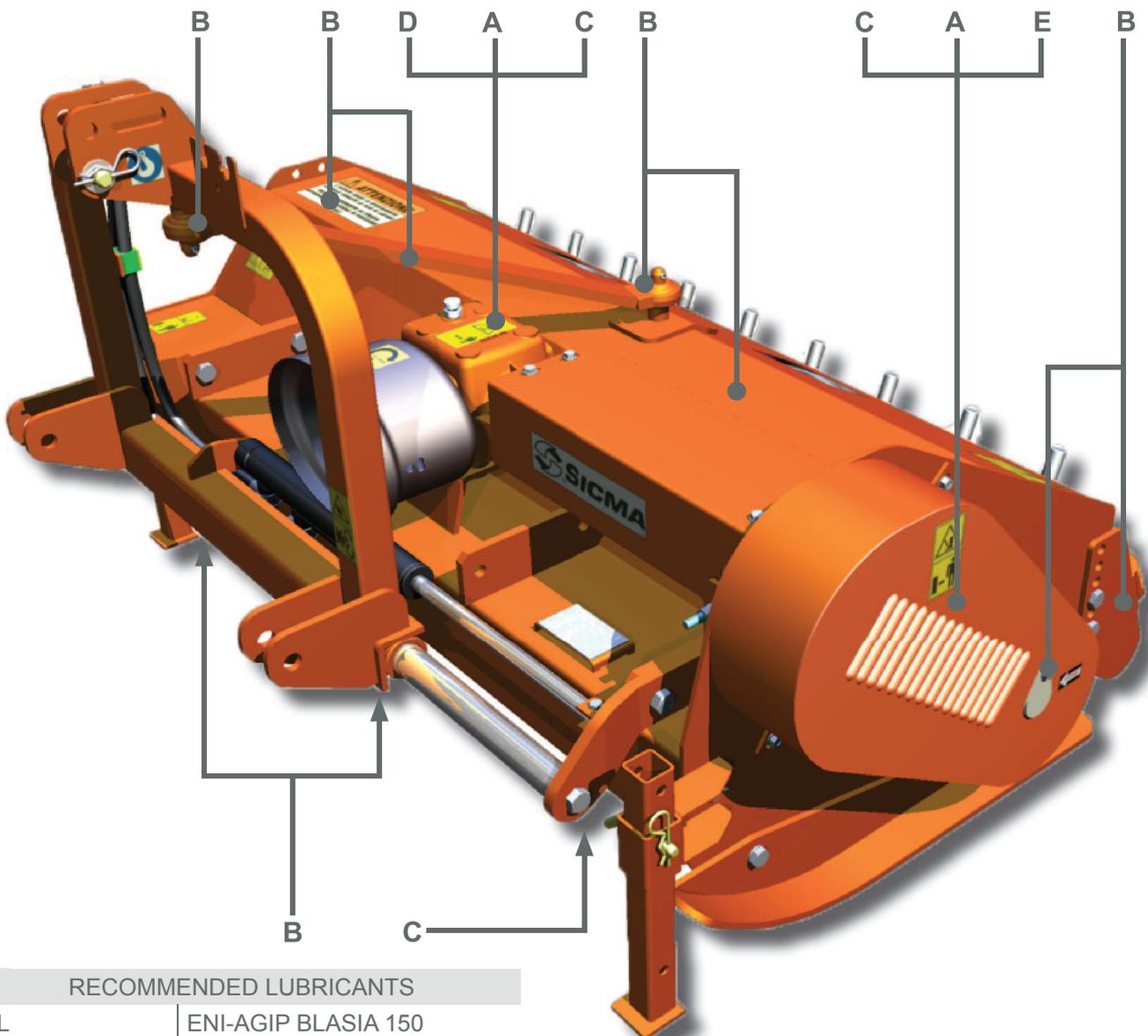
FAULT	CAUSE	SOLUTION
Oil leakage from the box multiplier	<ul style="list-style-type: none"> <li>• Too much oil in the box</li> <li>• Breather plug with faulty valve</li> <li>• Caps loading / unloading / slow levels</li> <li>• Damaged gaskets</li> </ul>	<ul style="list-style-type: none"> <li>• Restore the proper oil level</li> <li>• Replace the breathing cap</li> <li>• Tighten the caps of loading / unloading / level</li> <li>• Replace the gaskets</li> </ul>
Uneven shredding	<ul style="list-style-type: none"> <li>• Tools worn or damaged</li> <li>• Roller / wheels are not properly adjusted</li> <li>• Machine clogged</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the tools</li> <li>• Make adjustments</li> <li>• Decrease the forward speed of the tractor</li> <li>• Clean the shredding chamber</li> </ul>
Overheating of the conical couple unit	<ul style="list-style-type: none"> <li>• Insufficient oil</li> <li>• Finished oil</li> <li>• Material hard to shred</li> </ul>	<ul style="list-style-type: none"> <li>• Reset the oil level</li> <li>• Reduce the forward speed</li> </ul>
Premature wear of the tools	<ul style="list-style-type: none"> <li>• Stony ground</li> <li>• Height of cutting tools too low</li> </ul>	<ul style="list-style-type: none"> <li>• Supervise the ground in advance</li> <li>• Adjust the cutting height</li> </ul>
Noise or vibration of the machine	<ul style="list-style-type: none"> <li>• Unbalanced rotor</li> <li>• Worn bearings.</li> <li>• Tools damaged, worn or missing</li> </ul>	<ul style="list-style-type: none"> <li>• Perform balancing in a specialist workshop</li> <li>• Replace the bearings.</li> <li>• Replace the tools</li> </ul>

## 12.3 MAINTENANCE TABLE

	TIME RANGE	OPERATION DESCRIPTION
<b>A</b>	AFTER THE FIRST 50 WORKING HOURS	<ul style="list-style-type: none"> <li>check the correct tensioning of transmission belts</li> <li>Check the correct tightness of the nuts and bolts</li> <li>Change the oil in the gear box housing</li> </ul>
<b>B</b>	EVERY 20 WORKING HOURS	<ul style="list-style-type: none"> <li>grease the supports of the rear roller</li> <li>grease the supports of the shaft</li> <li>Grease the mobile arc supports</li> <li>Grease the PTO shaft crossing bearings transmission</li> </ul>
<b>C</b>	EVERY 50 WORKING HOURS	<ul style="list-style-type: none"> <li>check the correct tensioning of transmission belts</li> <li>Check the correct tightness of the nuts and bolts</li> <li>check the state of wear of the knives / hammers</li> <li>Check the oil level in the gear box housing and eventually fill to restore the level</li> <li>grease the rear wheel supports (if any)</li> </ul>
<b>D</b>	EVERY 500 WORKING HOURS	<ul style="list-style-type: none"> <li>Check the correct tightness of the nuts and bolts</li> <li>Change the oil in the gear box housing</li> </ul>
<b>E</b>	EVERY 1000 WORKING HOURS	<ul style="list-style-type: none"> <li>Remove the drive belts</li> </ul>

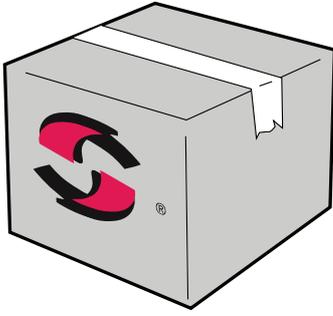


Maintenance should be performed only after you have read and understood the entire shredder manual.



### RECOMMENDED LUBRICANTS

OIL	ENI-AGIP BLASIA 150
GREASE	AGIP GREASE MU EP 2



### 13. SPARE PARTS

Repairs and replacements must be carried out with the use of original spare parts, which must be requested to the dealer. It should be noted that the demand for spare parts must be properly accompanied by the following information:

- machine type;
- serial number;
- code and description of the replacement part request detectable by the Exploded diagram of Spare Parts.
- Quantity requested;

Given the particular stress to which the equipment is subjected and for safety reasons, in case of replacement of parts, only request for original spare parts

### 14. WARRANTY

To take advantage of the contractual guarantee provided by the manufacturer, the operator must strictly observe the precautions listed in the Use and Maintenance Manual, and in particular:

- comply with the limits for use provided by the Manufacturer
- not to make any changes or modifications to the machine without the written approval of the Manufacturer
- Always perform all maintenance required
- Only use original spare parts
- ensure that the personnel engaged in the use of the vehicle meets the necessary requirements of skills and training

The warranty shall not apply if the above conditions are not complied with, even if only partially.

The use of spare parts not approved by the manufacturer will void any warranty and exempts the Manufacturer or the Retailer from liability for malfunctions or accidents.

The removal or modification of the guards and protection relieves the Manufacturer from any liability for damage caused to property and / or people.

## 15. NOTES







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