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903694002~00

Eng  
English language



Società Industriale Costruzione Macchine Agricole

CE

Instruction manual  
**SHREDDERS**  
**TB**

**ATTENTION**  
Read carefully this manual before  
using the equipment

903694002~00

### EC DECLARATION OF CONFORMITY

The company

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hereby declares that:

product: SHREDDER  
model: TB  
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

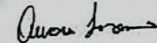
and the technical standards and specifications  
- ISO 11684:1995, ISO 13852:1996, UNI 9456:1989.

The person authorised to compile the technical file is Mr. Lorenzo Aurora

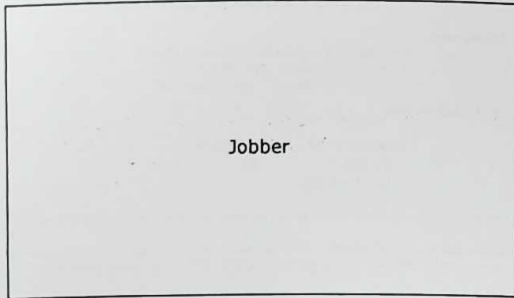


Miglianico, 29-12-2009

**Lorenzo Aurora**  
AMMINISTRATORE UNICO



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No part of this manual shall be reproduced, copied or disseminated by any means without SICMA joint-stock company prior authorization in writing.  
SICMA joint-stock company reserves the right to make any necessary changes without giving prior notice in order to optimize the quality and safety of its products and without committing itself to update this manual every time a change takes place.

This booklet provides an accurate description of the operating instructions and maintenance activities to be carried out on the shredder you bought. We congratulate you on your choice and remind you that reading and following scrupulously all prescriptions here contained will assure the regular working of your machine and especially a high degree of safety.

**The manufacturer therefore declines all responsibility as for the onset of problems caused by a lack of compliance with the instructions and/or negligence of the operator.**

This manual is divided into chapters and paragraphs and its pages are progressively numbered in order to present information in a clear and concise way. Information, thus, can be found through the keywords used as chapters' title and especially consulting the index.

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## GENERAL INFORMATION

Information, descriptions and pictures herein contained reflect the state-of-the-art achieved at that moment when the machine is distributed.

The Manufacturer retains the right to carry out, at any time, possible modifications on the machines, in order to meet technical or commercial requirements. Such modifications shall not oblige the Manufacturer either to intervene on the equipments distributed up to that moment, or to deem this publication inappropriate.

Should the Manufacturer decide to inform about further additions, the latter shall be kept together with the manual and considered as an integral part hereof.

### SYMBOLS

This booklet contains three "safety graphic symbols" to highlight as many danger levels or important information:



**Danger** It draws the operator's attention to situations which can jeopardize people's safety.



**Caution** It draws the attention to situations which jeopardize the machine efficiency but not people's safety.



**Important** It highlights general information which does not endanger people's safety or the efficiency of the parts.

## IDENTIFICATION PLATES

Identification plates are placed on every shredder and are structured as follows:

CE plate



model of shredder  
(example)



dimension  
(example)



120  
cm.



**Important** When asking for information or technical service, always specify the machine type and width.

## ALLOWED USE

The TB shredder has been designed exclusively for agricultural use and is suitable for shredding grass, shrubs and branches up to approx. 3 cm, depending on the specific type of tool the machine is provided with.

The machine is carried by the tractor by means of a three-point connection and is powered by the tractor through a PTO shaft.

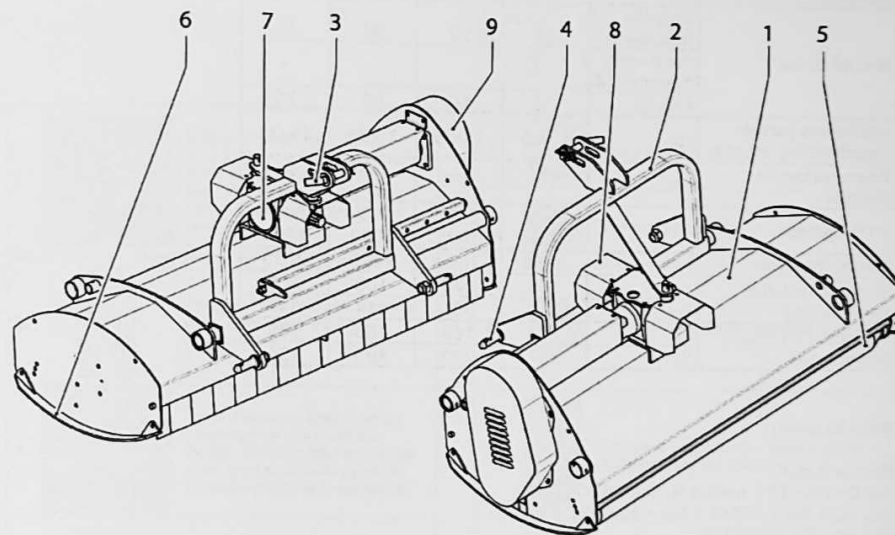
The machine is not intended for any purpose other than agricultural use.



**Caution** Any use of the machine other than the above mentioned one shall be considered as not allowed and dangerous.

## MAIN PARTS TERMINOLOGY

The machine consists in a working equipment based on a rotor having horizontal axes and moving at high frequency. On such rotor the shredding tools are mounted. The shredder is made of the following parts:



- 1) Frame
- 2) Shifting bow
- 3) Upper three-point hitch
- 4) Lower three-point hitch
- 5) Stabilizing roller

- 6) Side skids
- 7) Speed multiplier
- 8) PTO guard
- 9) Transmission case

## IMPROPER USE

When using SICMA shredders it is particularly forbidden:

- The attachment to vehicles of unsuitable power or weight.
  - To assemble the machine without securing the rebound tie rods of the three-point hitch of the tractor's elevator.
  - To work in excessively stony grounds
  - To use the machine without inserting the check-pins when supplied.
  - To work in excessive slopes.
  - To lift the machine when the power takeoff is engaged.
  - To approach the machine when wearing inappropriate work clothing.
- To get on the machine while it is being used or transported

## Technical features

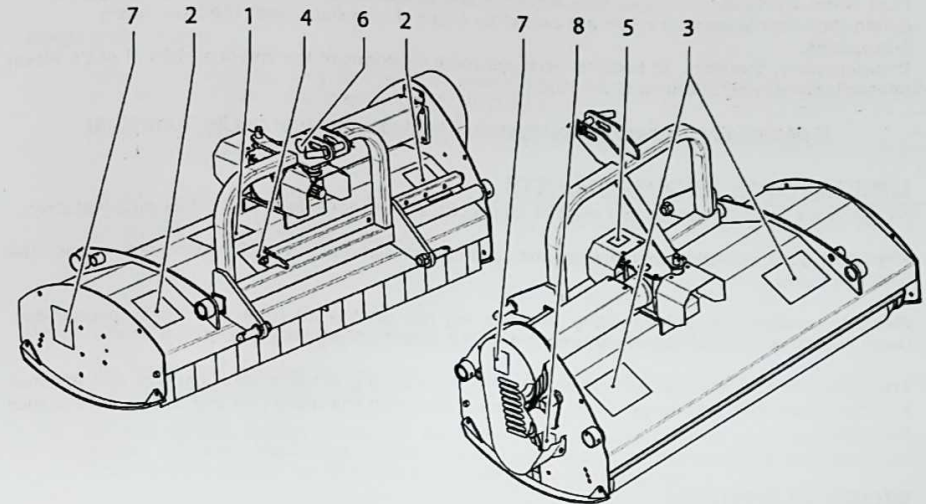
		MODEL			
		TB-110	TB-125	TB-140	TB-155
<b>Total width</b>	mm	1225	1377	1529	1681
<b>Working width</b>	mm	1100	1250	1400	720
<b>Length</b>	mm	720	720	720	720
<b>Height</b>	mm	700	700	700	700
<b>No. of tools</b>	Smooth hammers	26	30	34	38
	Toothed hammers	-	-	-	-
	Knives	52	60	68	76
<b>Minimum power required by tractor</b>	HP	15-35	15-35	15-35	15-35
<b>Connection to tractor</b>	cat	1 <sup>nd</sup>	1 <sup>nd</sup>	1 <sup>nd</sup>	1 <sup>nd</sup>
<b>PTO speed</b>	rpm	540-1000	540-1000	540-1000	540-1000
<b>Shaft rotation</b>	rpm	2080	2080	2080	2080
<b>Weight (manual traversable)</b>	kg	158	173	188	203
	lbs	348	381	414	447
<b>Weight (Hydraulic traversable)</b>	kg	153	168	183	189
	lbs	337	370	403	436

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## SAFETY LABELS

The safety labels and the information on the machine, listed in the following table, must be necessarily carried out; failure to carry out these warnings can cause death or severe injuries. Make sure that the labels are always present and legible, should this not be the case contact your nearest SICMA dealer to replace the missing or illegible ones.



1		Attention: read carefully all instruction and safety rules before using the machine. Stop engine and remove key before starting maintenance or repairs.
2		Danger of feet injuries: rotating tools, keep away from the machine.
3		Thrown objects: keep a safety distance from the machine. Danger of hands injuries: do not open or remove safety guards while the machine is operating.
4		Risk of crushing, hazardous area resulting from moving the machine.

5		Use a 540 rpm power takeoff.
5		Use a 1000 rpm power takeoff.
6		Hooking point for the machine's lifting.
7		Danger of feet injuries: keep a safety distance from the machine.
8		Danger of hands injuries: keep safety guards in position while operating.



## SAFETY

### SAFETY IN THE WORKPLACE

Most of the accidents which take place while the operator is using the machine or the equipment or during their maintenance or repair are caused by a lack of compliance with the basic safety precautions.

It is necessary, therefore, to become more and more conscious of the potential risks of one's action by constantly paying attention to its effects.

**If potentially dangerous situations are known, accidents can be prevented!**

### OPERATOR'S REQUIREMENTS

All operators using the equipment must be competent and meet necessarily the following features:

**Physical:** good eyesight, coordination and capability of carrying out all functions required for the machine's use.

**Mental:** capability of understanding and applying the established rules and safety precautions. Users must pay attention and be sensible for their own and other people's safety.

**Training:** users must have read and studied this manual, its eventual enclosed graphs and schemes and its identification and danger plates. They must be skilled and trained on any use or maintenance activities.

### WORK CLOTHING

When working and especially when executing repair or maintenance activities, it is necessary to wear the following clothing and safety accessories:

- Overalls or other comfortable clothing, not too loose to prevent the possibility that parts of them might be caught in the moving parts.
- Protective gloves for hands.
- Protective glasses or faceplate to protect eyes and face.
- Protective helmet for the head.
- Safety shoes
- Headphones for the Protection of hearing



**Wear only personal safety accessories in good condition and complying with the rules in force.**

## GENERAL SAFETY RULES

**Always consider the features of the area where work is taking place:**

- When the equipment is running, it is forbidden to stand within the field of action of the shredder or of the other accessories of which it is provided with.

**Prepare the work:**

- Before and when working do not drink alcohol, take drugs or any other substances which may alter your capability of working with machine tools.
- Be sure to have sufficient fuel, to prevent a forced stopping of the machine, maybe during a critical movement.
- Do not use the equipment under unsafe conditions. For instance, it is forbidden to execute makeshift repair activities just to start working; it is forbidden to work at night with an insufficiently illuminated working area.

**When working or during the maintenance activities it is necessary to remember:**

- The labels and stickers providing instructions and pointing out the dangers, must not be removed, hidden or made illegible.
- Do not remove, except in case of maintenance, the safety devices, protective covers or sumps. When it is necessary to remove them, stop engine, handle with care and reassemble them properly before restarting the engine and using the equipment.
- It is forbidden to lubricate, clean and adjust the moving parts while they are running.
- During maintenance or adjustment activities on the equipment it is forbidden to use hands for executing operations for which there are specific tools.
- Do not use tools in bad condition or inappropriately, for instance pliers rather than monkey spanners, etc.
- Before executing interventions on hydraulic lines under pressure, disconnect their components and make sure that the line is no longer under pressure and that it does not contain any hot fluid.
- Check out all pipe fittings and make sure that they are well connected before raising steam to the hydraulic lines.
- When maintenance or repairs are completed check out that no tools, wiping rags or other materials are left inside spaces or guides with moving parts.
- While using the equipment it is forbidden to make more than one person give directions and make signals. The eventual directions and signals relating to the load handling must be given by a person only.
- Do not unexpectedly call an operator while he is working if not necessary; it is forbidden as well to frighten who is working and throw objects, even if just for fun.
- When the equipment is not needed, stop the vehicle's engine, park it on a flat ground with first speed and parking brake on, with the machine rested on the ground and power takeoff disengaged.
- Do not make any cleanings, lubrications, repairs or adjustments with running engine and lifted machine.
- Never use the machine in steep slopes which may jeopardize the equipment's stability.

- Should the machine undergo any arbitrary modification, Sicma Spa shall decline all responsibility for damages or injuries which might affect users, third parties or objects.
- Sicma Spa cannot envisage every improper use, reasonably unpredictable, which might cause a possible danger.
- Make sure that all safety labels are readable. Clean them and, if necessary, replace them with new labels.
- Before using the machine, make sure that all safety devices are correctly placed and in good state; in the event of failures and damages to the protections, replace them immediately.
- Before getting off the tractor and before any maintenance intervention, apply the service brake, stop engine, take off the ignition key from the dashboard and keep it.
- Do not leave the machine unattended when the tractor is in motion.
- Do not use the machine either to transport or to lift up persons, animals and objects.
- When used with dry materials (hay, straw, etc.), the machine might produce powder emissions. It is recommended to carry out regular checks on the air system inside the cab or to use adequate devices to protect the respiratory tract, such as anti-powder masks.

## INSTRUCTIONS TO PREVENT FIRE

- It is advisable for tractor users to know the main intervention techniques in the event of fire, because all the fuels and most part of the lubricants and hydraulic fluids are inflammable.
- Stop the engine before refuelling the tractor, do not refuel in close places. Do not smoke while refuelling or reinstating the level of fluids, do not refuel nearby free flames, do not pour the oil fuel.
- Before starting the engine, make sure not to have leaks or traces of fuels/lubricants/fluids which might cause small fires.
- Do not stock inflammable materials inside inappropriate places, do not drill or burn pressurized containers or spray cans, do not store materials imbued with inflammable liquids.
- Be careful in storing cleaning clothes or replaced material which contain inflammables remains.
- In order to reduce down to the minimum any combustion hazard, clean the machine regularly, by using appropriate devices (hydro cleaners or compressed air).
- Extinguish fires only by using appropriate devices: carbon dioxide, foam, chemical powder. Avoid using water jets. Use water jets only to cool down surfaces exposed to fire.
- Never clean mechanical parts by using petrol, solvents or other inflammable or toxic fluids: use exclusively the homologated solvents available on the market, which are neither inflammable or toxic.
- Do not weld nearby reservoirs, pipes, tanks, electric cables or inflammable materials in general. In case of welding, protect inflammable parts with appropriate screens.

**SICMA declines all responsibility for a lack of compliance with these instructions.**

## ROAD TRANSPORT

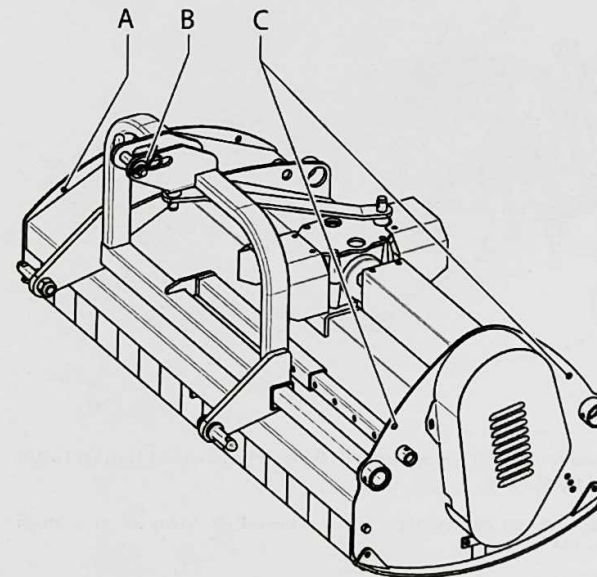
When moving the machine by road transport, it is of fundamental importance to comply with the rules of the road in force in the Country where the machine is transported, by paying particular attention to the advancing speed.

When carried on a public road, the shredder has to keep its transport position and the tractor's PTO has to be disconnected. Since the machine's weight modifies the stability of the tractor-shredding couple, by affecting its steering and braking capacity, it is necessary to advance at a limited speed. Check the lifting capacity of the tractor, as well as its balance, and, if necessary, ballast the equipment on the front.

## HANDLING AND TRANSPORT

Pay the uppermost attention to safety during the loading/downloading operations, which have to be carried out by qualified workers (slingers, forklift truck operators, etc.). To lift up the machine, it is strictly necessary to use the hooking points shown by the safety labels.

The TB shredder can be lifted up by hooking the machine in the point B or by hooking at the same time the holes A and C.





## STARTING UP

Before starting to work with the machine, users have to make themselves familiar with its controls and with the working performances it is capable of.

Always keep the parts of the body inside the tractor's cab, in order to limit as much as possible the exposition to any possible hazard coming from the outside.

Before getting off the tractor and before carrying out any intervention of maintenance and regulation, apply the service brake, stop the engine, take off the ignition key from the dashboard and wait for the moving parts to stop.

The safety of the user and of all the people nearby depends on his capacity to use the machine cautiously and wisely. Therefore, it is necessary to know exactly the position and the function of each control.

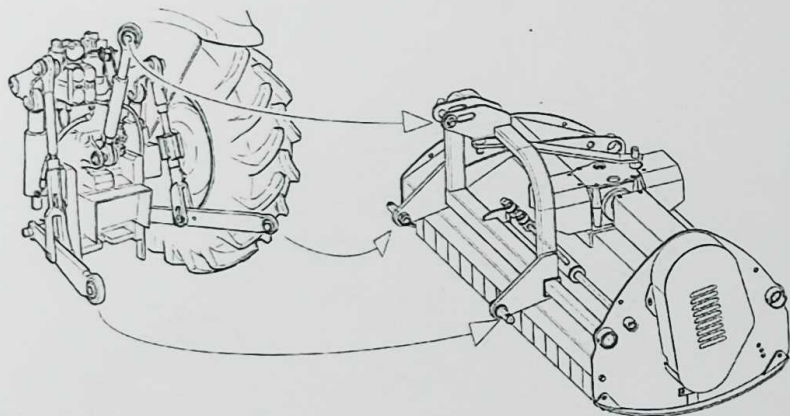
The machine must always be kept in perfect shape and any reparation must be done by using only original spare parts.

## ATTACHMENT TO THE TRACTOR

It is necessary to read up this instruction manual and the manuals of the tractor and cardan shaft manufacturer.

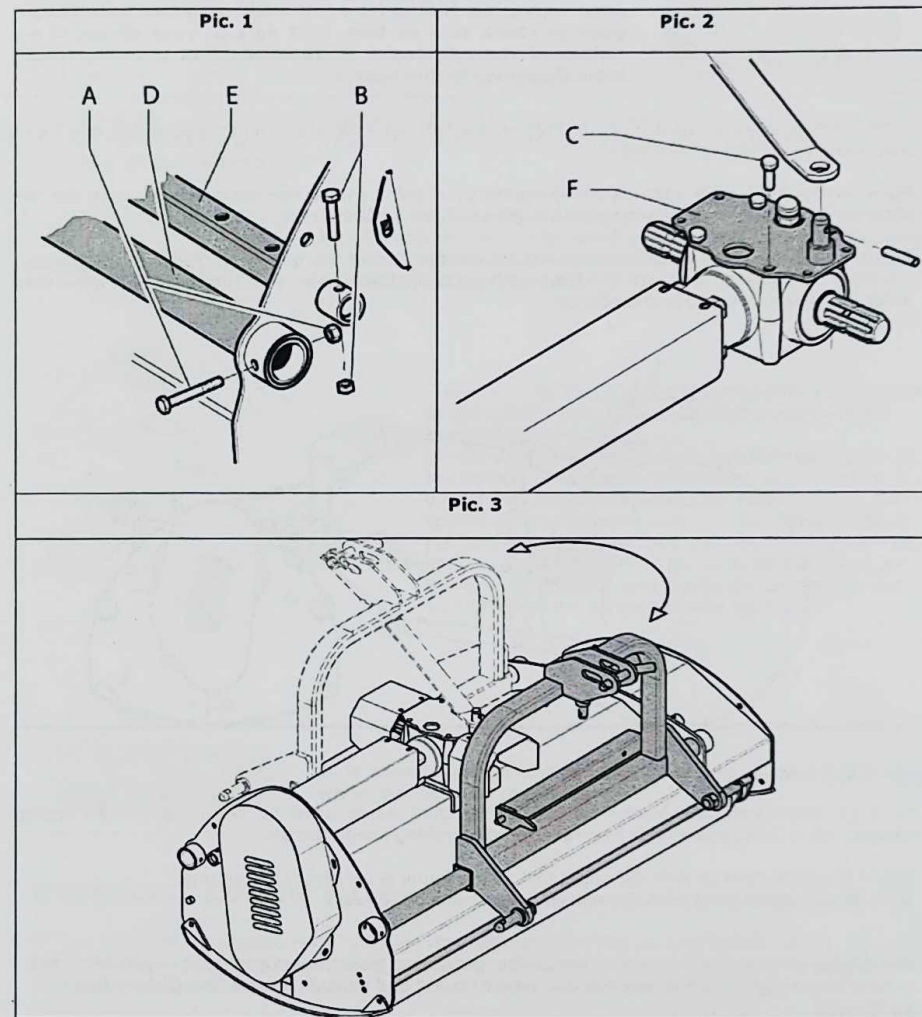
All SICMA shredders have been manufactured to be attached to any tractor provided with hydraulic elevator and universal three-point hitch.

According to the specific equipment chosen by the user when purchasing the machine, the shredder can be connected to the tractor by means of a PTO shaft running at 540 r/m or 1000 r/m, but always keeping a suitable weight and power.



A machine designed for the PTO at 540 rpm PTO can be configured with up to 1000 rpm just replace the top pulley and drive belts

Moreover, the machine can be equipped with a double PTO drive, which enables for both front and rear connection to the tractor.



To connect the shredder to the front PTO of the tractor, proceed as follows:

- Loosen the (A) bolts that locks the tube into place and place them on the rear connection (Pic.1-3)
- (B) unscrew the bolt that locks the rod cylinder (hydraulic or manual) (Pic.1)
- (C) unscrew the bolts that the plate with the kip together (Pic.2)
- properly anchor the mobile arc tube and cylinder to prevent it falling gearbox
- slip off the pipe (D), the cylinder (E) (fig.1) and the plate (F) (Pic.2)
- rotate 180° in those parts (Pic.3)
- reposition their respective offices at the rear of the shredders
- tighten the bolts

The steps must be performed in reverse order to shift from front to back



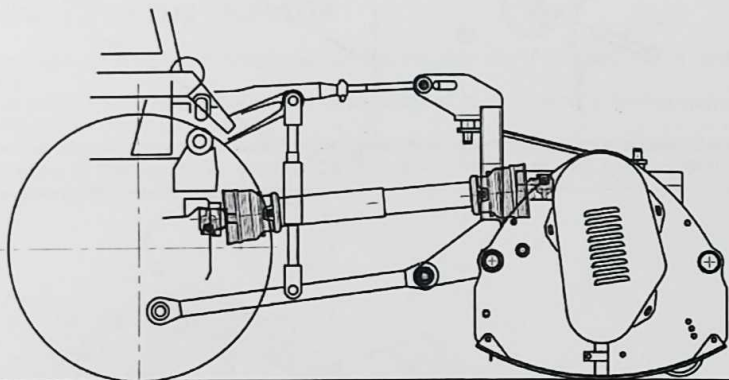
**Caution**

After executing the above-mentioned activities it is always good to check that all bolts and nuts of your shredder are tightened strongly (refer to the bolts and nuts tightening table described in this booklet).

Before attaching the equipment to the tractor, set both on a flat and smooth ground and make sure that nobody is standing between them.

Move slowly the tractor towards the shredder by aligning the tractor elevator's arms to the two shredder hitches' lateral gudgeons; stop engine and pull parking brake.

Connect first the lower arms by removing the release pins of the gudgeons placed on the plates, inserting the elevator bars into the arms centre and fastening them with the relevant release pins, which had been removed in precedence.



Connect, afterwards, the tractor tie rod to the third upper point by removing the pin located between the plates, inserting the tie rod itself and locking it with the pin.

Adjust the third point so that the upper part of the frame is parallel to the ground.  
Lock all connection parts with the special sway chains or tie rods.

It is always good to make sure that the central group axis (sump/bevel gear pair) is parallel to the ground thus reducing the stresses on the power takeoff and extending the working life of the equipment.

**Danger**

Pay attention to the tractor's front wheels grip when the equipment is set up and lifted; if the wheels appear to be too lightened, ballast the tractor front part.

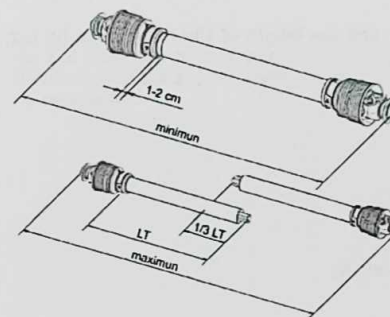
## ATTACHMENT TO THE CARDAN SHAFT

Before assembling the cardan shaft, it is very important to check out that its number of revolutions and direction of rotation match those of the tractor. Moreover, read carefully the instruction manuals of the cardan shaft and the tractor manufacturers.

Before starting work, check the presence of the safety guards on the power takeoffs of the machine, of the cardan shaft and of the tractor. Check in particular that the safety guards cover the cardan shaft throughout its extension.

**Caution**

When at their maximum extension, the safety guards' plastic hoses shall overlap of at least 1/3 of their length (LT). When in their maximum closing position, the minimum clearance allowed shall be of 1-2 cm.



Check out that the cardan shaft minimum and maximum length are the ones required by the machine-tractor coupling.

Should problems arise, contact a skilled repair shop or the cardan retailer. After installation, secure safety guards both to the tractor and the machine using the special chains and make sure that they pivot freely. If the cardan shaft is equipped with other safety devices, such as a pair limiter or freewheels, be sure to install them on the machine side. As for the cardan use and maintenance refer to the relevant booklet.

**Caution**

It is strictly prohibited to step over the cardan shaft, both while moving and standing still.

## HYDRAULIC CONNECTIONS

If your machine is equipped with hydraulic side shift, connect the cylinder to the tractor, by linking the extremities of the inlet/outlet pipes – supplied with quick hitch – to the hydraulic devices of the tractor. Check the connection stability and make yourself familiar with the shifting controls.

## USE OF THE MACHINE

Before using the machine for the first time, or after a long period of stop, it is necessary to proceed as follows:

- Make sure that the machine does not show damages;
- Make sure that mechanic parts are in good shape and without rust;
- Make sure about the wear and tear condition of tools;
- Make sure that joints or pipes do not show oil leaks;
- Make sure that all protections are correctly positioned.

After the above mentioned verifications, avoid starting the PTO by keeping the shredder at its working height. Conversely, it is recommended to start the PTO only after lifting the machine a few

centimetres by using the tractor's lifter. Then it is possible to start the engine, connect the PTO, lower the shredder to its working height and go. Similarly, when changing direction, turning and reversing, lift the cylinder a few centimetres off the ground, after disconnecting the PTO in order to prevent damages to the structure.

Before starting the machine, users have to make themselves familiar with its controls and with the working performances it is capable of. Before beginning to work, make sure that there are no persons or animals within a 50 m radius. Keep the engine running at a speed sufficient to supply the machine with enough power to carry out the specific work it is used for. Drive a short way with the shredder in motion and check the quality of the work made; should it be unsatisfactory, repeat and revise the regulation of the machine.

## WORKING SPEED

The working speed depends on the quality, the diameter and the height of the material to be cut; anyway, it must be between 3 and 10 km/h.

## DETACHMENT OF THE MACHINE

When parking the machine, proceed as follows:

- Apply the parking brake of the tractor;
- Lower down the stand leg of the machine;
- Put the shredder on the ground;
- Stop the engine of the tractor;
- Take off the ignition key from the dashboard and keep it;
- Get off the driving seat;
- Detach the PTO shaft;
- Remove the plug and the pin, then take off the 3<sup>rd</sup> point;
- Fix the 3<sup>rd</sup> point to the related support on the tractor;
- Remove the blocking plugs and the connecting pins, then detach the arms of the tractor's rear hydraulic lifter off the connecting points of the shredder;
- Get on the tractor;
- Start the engine and move carefully.

## STORAGE

When the machine is stored for long periods, it has to be stocked in place protected from atmospheric agents, where the equipment is not subject to possible damages. Before storing it, it is advisable to clean the machine with care and properly lubricate its mechanic parts to prevent rust.

Before keeping the machine stopped for a long time, proceed as follows:

- Clean the rotor and the tools from possible traces of shredding material;
- Wash and dry the machine with care;
- With a general overview, control the machine to detect possible damages to its structure or deep scrapes on the paint, and make sure that the original safety labels are intact, readable and well positioned;
- Grease all the mechanic parts, as well as the locking pins;
- If possible, stock the machine in a covered place, on an even and stable surface.

## SCRAPPING

When scrapped, the machine has to be disposed of in appropriate dumps, always complying with the laws in force.

Before scrapping, it is necessary to separate plastic and rubber parts, as well as electric and electronic components.

Recover the possible remains of used oils and dispose of them in the special waste collection areas.



**Used oil must be properly recovered and never dumped in the environment because, in compliance with the laws in force, it is classified as dangerous waste and, as such, must be disposed of in the special waste collection areas.**

For the collection of used oils, address to qualified organizations with territorial jurisdiction.

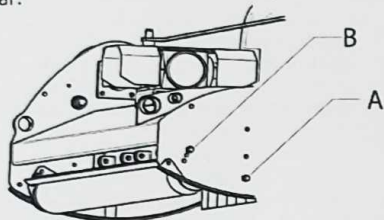
If collected in the special waste areas, the parts made exclusively of plastic, aluminium and steel can be recycled.



## ADJUSTMENTS

### WORKING HEIGHT ADJUSTMENT

The machine's working height is determined by the vertical position of the rear roller. By lifting the roller, the blades get close to the soil, whereas lowering them the cutters get far from it. After modifying the working height, make sure that the cutters skim the ground: a direct contact with it would cause their wear.

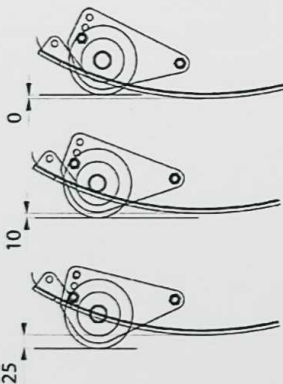


Picture 1

To adjust the roller height (picture 2):

- Screw out and remove bolts **B** which fasten the roller on both sides.
- Loosen nut **A**.
- Lift or lower the roller, then position it according to the scheme.
- Insert back and tighten bolts **B**.
- Tighten nut **A**.

The skids prevent the machine from sinking too much into the soil while working. The skids position is fixed.



Picture 2

**Danger**

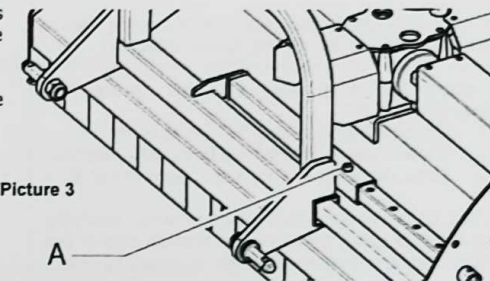
Work height and side shift adjustments shall be made only on working ground and only after having stopped the engine, disengaged the power takeoff and pulled the parking brake. If necessary, lift the machine from the ground but, in order to avoid risks for people, place it on rests thus preventing any injuries that might be caused by its sudden fall.

## SIDE SHIFT ADJUSTMENT

TB shredders are provided with side shift, both manual (picture 3) and hydraulic (picture 4).

To adjust side shift on the machines provided with worm screw shift (picture 3):

- Unscrew and remove screw **A**
- Move the bow in one of the permitted position
- Replace the screw in and tighten the nut

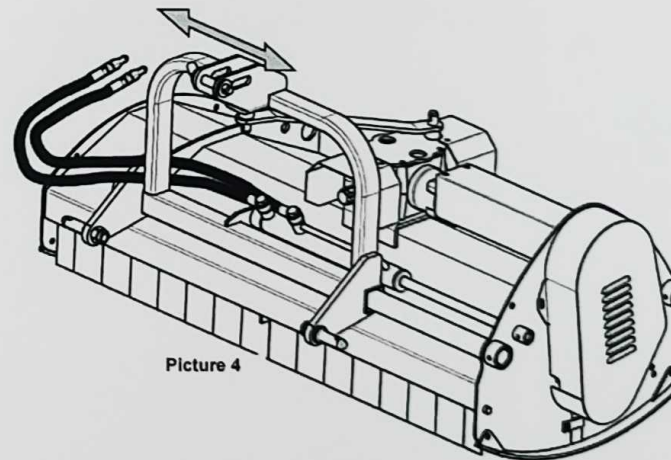


Picture 3

**Danger**

These operations shall be made only on working ground and only after having stopped the engine, disengaged the power takeoff and pulled the parking brake.

If the shredder is equipped with hydraulic cylinder, its position can be modified at one's pleasure after connecting quick start cables **A** (picture 4) to the tractor's devices, by using the controls of the tractor itself.



Picture 4

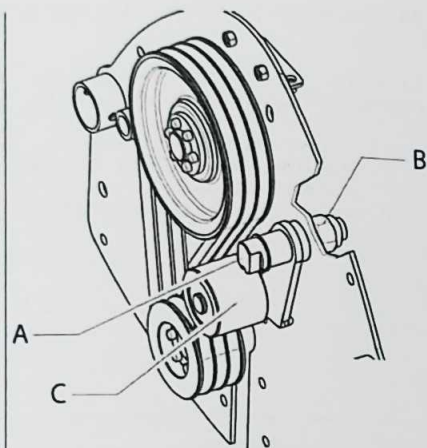
## ADJUSTMENT OF BELTS TENSIONER

The rotor supporting the cutters is moved by means of a drive belt with automatic spring tensioner.

To adjust the drive belts tensioner, proceed as follows (picture 5):

- Unscrew nut **B** with a 32 mm spanner.
- Tighten pin **A** to tend the belts with roller **C**.
- Once the belts are adjusted, tighten nut **B**.

The belts are stretched properly when applying a force of about 10 kg on the tension side of the set of straps, this is deflected by about 10 mm.



Picture 5

## ADAPTATION TO TRACTORS WITH PTO AT 1000 rpm

If the shredder is equipped to suit tractors with PTO at 540 rpm but has to be used on tractors with PTO at 1000 rpm, it is necessary to contact an authorized SICMA service.

### CUTTERS

TB can be equipped with different types of knives or hammers, depending on the kind of work the shredder is used for:



**Y knives:** for grass, straw, corn.



**Smooth hammer:** for grass, pruning and small-sized shrubs.



## MAINTENANCE

Maintenance is a fundamental operation to extend life and performances of any agricultural vehicle; taking care of the machine grants you not only a good work execution, but also a longer life of the whole equipment and a greater safety on the workplace.

The operating times indicated on this manual have just an informative character and are referred to normal conditions of use; they can thus undergo variations according to the type of service, to the more or less dusty environment, to seasonal factors, etc

Before starting any maintenance intervention, it is necessary to proceed with the following operations:

- Position the machine on a stable and even ground during maintenance interventions;
- Stop the engine of the tractor, apply the parking brake and take off the ignition key from the dashboard;
- Always use the appropriate personal protective equipment (safety footwear, protective clothing and gloves, dust mask);
- Arrange all the interventions required to prevent injuries, according to the operation in progress;
- If the cleaning is made with compressed air, it is necessary to protect eyes by wearing safety glasses;
- Do not carry out reparations without having the proper competence. Follow instructions or, should there be no instructions available, contact the supplier or address your needs to qualified operators;
- Do not lift up the machine by using hooking points which are not those indicated by the present manual;
- Make sure that the lifting device suits properly the maintenance operations, by complying with safety norms;
- Do not keep the tractor's engine on inside close places without a ventilation system, where toxic emissions gathering in the air cannot be moved away;
- Do not make the skin get in touch with lubricants for too long, because they might cause irritations or other kinds of disorder;
- In case of accidental contact with eyes, wash them with plenty of water;
- Be extremely careful with exhausted oil, which might reach very high temperatures;
- Do not weld inside close places or not ventilated rooms;
- Do not weld on painted surfaces or nearby, in order to prevent the production of toxic fumes. Take off the paint by using specific removers, then wash the surface and let it dry;
- Before intervening, let the pressure come out of the circuits;
- Never use hands to detect leaks of fluids under pressure;
- When leaking, fluids under pressures may come in contact with skin and eyes, thus causing very serious damages.



- **Before injecting lubricating grease into the nipples, clean them accurately to prevent mud, dust or other foreign matters from mixing up with grease, thus diminishing the lubrication effect**
- **When making oil feed or change it is better to use the same oil type, in order to avoid mixing oils with different features.**
- **When executing maintenance activities, keep the machine rested on the ground in horizontal position.**
- **After the first working hours check that all bolts and nuts are tightened strongly; remember also to check often all the machine safety guards.**

## MAINTENANCE OF THE MACHINE

### FIRST CHECK

- Check the correct tension of the driving belt
- Check that all bolts and nuts are tightened strongly
- After the first 50 hours of work change oil in the overgear unit (**oil type: TOTAL TRANSMISSION TM 80W90**)

### EVERY 8 HOURS OF WORK

- Grease the shaft support (driveline side) through the lubricating nipple A (picture 6)
- Grease the shaft support (external side) through the lubricating nipple A (picture 7)
- Grease the stabilizing roller through the lubricating nipple A (pictures 8-9)

### EVERY 50 HOURS OF WORK

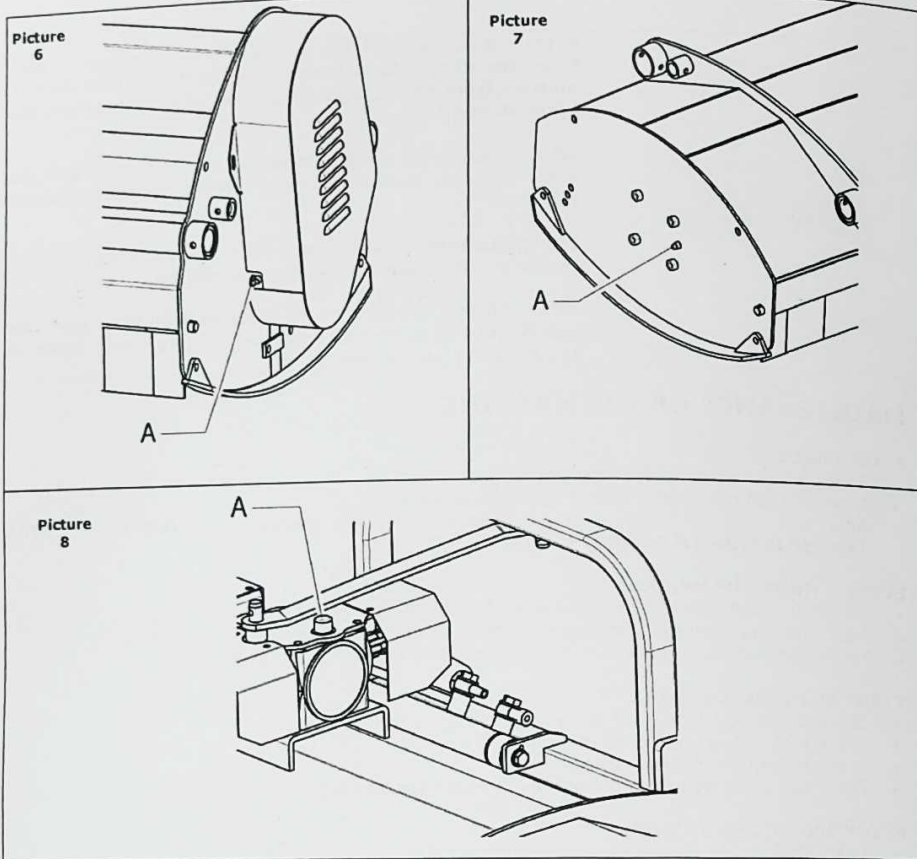
- Check the correct tension of the driving belt
- Check that all bolts and nuts are tightened strongly
- Check the cutters/hammers wear state
- Check the overgear unit oil level through plug A (picture 10)

### EVERY 500 HOURS OF WORK

- Check that all bolts and nuts are tightened strongly
- Change oil in the overgear unit (**oil type: TOTAL TRANSMISSION TM 80W90**)

### EVERY 1000 HOURS OF WORK

Replace the driving belts



## CUTTERS/HAMMERS CHECK

To assure a perfect functioning of the machine, check often (at least every 50 hours of work) that the shredder's hammers are in good condition and perfectly fixed by the locking bolts; in case they are broken replace them with new spare parts.

For any cutter or hammer replacements please contact the nearest SICMA authorized service.

**Danger**

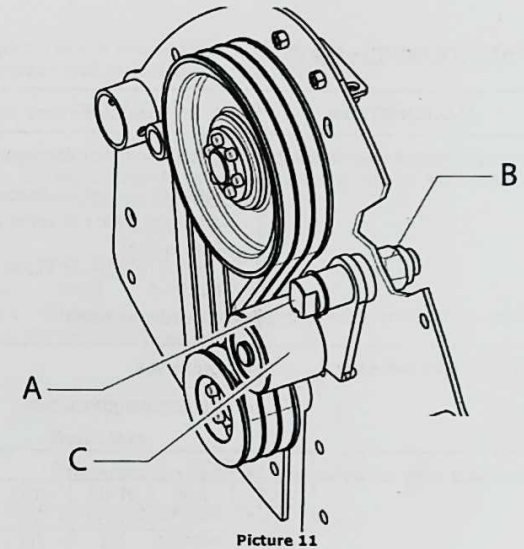
**Before starting the inspection of cutters and hammers, stop engine, pull parking brake and disengage power takeoff; lift then the shredder with the tractor elevator and place it on rests to avoid an accidental fall.**

When a tool (cutter/hammer) has to be replaced, it is advisable to replace the whole set. The use of non-original tools might cause irregular vibrations on the machine. If replacing operations are carried out with the machine lifted up, do not rely only on the hydraulic lifter of the machine: it is recommended to place mechanic props or trestle supports between the machine and the soil, thus preventing the head from suddenly and dangerously falling down.

## DRIVE BELTS REPLACEMENT

To replace the belts proceed as follows (picture 11):

- Remove roller **C** by unfastening its tensioning spring, unscrewing nut **B** with a 32 mm key and holding pin **A** with a 22 mm key
- Remove the damaged belt(s)
- Position the new belt(s)
- Proceed in reversed order to reassemble the tensioning roller, by properly adjusting the tension of the belts (see chapter "Adjustment of belts tensioner", page 22)



Picture 11

If a belt gets damaged, it is recommended to replace the whole set, in order to have the drive tension equally balanced on each belt.

The pulleys are made integral to the transmission shaft by means of locking assemblies. The torque to be applied to clamping screws is 17 Nm.



## REPLACEMENT OF OLEODYNAMIC PIPES

When replacing pipes, make sure to operate in compliance with the safety measures to be taken for maintenance interventions. After closing the valves of the hydraulic system, make sure to have no pressure inside the pipes and unscrew the connections of the damaged pipe, beware of possible oil leaks. Replace the damaged pipe with an original spare part, also checking the wear condition of the connecting parts. Tighten carefully the pipe's connections, in order to prevent the threads from getting damaged, then check the pipes and make sure they are assembled tight.

## FAILURES CHART

MALFUNCTION	CAUSE	SOLUTION
Material irregularly shredded	<ul style="list-style-type: none"> <li>Cutters worn or damaged</li> <li>Machine not properly adjusted (skids or roller not well in line)</li> <li>Machine filled with shredded material</li> </ul>	<ul style="list-style-type: none"> <li>Replace the cutters</li> <li>Adjust skids and roller</li> <li>Lower the advancing speed</li> </ul>
Cutters worn too early	<ul style="list-style-type: none"> <li>Stony soil</li> <li>Cutting height too low</li> </ul>	<ul style="list-style-type: none"> <li>Check the soil before using the machine</li> <li>Adjust the cutting height</li> </ul>
Excessive noise or vibrations	<ul style="list-style-type: none"> <li>Rotor unbalanced</li> <li>Cutters damaged, worn or missing</li> <li>Bearings worn</li> </ul>	<ul style="list-style-type: none"> <li>Address to an authorized service to adjust the rotor</li> <li>Replace the cutters</li> <li>Replace the bearings</li> </ul>

## SPARE PARTS ORDERING

To order spare parts, please consult the catalogue. Request of spare parts must be made to the retailer or to the nearest service centre and must always be completed with the following information:

- Type and width of the equipment.
- Code number of the needed spare part. Lack of this number, you can replace it with the number of the table where the part is represented and the correspondent reference.
- Denomination of the needed part and desired quantity.
- Chosen transportation. When this item is not specified, the retailer or service centre, even devoting many cares to this service, do not answer for eventual shipping delays due to acts of God. Transport charges must always be paid by the addressee.

## TIGHTENING CHART FOR NUTS AND BOLTS

In order to have nuts and bolts properly tightened on the shredder, it is recommended to use an appropriate dynamometric key and follow the chart here below:

THREADED BOLTS				
Bolt class				
thread	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