



English

FLAIL MOWER TMX_{095•110•125•140•155•185} USE AND MAINTENANCE MANUAL



SICMA[®]

903683002~00



MADE IN ITALY

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Congratulations on your purchase of the

FLAIL MOWER

The TMX Flail Mower is manufactured by SICMA S.p.A., a manufacturer of agricultural machinery with more than 40 years' experience.

The TMX Flail Mower meets all the safety and quality requirements applicable to this type of equipment.

Remember that to achieve best performance and maximise productivity, the user must have thorough knowledge and respect for the instructions and information contained in this manual.

1. INTRODUCTION

1.1 SOME NOTES REGARDING THE USER MANUAL

It should be remembered that the USER MANUAL is not an accessory of the Flail Mower, but rather AN INTEGRAL PART of it and a SAFETY MEASURE (EN 12100-1).

For this reason:

- Keep the manual in good condition,
- It must be kept near the equipment
- Deliver it to any new operator, user, maintenance technician, handler or owner (in case of change of ownership).

In this way, the flail mower can be used in the best way possible, for all the purposes for which it was designed and in the safest conditions.

The manual must not be damaged; it must remain intact, complete with all its pages and stored away from humidity and heat. When consulting the manual, do not stain it or impair its legibility.

If this manual is lost or damaged, request 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: TMX
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, 10-01-2017

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 DUE TO CONTACT WITH TOOLS (rotor)
- RISK OF ENTANGLEMENT/Dragging (rotor and drive shaft)
- RISK OF TIPPING/CRUSHING (flail mower)
- BURNS HAZARD (gear transmission box)
- CUT/SHEARING HAZARD

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 in order to avoid accidents that may cause personal injury.



1.4 GENERAL DELIVERY NOTES

The Flail Mower has been manufactured in accordance with Directive 2006/42/EC and was designed observing the guidelines of technical standards for flail mowers.

Therefore, the machine does not represent a danger for the operator if used according to the instructions in this manual and on condition that the safety devices are kept constantly efficient.

SICMA INFORMS THE USER THAT ANY MODIFICATIONS TO, OR TAMPERING WITH THE FLAIL MOWER, OR ANY OPERATIONS INCONSISTENT WITH THE CONTENTS OF THIS MANUAL, IN PARTICULAR FAILURE TO COMPLY WITH THE SAFETY PROVISIONS, IN ADDITION TO MAKING THE WARRANTY NULL AND VOID SHALL ALSO RELIEVE SICMA FROM ALL LIABILITY FOR DAMAGE TO PROPERTY AND INJURY TO PERSONS.

Some of the devices described in this manual may not be present on your machine, depending on the chosen set-up and the market of destination.

It must be remembered that all technical values refer to the standard Flail Mower (chap. 4) and that drawings and any other documents delivered with the Flail Mower are the property of SICMA, for which all rights are reserved and which cannot be disclosed to third parties without the company's written approval.

Therefore, any reproduction, even partial, of the text and illustrations is strictly prohibited.

The information, descriptions and illustrations contained in this manual reflect the state of the art of the machine at the moment it was put on the market.

The Manufacturer reserves the right to make, at any time, any changes to the machines for technical or commercial reasons. Such modifications do not oblige the Manufacturer to intervene on machines sold up until that moment, nor to consider this 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 Flail Mower, its parts and/or accessories, is normally delivered by truck or container.

On receipt of the machine, check that:

- The supply corresponds with the order specifications (see transport document or packing-list);
- There is no damage to the flail mower or accessories.

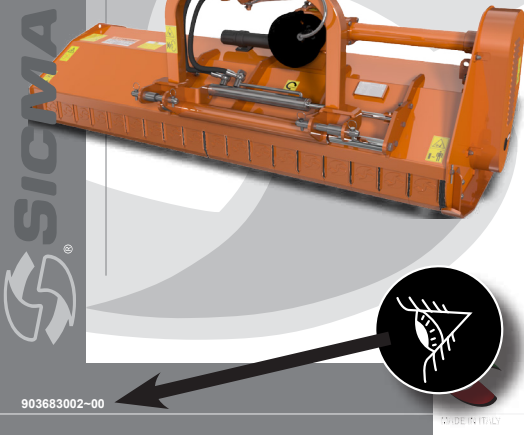
In the event of damage or missing parts immediately inform SICMA or its local representatives, the carrier or its insurance agent, providing details and/or photos.

Spare parts or ancillary equipment are sometimes supplied in separate containers.





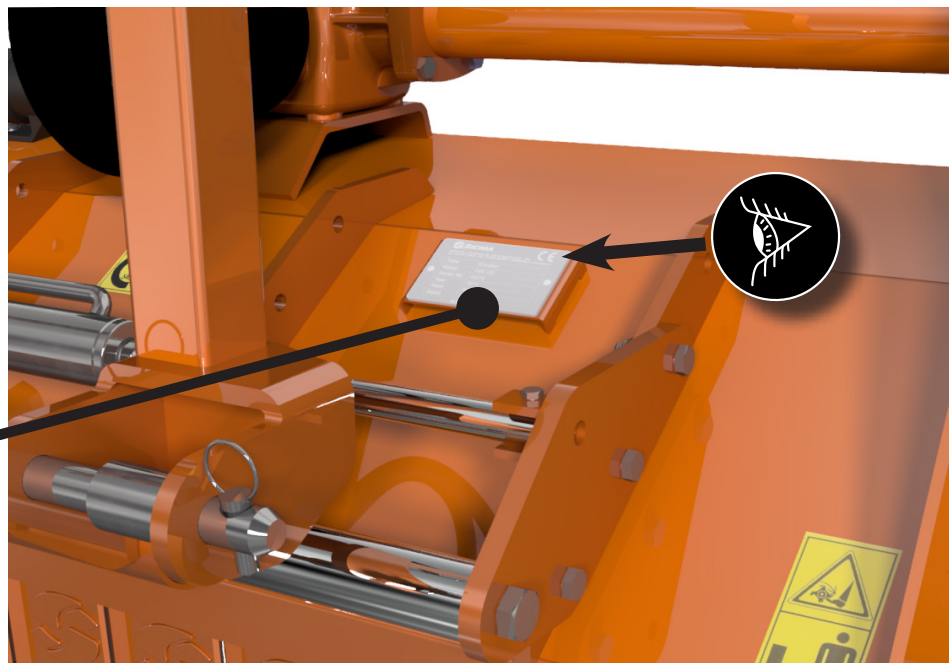
FLAIL MOWER
TMX 095•110•125•140•155•185
 USE AND MAINTENANCE MANUAL



1.5 FLAIL MOWER IDENTIFICATION AND MANUAL CODE

For any further assistance or information regarding the flail mower contact SICMA or its service centres, providing details of the model and serial number on the machine's identification plate.

The identification code of this manual is indicated on the cover. Write the number in a different safe place so that if this manual is lost or damaged, another copy can be requested from SICMA or from the nearest dealer by also stating the serial number visible in the marking.



SICMA
 SICMA SPA - C.da Cerreto, 39 - 66100 Miglianico (Ch) - Italy
 Tel.: +39 0871 95841 Fax: +39 0871 950295 - info@sicma.it - www.sicma.it

Type	Shredder
Model	TMX 140
Serial No	00218
Year	2017
Mass	319 Kg
Input	540 rpm

MADE IN ITALY

1.6 INTENDED USE

The TMX flail mower was designed to be used exclusively in the agricultural 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 a tractor using a three-point hitch and cuts the material by means of the rotation of the tool-holder shaft, which rotates at high speed driven by the PTO of the tractor through a cardan connection.

The machine is not suitable for use in sectors other than agriculture.

USE ENVIRONMENT

The flail mower works:

- In open fields, on land that is non friable, not excessively stony and with a maximum slope of 3°;
- In environments with a temperature of 0° + 50°C.

IMPROPER USE

Any use different to that declared is to be considered improper.

Here are some examples of actions that **MUST BE AVOIDED AT ALL COSTS**.

The operator must not:

- Use a cardan shaft with unsuitable transmission capacity;
- Work in reverse gear;
- Connect the flail mower to means having inadequate weight or power;
- Mount the flail mower without having locked the anti-shock to the three-point hitch of the tractor's elevator;



1



- Lift the equipment when the PTO is rotating.
- Steer or move in reverse with the flail mower during operation.

Note that the flail mower must be used strictly for its intended purpose.

Any other use is to be considered improper.

1.7 GENERAL DELIVERY NOTES

The flail mower and its parts and/or accessories are normally delivered by lorry or container.

On receipt of the machine check that the delivery corresponds to the order specifications (see delivery note or packing list) and that there is no damage to the flail mower or to its accessories.

In the event of damage or missing pieces, inform SICMA or its area representatives, the carrier or its insurance company immediately possibly providing photos.

The spare parts or equipment supplied are sometimes in separate containers.

The machine is delivered by SICMA equipped with the following supplies:

- 1 - UNIVERSAL JOINT
- 2 - FLAIL MOWER USE AND MAINTENANCE MANUAL
- 3 - CARDAN SHAFT USE AND MAINTENANCE MANUAL
- 4 - CE DECLARATION OF CONFORMITY

2



FLAIL MOWER TMX 095•110•125•140•155•185 USE AND MAINTENANCE MANUAL



3

PM14 • PM57 • PM80E



- ENG • Users Manual
- D • Bedienungsanleitung
- F • Manuel d'utilisation
- I • Manuale d'istruzioni
- ES • Manual de instrucciones
- P • Manual de instruções
- DK • Instruktionsmanual
- S • Instruktionsmanual
- N • Håndbok
- GR • Εγχειρίδιο
- FIN • Käyttöohjeet

EUROCARDAN
ENERGY ON THE MOVE



4

EC DECLARATION OF CONFORMITY

The company
Sicma s.p.a. - C.da Cerreto, 39 - 66010 Miglianico (Ch) - Italy
Tel.: +39 0871 95941 - Fax: +39 0871 950295
e-mail: info@sicma.it - http://www.sicma.it

hereby declares that:

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



Miglianico, 10-01-2017

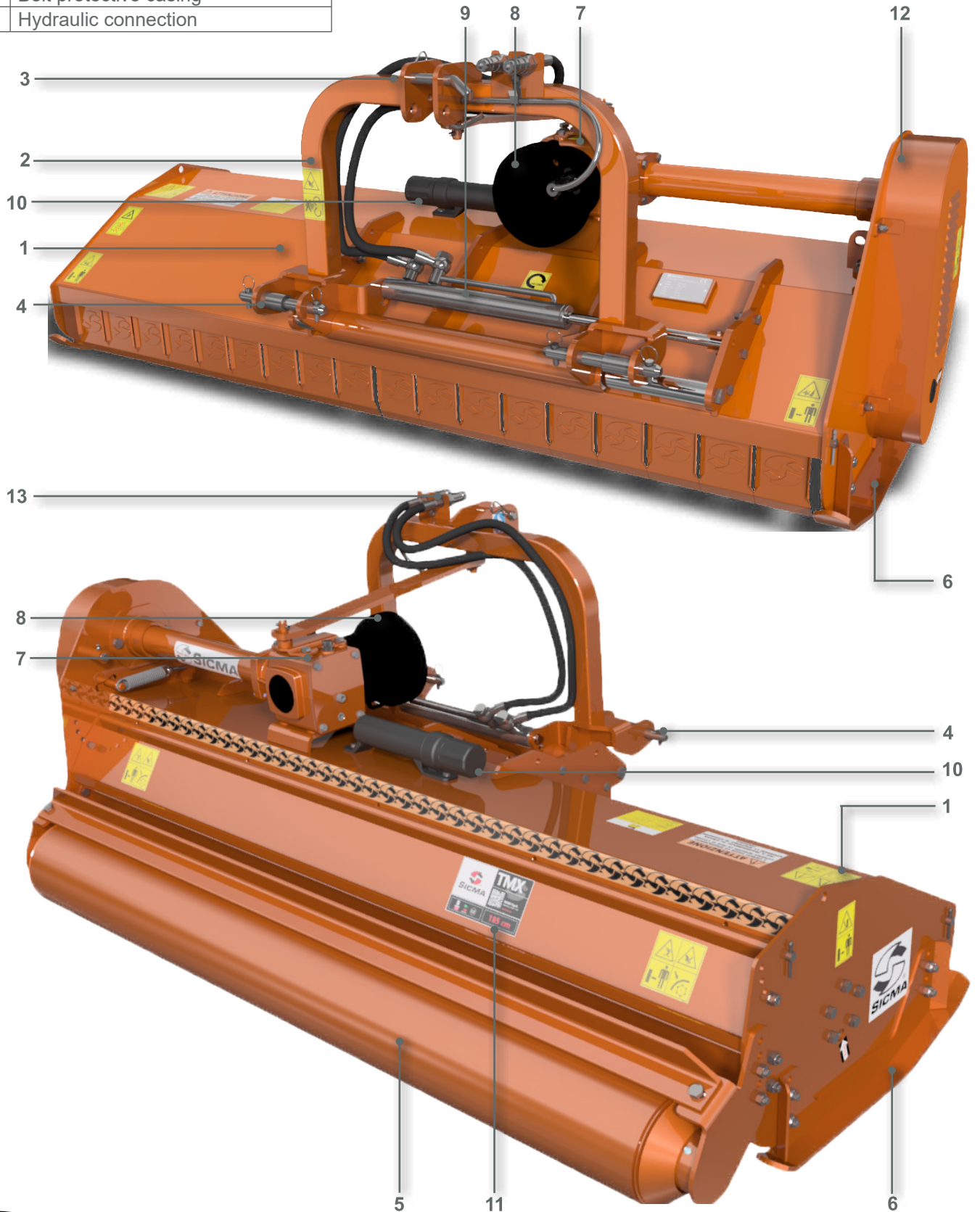
Lorenzo Aurora
AMMINISTRATORE UNICO

Lorenzo Aurora



1.8 FLAIL MOWER COMPOSITION

No.	Description
1	Body
2	three-point hitch arch
3	Third upper point pin
4	Third lower point pin
5	Stabilizing roller
6	Side skids
7	Multiplier gearbox
8	Drive shaft protection
9	Hydraulic cylinder
10	Document-holder
11	Rear hood
12	Belt protective casing
13	Hydraulic connection



1.9 STANDARD AND OPTIONAL SET-UPS

Configurations

There are two possible configurations for the TMX:

- Fixed with centred or off-centred arch with respect to tractor;
- Can be shifted manually or hydraulically controlled.

Optional TMX fixed

- Side skids;
- Iron swivelling wheel kit to replace roller.

Optional TMX shifting

- Side skids;
- Hydraulic cylinder for shifting;
- Iron swivelling wheel kit to replace roller.

Following is an image of the full optional TMX flail mower.



TOOLS

On request, the TMX can be equipped with “Y” knives or smooth hammers.

“Y” KNIVES (5815160)

Suitable for cutting grass, shrubbery and garden maintenance.

SMOOTH HAMMERS (5715100)

Suitable for cutting grass, shrubbery and pruning.

For information on tool replacement, see par. 8.4.

2. SAFETY

In this use and maintenance manual and on the equipment itself, it is possible to find several symbols whose meanings are illustrated below.

2.1 DEFINITIONS (UNI EN ISO 12100-1:2009)

DANGER:

A potential source of physical injury or damage to health.

DANGEROUS AREA:

Any area within and/or in proximity of a machine in which the presence of a person constitutes a risk for the safety and health of the same.

The hazardous area is the area around the machine (connected to the tractor) up to a distance of 1 metre.

EXPOSED PERSON:

any person that is found wholly or partly in a dangerous area.

CRITICAL AREA:

The critical area is that between the tractor and the equipment (Cardan shaft area).

2.2 CONVENTIONAL SYMBOLS



CAUTION DANGER:

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



NOTE

Draws the attention of staff to information considered to be of high importance.



WARNING

Draws the attention of staff to information, which, if not respected may 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 operations are completely manual. Therefore, the preparation and sensitivity of the machine operator are referred to in order to obtain the best qualitative results. The operator is therefore strictly forbidden from performing tasks that should be performed by the maintenance technician.



MECHANICAL MAINTENANCE TECHNICIAN

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



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)

If any of these symbols are present on the side panel, suitable personal protective equipment must be worn by the operator as the risk of accident is implicit.



RECOMMENDATION:

Refers to a work mode tried and tested in the field, in the knowledge that each operator will adopt their own way of working.

2.3 SAFETY PRESCRIPTIONS



Despite SICMA having applied all the safety devices and warning signs on the equipment, it must be recalled that, if not used correctly, the machine 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 suitable for use 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 it is easy for future reference. In the event it is lost or damaged, a replacement copy must be requested from SICMA.
- Do not climb or lean on the equipment, whether it is powered on or off, for any reason whatsoever.

2.4 OPERATOR REQUIREMENTS

- The machine must be used by a single operator driving the tractor.
- The machine must only be used by authorised 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 they 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 is standing 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 effects of alcohol, medicines or drugs.
- The correct working position, the operator must have, is at the driving station of the tractor. From this position he must also control that there are no persons exposed in the dangerous area in the work phase.

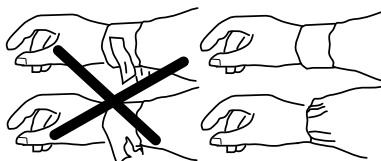
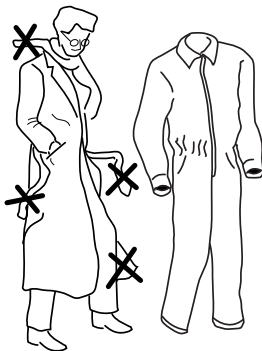


2.5 CLOTHING AND PPE

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 flail mower is:

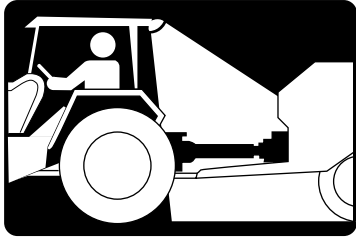
- Gloves;
- Accident-prevention shoes or boots with steel toe-cap;
- Goggles;
- Overalls with elasticated wrists, ankles and waist.



Furthermore:

- Given that the machine can generate dust during operations, if the tractor does not have a closed cab, the operator must wear an anti-dust mask (especially on dry and dusty land)
- If the tractor is not equipped with a sound-proof booth, the operator should wear hearing protection for noise control (especially on stony ground).
- The operator assigned to the machine must not wear items of clothing that can cause entanglement (scarves, belts, wide sleeves, etc.).

2.6 MACHINE USE



- The machine is usually used during the day. If night-time use is exceptionally requested or use in conditions of reduced visibility, a tractor lighting system or an auxiliary lighting system must be used.
- Any unauthorised modification to this machine exempts SICMA from any liability for damage or injury that may result to operators, third parties and properties.
- Carefully check the machine before each use.
- Check the tightness of all the screws on a daily basis (see the torque table in par. 13.1), and tighten them if necessary
- Check the condition of the metal structures every day and repair them if necessary.
- 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 operations, engage the parking brake, stop the engine, remove the ignition key from the dashboard and keep it safe.
- When the machine is running, the tools rotate rapidly. Therefore, keep a safe distance to prevent accidental contact with either the tools or any projecting objects.

2.7 SAFETY DEVICES

- Before using the machine, make sure that all safety devices are properly in place and in good condition. If the guards are damaged or broken, have them immediately replaced.
- Do not tamper with or bypass the safety devices for any reason. After every cleaning and maintenance intervention, all of the safety devices must be restored and/or all protection housings closed. Also verify that there are no tools, rags or other materials inside the transmission compartments.
- The signs applied to the machine provide a number of important instructions: their observance is a guarantee of your safety.
- Check the condition of safety decals; if they are damaged, they must be replaced with new original ones ordered from the manufacturer and placed in the position indicated by the use and maintenance manual.

2.8 REASONABLY PREDICTABLE INCORRECT USE

The operator must not:

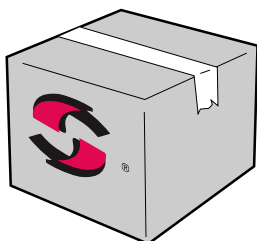
- Connect a cardan shaft to the flail mower with an unsuitable transmission capacity;
- Work in reverse gear;
- Make changes to equipment that may compromise safety;
- Implement makeshift repairs in order to continue using the flail mower.

In addition, it is prohibited to:

- Hitch the mower to vehicles of inadequate power or weight.
- Assemble the equipment without having locked the anti-shock tie rods to the three-point hitch of the tractor.
- Lift the equipment with the PTO rotating.
- Use the machine to carry and/or lift persons, animals or objects.
- Work on slopes greater than 3°.

Sicma denies all liability for any accidents caused due to failure to comply with the instructions listed above.

Given the particular stress to which the equipment is exposed and due to safety reasons, only original spare parts may be used to replace worn or damaged parts.



2.9 HYDRAULIC SYSTEM

In the presence of a hydraulic system, the condition of the hydraulic piping must be checked every day and if necessary, these must be replaced with new and original spare parts (spare parts on www.sicma.it).



CAUTION CONTAMINATION HAZARD!

The operator must not pour lubricant oil on the ground neither when repairing leaks nor when topping up or replacing the oil.

Also check the fittings and their correct connection before pressurising the hydraulic lines.

Before performing interventions on the pressurised hydraulic lines, make sure that the line has been de-pressurised and does not still contain hot fluid.

The machine must not be left unattended when the tractor is in motion.

The ignition keys must always be in the possession of the operator and must never remain inserted in the dashboard in their absence.

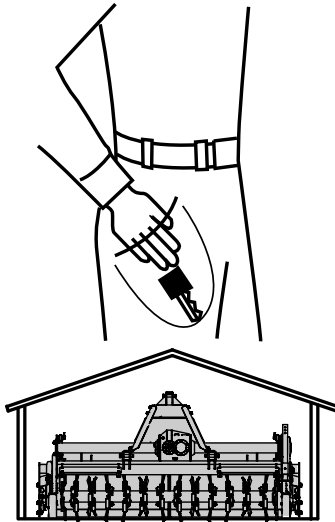


2.10 ZERO ENERGY STATE

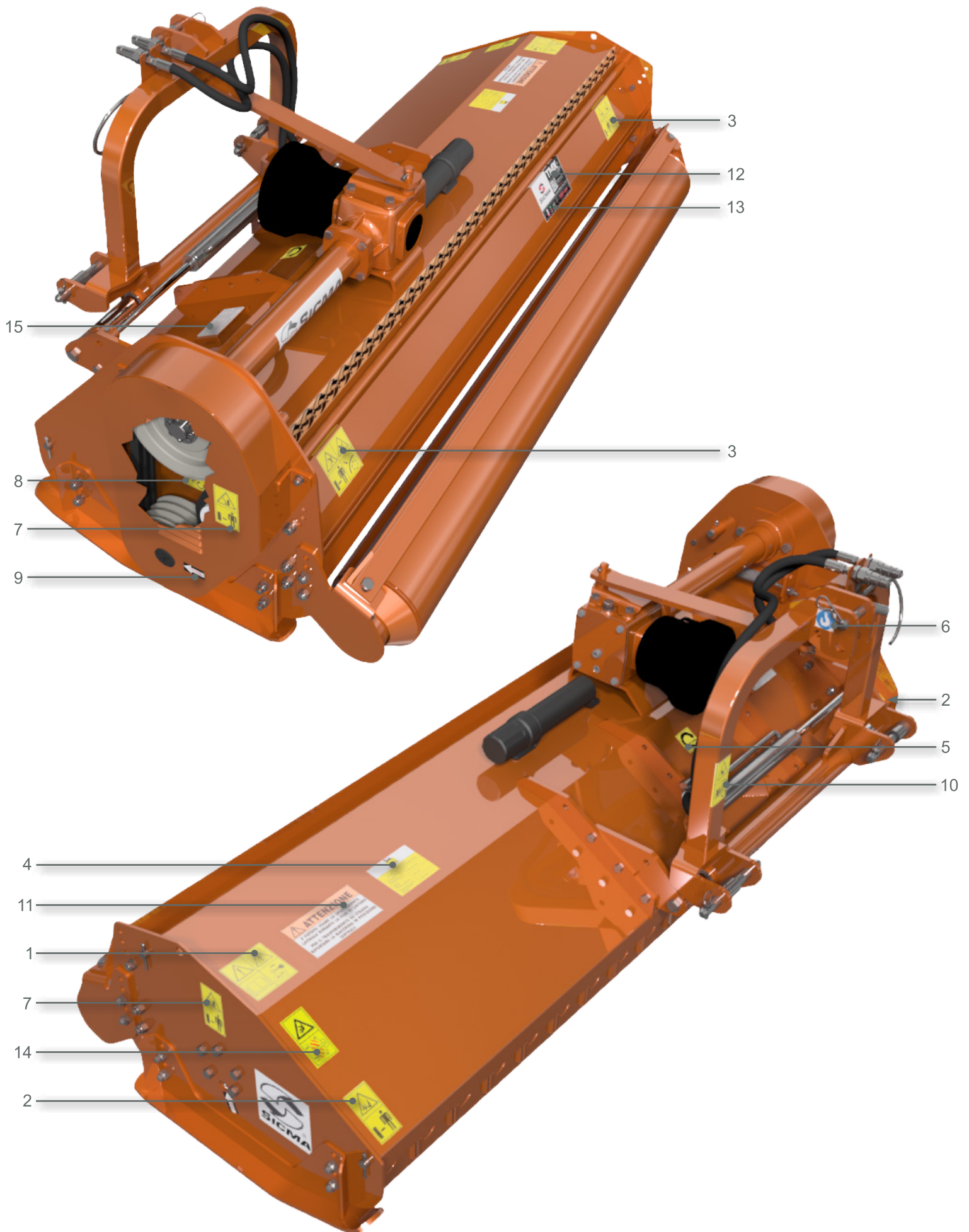
The "zero energy state" refers to the mandatory condition of the flail mower prior to performing any cleaning, lubrication and maintenance operations.

Perform the following operations to place the flail mower in a "zero energy state":

- Position the flail mower on stable, flat land with a maximum slope of 3°;
- Disable the PTO from the tractor;
- Engage the tractor parking brake;
- Switch the tractor off, remove the key and keep it on you;
- Climb down off the tractor and disconnect the cardan shaft from the PTO of the tractor;
- Disconnect the hydraulic outlets;
- Disconnect the tractor from the flail mower's three-point hitch.








2.11 LOCATION OF DECALS ON THE MACHINE



SAFETY DECALS

REF.	DECAL	DESCRIPTION	CODE
1		CAUTION Read all instructions and safety rules carefully before using the machine. Switch off the engine and remove the key before carrying out maintenance or repairs.	4781029
2		RISK OF INJURY TO FEET Rotating tools: maintain a safe distance from the machine.	4781011
3		OBJECTS PROJECTED ONTO ENTIRE BODY Keep a safe distance from the machine. Risk of injury to the hands: do not open or remove the safety guards while the machine is in motion.	4781019
4		ENI LUBRICANTS Types of lubricants that can be used.	4781099
5		INPUT 540 RPM Use of a 540 rpm power take-off.	4781010
6		HOOKING POINT For lifting the machine.	4781031
7		FOOT INJURY HAZARD Keep a safe distance from the machine.	4781012
8		ENTANGLEMENT HAZARD Keep safety guards in place during operation.	5782708
9		GREASE Indication for injection of lubricating grease.	4781009
10		RISK OF INJURY TO THE HANDS Rotating parts: maintain a safe distance from the machine.	4781013

11		RISK OF DAMAGE TO THE MACHINE Do not use shifting during the working phase.	4781802
12		MACHINE INFO	5785001
13		LENGTH INFO	From 000-095 a 000-185
14		RISK OF IMPACT Pay attention when shifting the machine body.	4781005
15		CE plate Stating the main data with serial number and CE mark	4780001

3. UNLOADING AND UNPACKING THE FLAIL MOWER



CAUTION CRUSHING HAZARD!

Qualified staff that has read and understood the safety prescriptions must unload the flail mower from the lorry and handle the equipment in the work place.



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 flail mower is generally transported on a truck, sometimes with no packaging, sometimes protected by heat-shrink film in wooden crates.



CAUTION RISK OF INJURY AND DAMAGE!

Ensure the "Safety instructions" have been properly read and understood (par. 2.3) before transporting and unpacking the flail mower.



NOTE

Before unloading the equipment from the truck, read this entire sequence in order to be prepared for all possible events.

Remove any fixing devices from the flail mower used to fasten it to the truck.



CAUTION CRUSHING HAZARD!

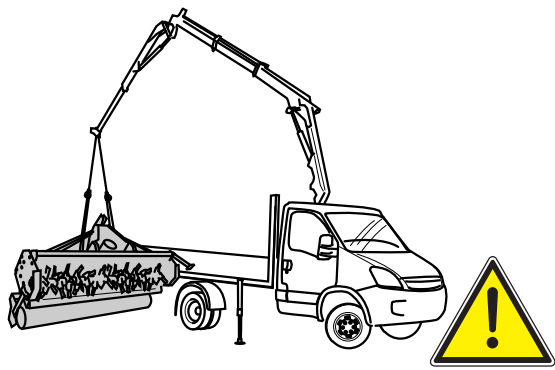
The flail mower must be unloaded very slowly, and the operator must ensure that there are no people, animals and property in the unloading zone.



CAUTION: CRUSHING AND ENTRAPMENT HAZARD!

Before lifting:

- Check that the ropes or chains used to lift the machine are in good condition;
- Use ropes/chains of adequate capacity. Keep in mind that each single rope or chain must be able to lift the weight of the flail mower reported in the chapter



“technical features” (chap. 4);

- Make sure that the shackles are tight;
- In the case of chains with shorteners, make sure these too are securely fixed.

After securing the flail mower with ropes or chains, lift the equipment by a few centimetres to check that it has been correctly harnessed.

CAUTION: CRUSHING AND ENTRAPMENT HAZARD!

Lift the flail mower off the loading bed to a height of about 30 cm, unless obstructed by other obstacles, so that it does not swing. Place the flail mower on the ground in the vicinity of the tractor.

Once on the ground remove the chains or ropes and proceed to unpack the equipment as described below.



CAUTION CUTTING HAZARD!

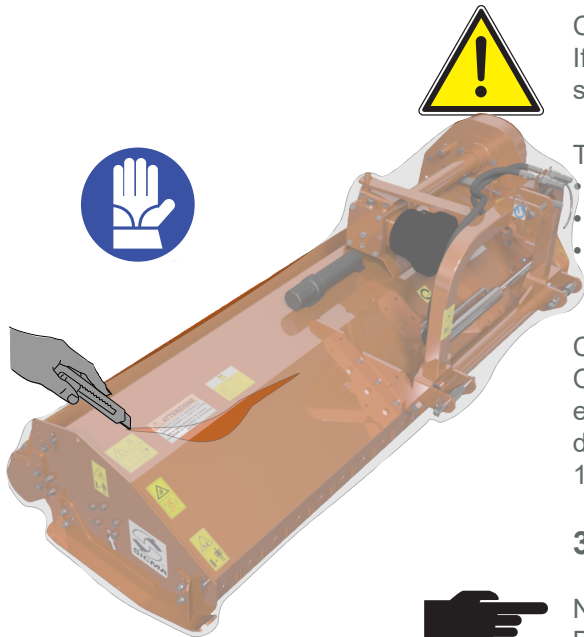
If the flail mower is delivered wrapped in a protective film, remove it using a suitable cutter, taking care not to injure yourself or damage the flail mower itself.

To do this safely, the operator must:

- Wear cut-proof gloves;
- Equip themselves with a cutter;
- Cut the protection material taking care not to injure themselves and not to damage the flail mower.

CAUTION RISK OF CONTAMINATION!

Once the machine has been unpacked, do not dispose of the packaging in the environment but rather contact authorised waste centres. Check the transport document or packing list supplied and, if necessary, act as described in section 1.7.



3.2 FLAIL MOWER IN WOODEN CRATE



NOTE

Before unloading the equipment from the truck, read this entire sequence in order to be prepared for all events.

If the flail mower is packaged inside a wooden crate, use a forklift able to support the weight of the flail mower reported in chap. 4 “Technical features”, or use the lorry’s lifting boom.



CAUTION CRUSHING AND TIPPING HAZARD!

Unloading operations must be carried out with extreme caution, making sure that no persons, animals or property are exposed in the unloading area.

Insert the forks into the slots of the footboard on which the crate is rested.

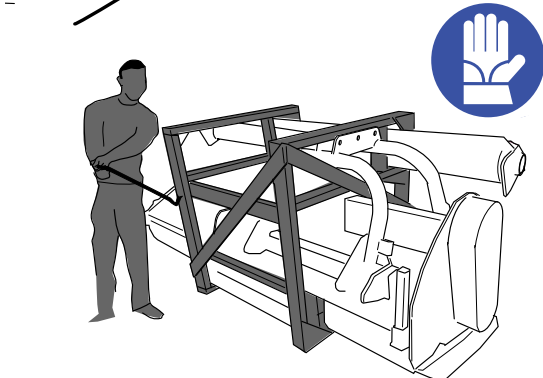
Lift the crate off the loading bed to a height of about 30 cm, unless obstructed by obstacles.

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

Wear safety gloves and equip yourself with a suitable tool to disassemble the wooden packaging.

To move the flail mower, use a forklift able to support the weight of the flail mower as reported in chap. 4 “Technical features”.

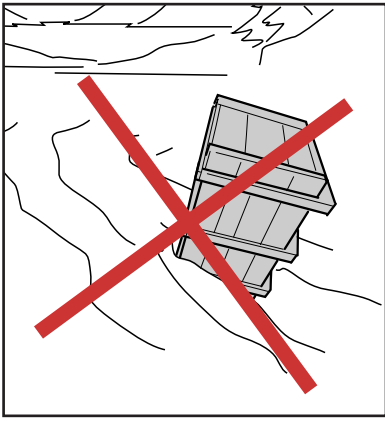
After securing the flail mower with ropes and/or chains, lift the equipment by a few centimetres to check that it is properly harnessed.



To lift the flail mower, use ropes or chains able to support the weight of the flail mower as reported in chap. 4 “Technical features”.

Lift the flail mower out of the crate by a maximum of 30cm and lay it near the tractor.





CAUTION CONTAMINATION HAZARD!

Once unpacked, do not dispose of the packaging in the environment but rather contact authorised waste centres, or save it for future deliveries.



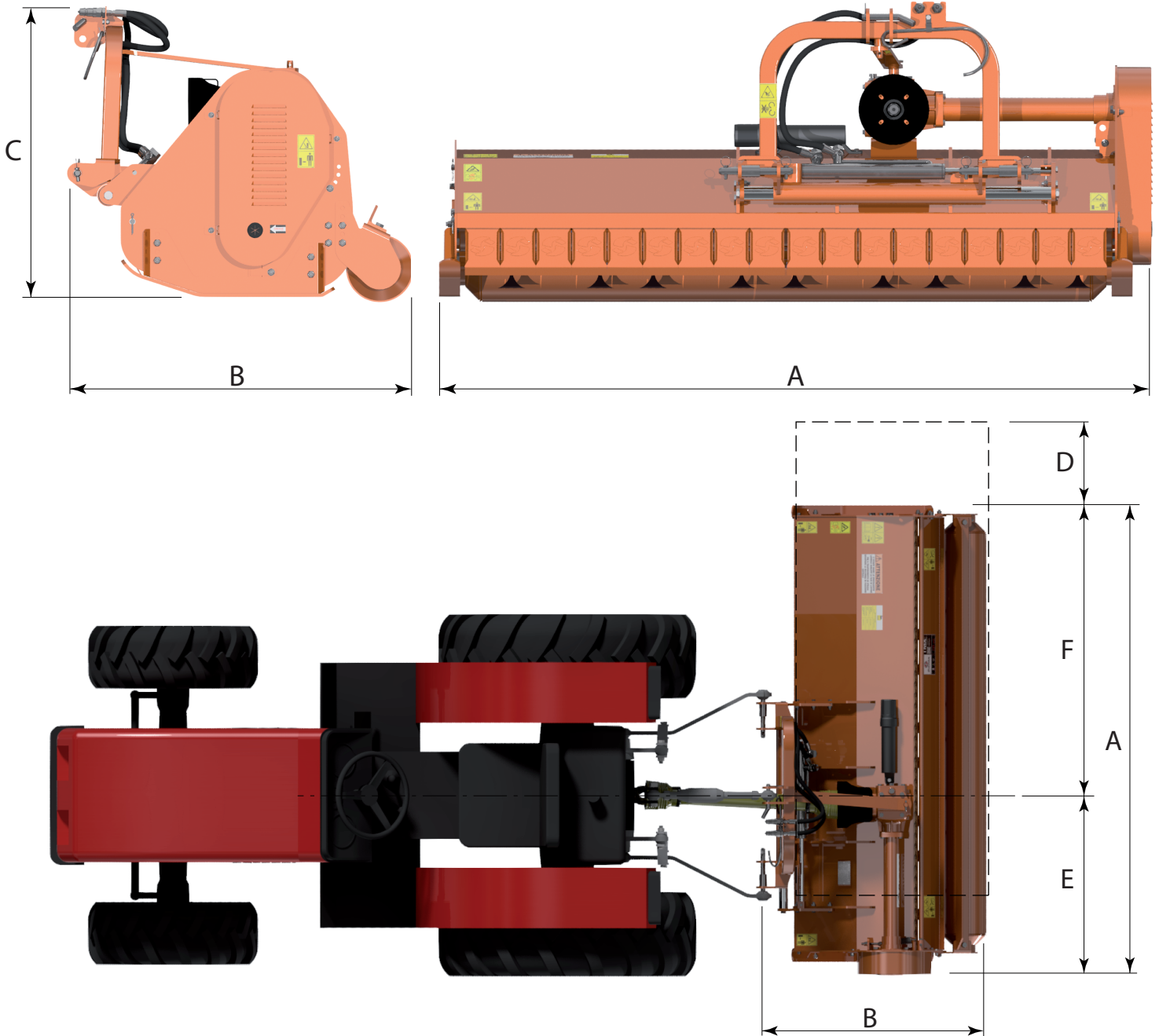
CAUTION TIPPING HAZARD!

Remember that no matter how stable the equipment, during subsequent transport operations, it must ALWAYS:

- Be properly secured to the truck;
- Be positioned in the centre of the truck, not on the edges in order to avoid the risk of tipping during turns or on rough roads.

4. TECHNICAL FEATURES

The table below shows the key specifications of the TMX Flail Mower.



		TMX/095	TMX/110	TMX/125	TMX/140	TMX/155	TMX/185	
Work width		950	1100	1250	1400	1550	1850	
Total width A		1110	1260	1410	1560	1710	2010	
Total length B		995	995	995	995	995	995	
Height C		850	850	850	850	850	850	
Shifting D		-	180	180	280	280	280	
PTO from Left E		447	538	638	588	673	673	
PTO from Right F		668	720	778	980	1045	1345	
Number of PTO revs	Revs/min	540	540	540	540	540	540	
Number of rotor revs		2025	2025	2025	2025	2025	2025	
Required power	HP	25 - 50	25 - 50	25 - 50	25 - 50	25 - 50	25 - 50	
Required power	Kw	18 - 36	18 - 36	18 - 36	18 - 36	18 - 36	18 - 36	
Standard Y Knives	no.	24	28	32	36	40	48	
Standard Hammer	no.	12	14	16	18	20	24	
Weight	Fixed	Kg	260	275	297	319	341	364
	Shifting		258	279	300	322	345	367
Noise level	No-load noise detection	LpAm (A) dB	90.4					
		LwA (A) dB	103					

5. START-UP



CAUTION RISK OF INJURY!

Only qualified operators having read and understood the safety instructions can perform the operations described below. Moreover, they must check that there are no persons, animals and properly exposed in the area where the connection is made to the tractor.

The operator and any assistants must have PPE (Personal Protective Equipment) available and use them as required.

The flail mower can only be moved if hitched to the tractor; to connect it, strictly follow the order of the instructions provided below:

- 3-POINT HITCH CONNECTION TO THE TRACTOR
- CARDAN SHAFT CONNECTION

5.1 3-POINT HITCH CONNECTION

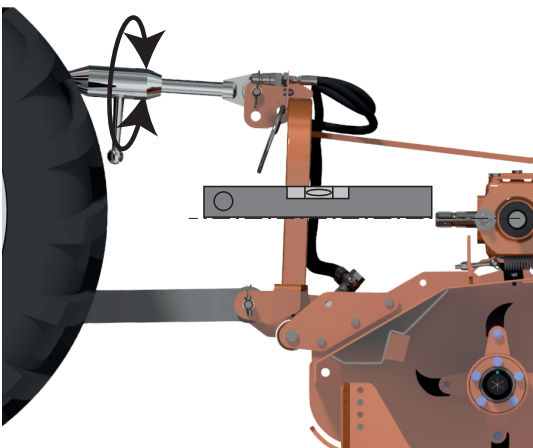
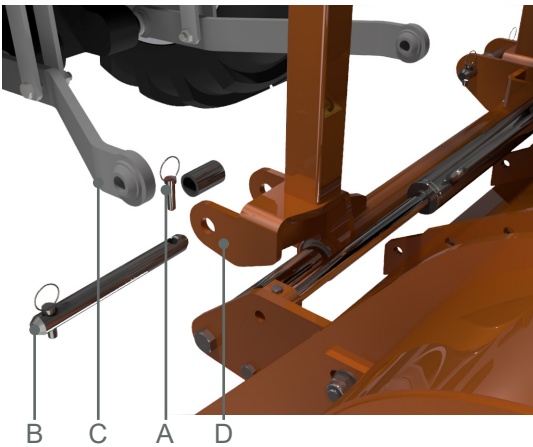
The machine must be hitched to tractors with suitable weight and power and with 1st category standard hitch; these operations must be performed on a compact and level surface.

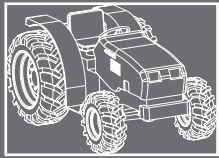
To connect the flail mower to the tractor, the operator must:

- Slowly reverse the tractor toward the flail mower and position themselves so that the lifting arms of the tractor are aligned with the two side pins of the flail mower;
- Engage the parking brake, switch the engine off, remove the key and keep it on you, then climb down off the tractor;
- Remove the cotter "A" of the pin "B" on both sides;
- Remove pins "B", keeping the spacer sleeves;
- Sit in the driver's seat of the tractor and start the engine;
- Release the parking brake and slowly reverse until the hole on the joint of lifting arm "C" is aligned with the third lower point "D" of the flail mower;
- Turn off the engine, release the hand brake, remove the key and keep it on you, then climb down off the tractor;
- Insert pin "B" into the lower hole of the third point "D" of the flail mower and through the hole of the tractor arm joint "C";
- Re-insert the cotter pin "A";
- Repeat the procedure for the lower hitch on the opposite side;
- Block the anti-shock tie rods of the tractor's lifting arms to prevent the machine from swinging out to the side, which might compromise the diagonal stability of the tractor/flail mower assembly.

To connect the upper third point, the operator must:

- Remove the cotter "E" of the pin "F" from the third top point of the flail mower;
- Slide pin "F" out;
- Unhook the tie rod "G" of the third upper point of the tractor and insert it through the third upper point "H" of the flail mower;
- Re-insert the pin "F" through the third upper point of the flail mower and through the tractor tie rod joint "G", then reposition cotter "E";
- Adjust the length of the tie rod "G" so that the axle of the flail mower PTO shaft is parallel to the ground (use a spirit level).

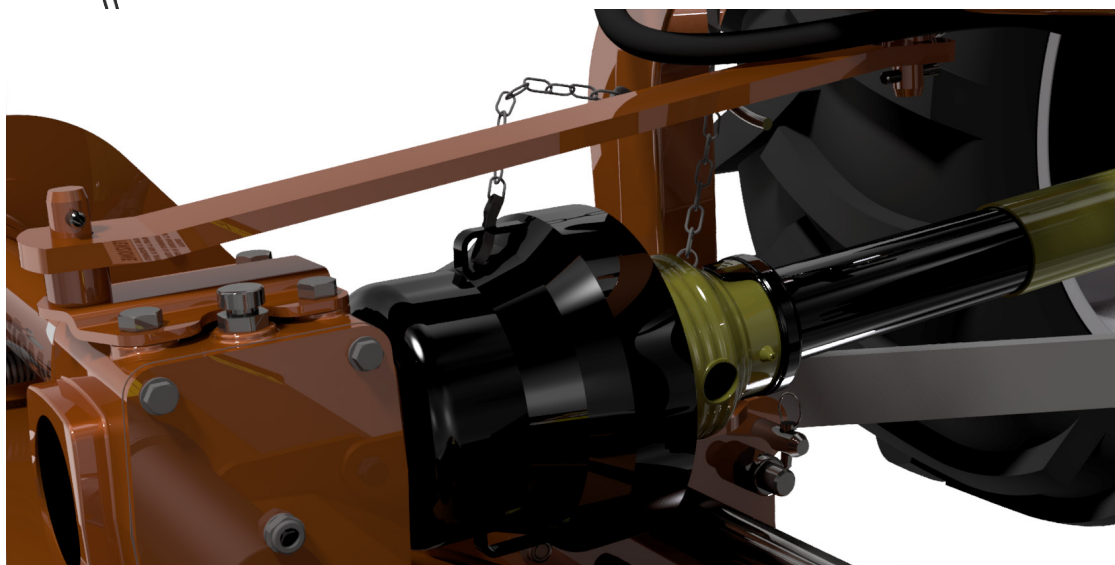
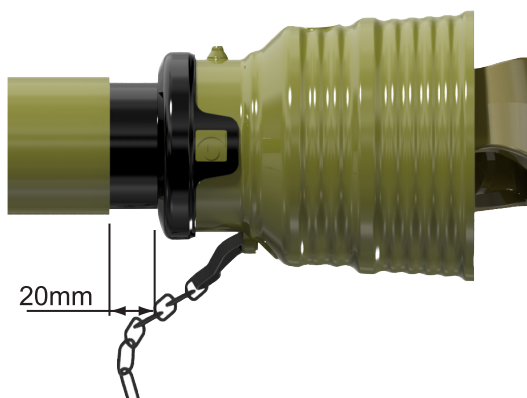
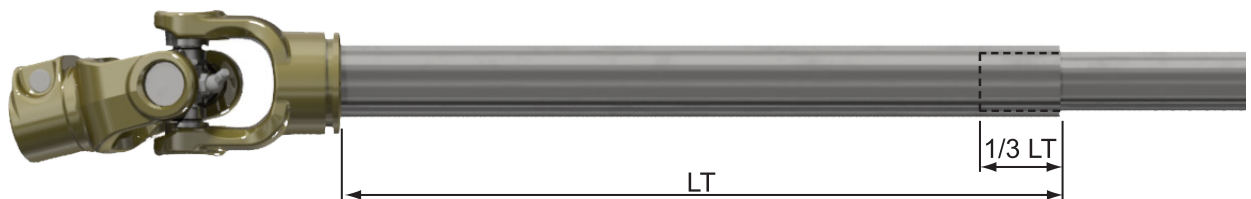




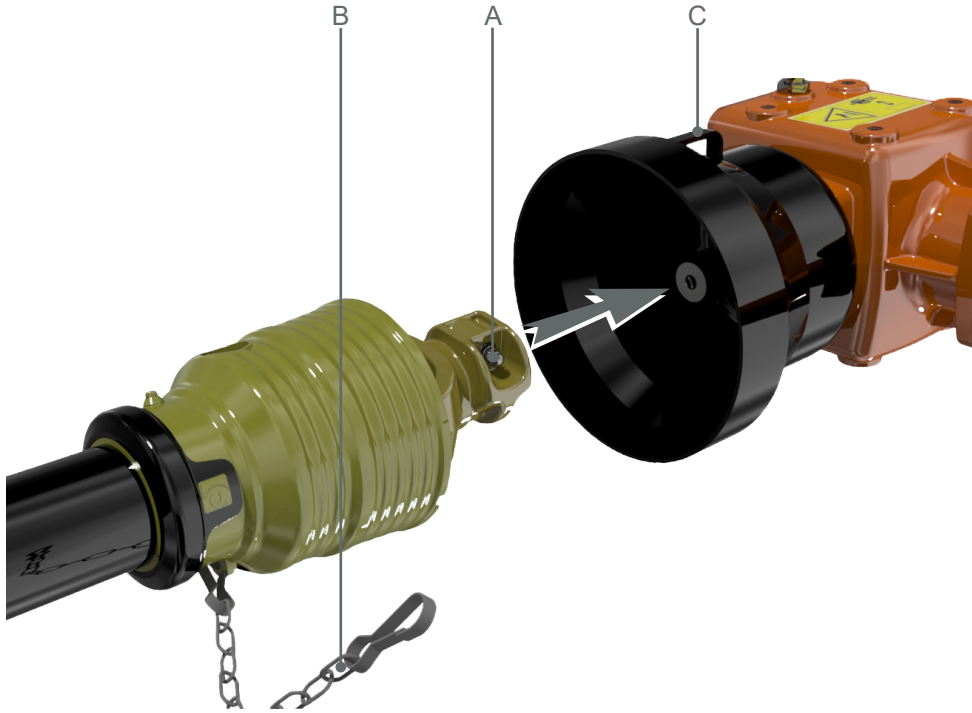
5.2 CARDAN SHAFT CONNECTION

Before assembling the cardan shaft, the operator must:

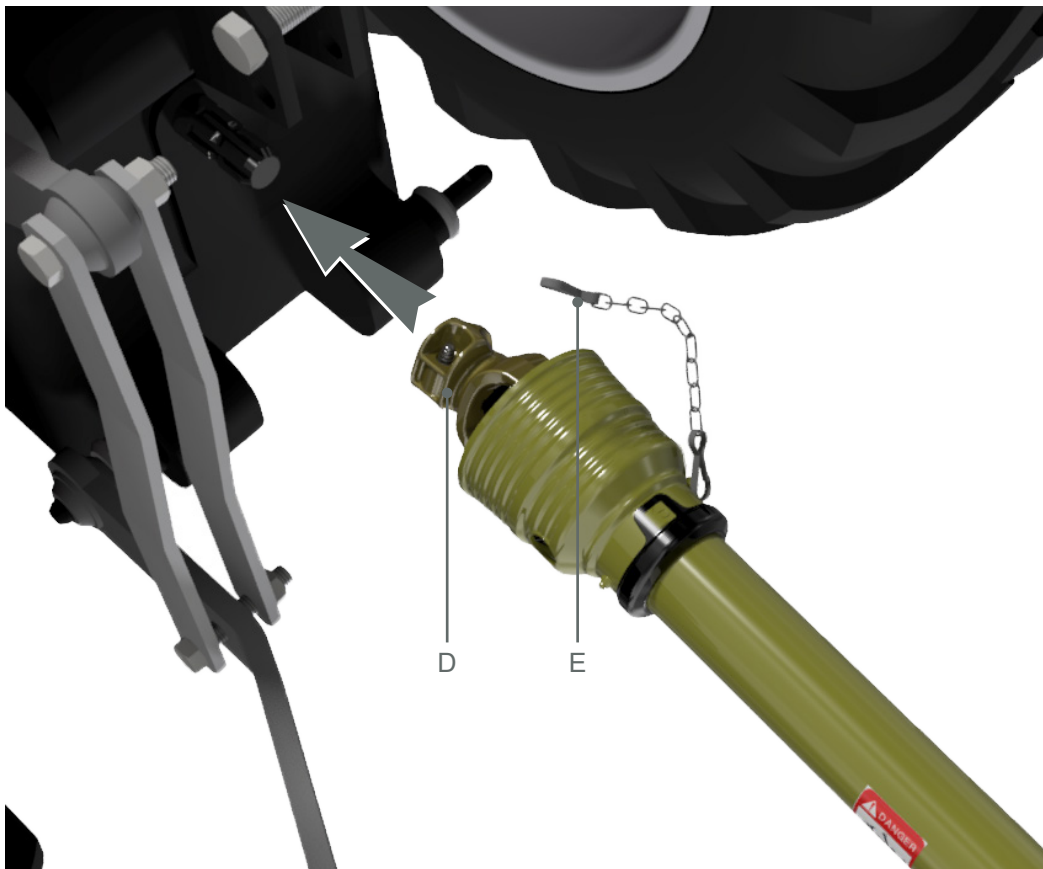
- Read the manual of both the cardan shaft and the tractor;
 - Check that the number of tractor PTO revs corresponds to those of the flail mower. If this is not the case, contact after-sales;
 - Check that the minimum and maximum length of the cardan shaft are those required by the flail mower-tractor coupling. Remember that when at maximum extension, the pipes must overlap at least 1/3 of the length of the internal pipe. Moreover, in the maximum closure position of the pipes, the minimum allowed clearance between the plastic protections must be at least 20 mm in order to prevent damage to the protections and to the multiplier. If this is not the case, it must be shortened accordingly by cutting off the necessary amount; see the cardan shaft use and maintenance manual or contact your authorised retailer;
 - Use cardan shafts with power/torque transmission capacity and rotational speed in line with the recommended values;
 - Check that the cardan shaft protection is intact, otherwise proceed accordingly by consulting the relevant user manual;
- Position the cardan in the right direction, making reference to the figure of the tractor embossed on the external protection pipe.



- Insert the first hub of the cardan shaft onto the flail mower PTO, holding the safety pin or safety collar pressed. Release the pin and retract with the cardan until the pin itself engages in the relevant seat with an audible "clack".
- Hook the snap-hook of the anti-rotation chain "B" into its slot "C" on the shaft guard of the transmission unit;



- Then repeat the operation with the hub "D" opposite to the shaft, inserting it into the tractor PTO and thus hooking the snap-hook "E" to the tractor.



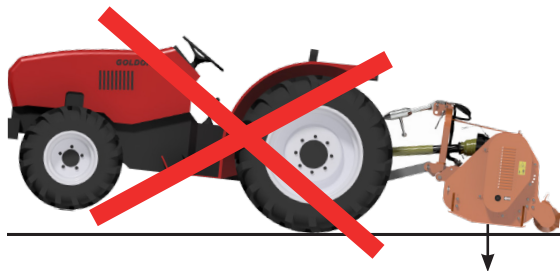
5.3 CHECK THE STABILITY OF THE TRACTOR-FLAIL MOWER ASSEMBLY



CAUTION RISK OF INSTABILITY AND TIPPING!

The weight of the flail mower changes the stability of the tractor-flail mower unit, influencing steering and braking. As such 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-flail mower unit.

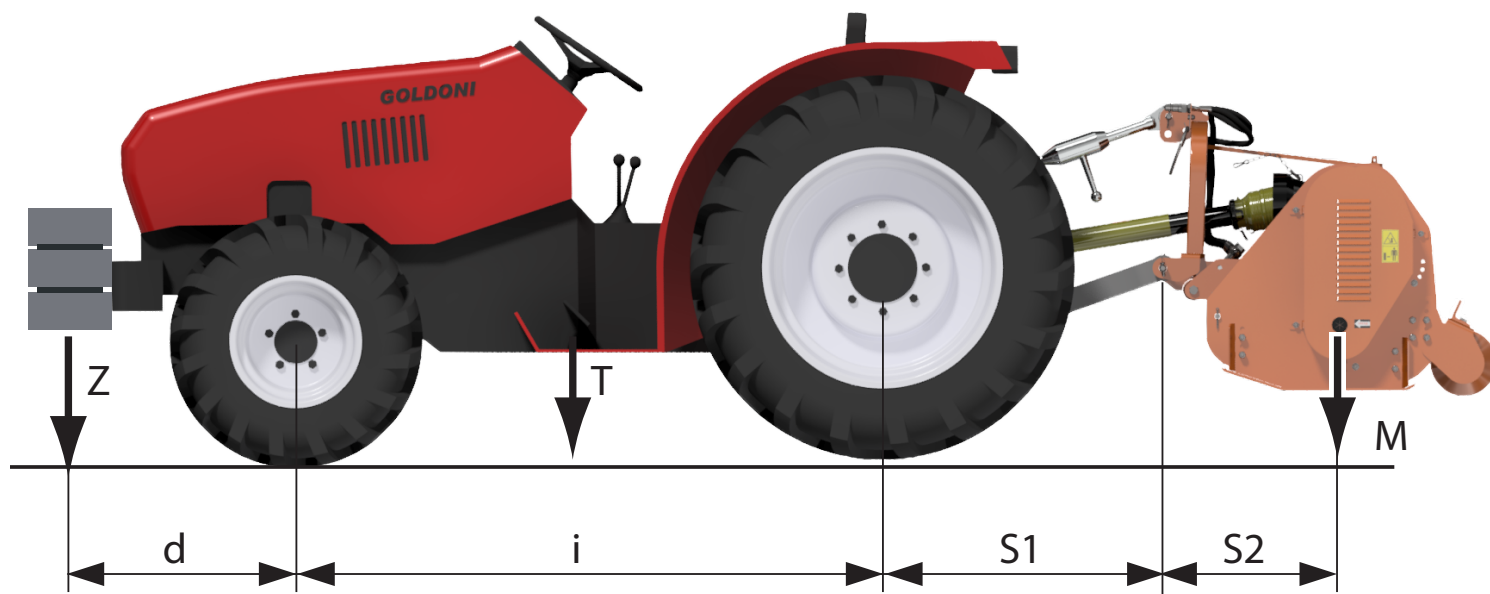
Check the lifting capacity and stability of the tractor using the following formula and, if necessary, before applying the front weights.



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

$$M \leq 0.3T$$

i	= = wheelbase
d	= distance between centre of front axle and centre of gravity of weights
S1	= distance between centre of the rear axle and centre of the lower connection points
S2	= distance between the centre of lower coupling points and centre of gravity of the flail mower
T	= weight of the tractor + 75Kg (operator)
Z	= mass of the ballast
M	= the mass of the machine



5.4 ROAD TRANSPORT

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.



6. ADJUSTMENTS

6.1 WORKING HEIGHT



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

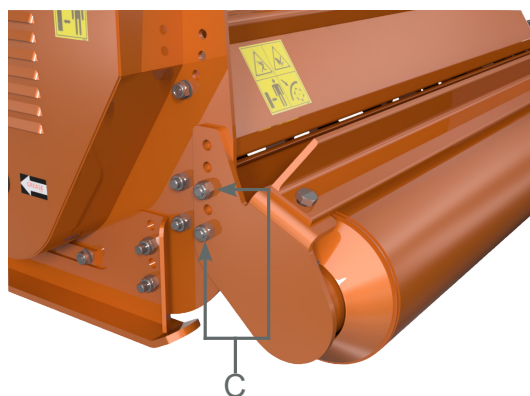
When the roller or wheels are lifted, the tools approach the ground. Vice versa, when these are lowered, the tools move away from the ground.

After adjusting the working height, make sure the tools are not touching the ground; direct contact may cause rapid wear.



CAUTION RISK OF CUTTING AND SHEARING HANDS AND FEET!

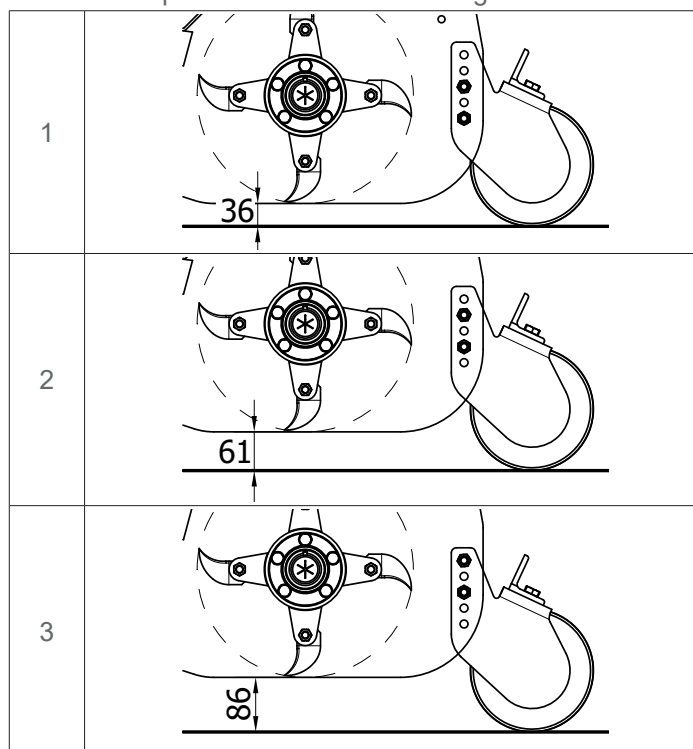
The roller must be adjusted by at least two expert operators equipped with gloves, who, positioned near the side supports will lift or lower the roller together.

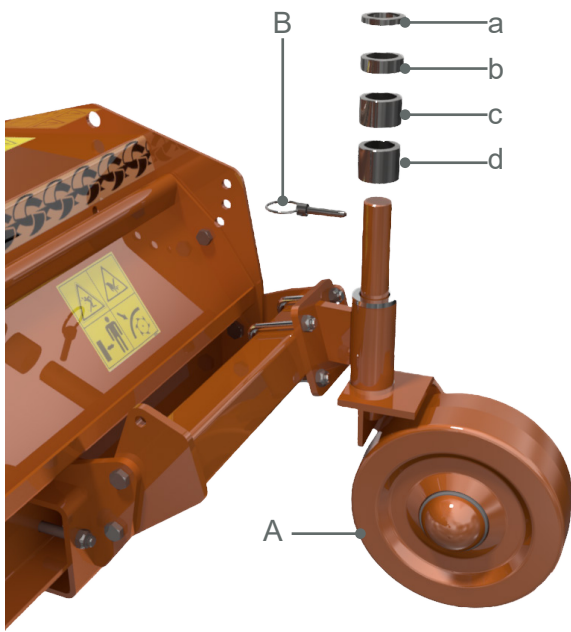


To adjust the height of the roller, the operators must:

- Disengage the power take-off and disconnect the cardan shaft;
- Use the tractor's hydraulic lift to lift the flail mower and secure it to sturdy supports in order to guarantee its stability;
- Unscrew and remove the bolts "B" on both sides of the flail mower;
- Position the roller according to your needs by consulting the diagram below;
- Reinsert and tighten bolt "C" on both sides, making sure the two side supports are both positioned at the same height.

Cutting height of the roller stabilizer (mm)	
Pos.	Height
1	36
2	61
3	86



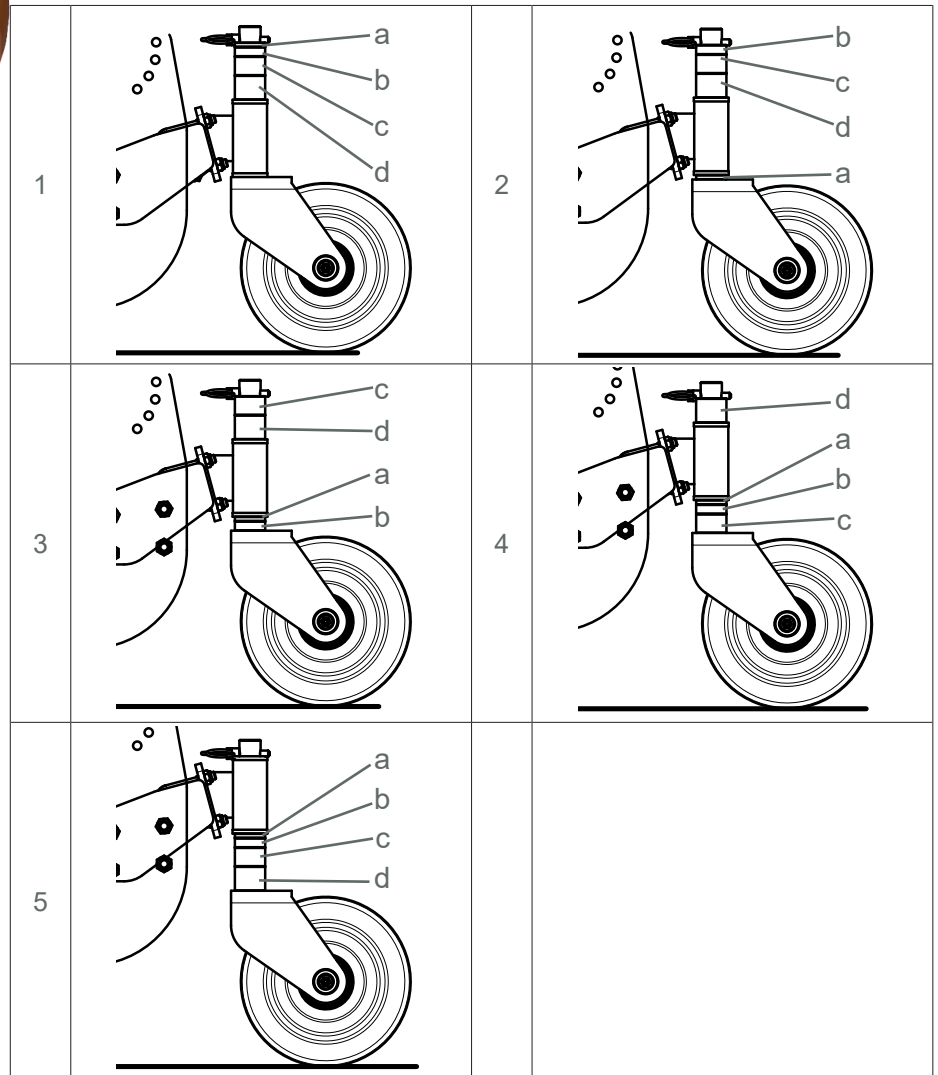


To adjust the height of the rear wheels:

- Disengage the power take-off and disconnect the cardan shaft;
- Lift the flail mower and place it on supports to ensure stability;
- Keep wheel "A" forcefully high, and its entire support "A";
- Remove the snap-pin "B";
- Pull out the wheel complete with support "A" and the spacers regulating the 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 snap-pin "B";
- Repeat the operation for the opposite wheel, ensuring the spacers are positioned exactly like those of the first wheel.

Height of swivel wheels spacers (mm)	
Ref.	Height
a	6
b	12.5
c	25
d	32

Cutting height of the rear wheels (mm)	
Pos.	Height
1	58
2	64
3	76
4	100
5	133



6.2 SIDE SKIDS (optional)

The side skids, in the presence of a stabilizer roller or swivel wheels, have the sole function of protecting the side frame plates from any direct contact with the ground. Therefore, except in the case of special requirements, we recommend they be left in their factory configuration.

6.3 RAKES

Rakes are supplied only with the TMX version with hammers and their function is to obtain a finer shredded material, keeping it inside the chopper for longer. They must be regulated after adjusting the flail mower cutting height, except in the case of specific needs.

To do this, the operator must:

- Pull out the cotter of one of the side rakes;
- Push the rake downward until it touches the ground;
- Lift the rake until the first pin hole of the cotter is exposed;
- Insert the cotter into the exposed hole;
- Check which hole is used for the cotter, by counting the holes from the top;
- Adjust all the rakes by inserting the cotters in the same hole as that of the previously identified rake.

6.4 SIDE SHIFTING (if present)

Shifting TMX flail mowers, as already seen in par. 1.9, can be configured in manual or hydraulic mode.

To adjust the side position of the machine with manual jack, the operator must:

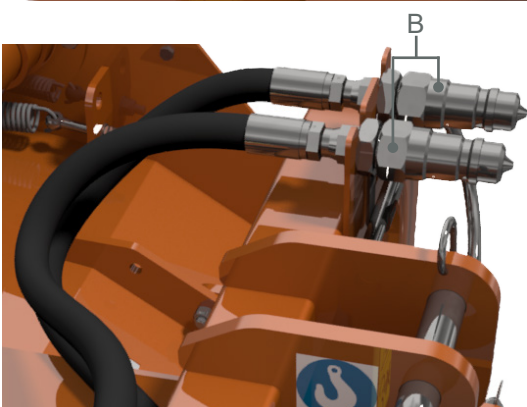
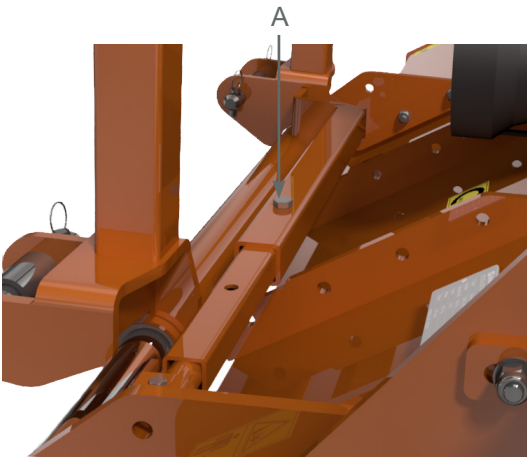
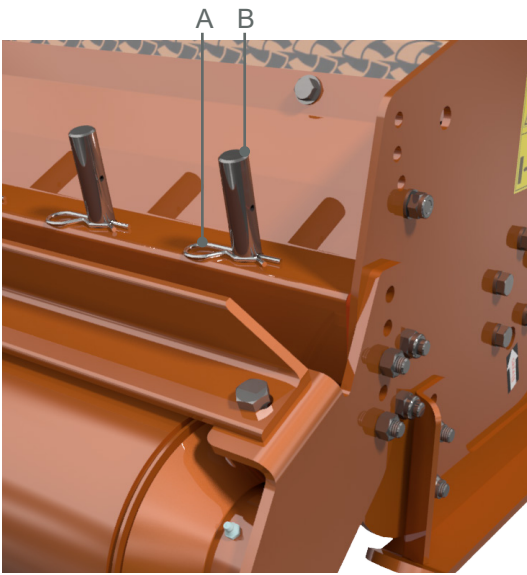
- With PTO disengaged and cardan removed, lift the flail mower;
- Unscrew and remove bolt "A";
- Manually shift the body by pushing it from its two ends until it reaches the desired position;
- Reinsert the bolt extracted earlier and tighten it.

If the flail mower has a mobile arch with hydraulic cylinder, its position can be changed simply using the tractor's manual controls, after connecting the quick couplings "B" to their hydraulic connections.



WARNING!

Lateral displacement adjustments must be made only and exclusively with the machine lifted off the ground, on the work surface, power take-off disengaged, parking brake engaged, in order to protect your own and other people's physical safety.



6.5 BELT TENSIONING

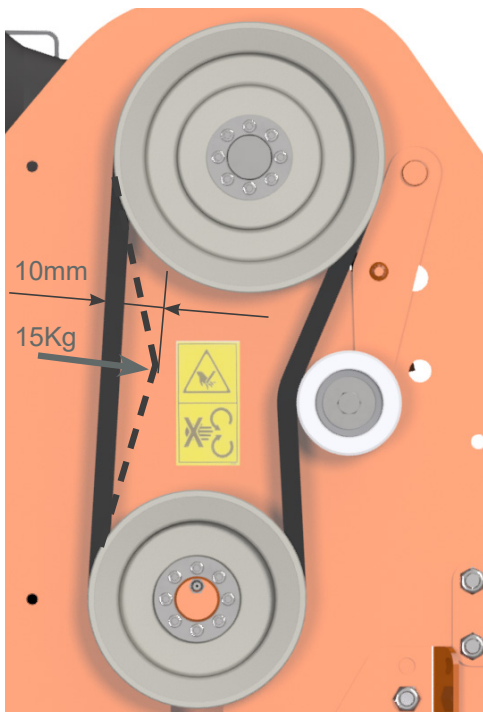
The TMX flail mower tool-holder is rotated by a belt drive with automatic spring tensioner.

Regularly check the tension of the belts and if loose, adjust them.

The belts are correctly tensioned when, with an applied force of approximately 15 kg on the taugth side of the belts, these are inflected by about 10 mm.

To adjust the tension of the drive belts, the operator must:

- Unscrew bolts "C" fixing the protective casing of the belts and remove it;
- Completely loosen the automatic belt tensioner, unscrewing check-nut "D" first and then nut "E" of the eye screw "F";
- Once the belts are fully loosened, remove the outermost one first and then the others;
- Replace all the belts with a new set, carrying out the assembly steps in reverse starting from the previous point;
- Tension the belts by first tightening nut "F" and then, when the tension is correct (as above), tighten the check-nut "D";
- Reposition the protective casing and tighten all its bolts "C".



WORKING



NOTE

Before using this machine, read this entire sequence to make sure you are properly prepared for all possible events.

6.6 PREVENTIVE MAINTENANCE

Before using the machine for the first time, or after a lengthy period of inactivity, the operator must:

- Check that the machine is not damaged;
- Check that the mechanical parts are in good condition and are not rusted;
- Check that the tools are not excessively worn;
- Carefully grease all mobile parts;
- Check that there are no oil leaks coming from the transmission unit or hydraulic system (if present);
- Check that all safety guards are properly positioned;
- Check that the bolts are properly tightened and if necessary adjust them in line with the table of torque values included in par. 13.1;
- Check the oil level in the multiplier gearbox and top it up to the correct level if necessary (par. 8.1);
- Grease the rotor rear roller supports (see par. 8.2).

Use the following products for lubrication:

- Oil: **AGIP-ENI BLASIA 150**
- Grease: **AGIP GREASE MU EP 2**

6.7 USE

Once all checks and adjustments have been made, with the tractor connected to the flail mower (using the three-point hitch, but with the cardan shaft disconnected), start the tractor and move to the work area, remembering to keep the flail mower raised off the ground (at least 20 cm).

To start the flail mower, the operator must refer to the tractor manual as the commands are positioned inside the tractor cab.



WARNING!

Before starting work, make sure that no persons or animals are within the radius of action of the machine.

The flail mower must only be used by one operator positioned inside the tractor driving cab.

Once in the work place, the operator must:

- Engage the parking brake;
- Stop the engine;
- Remove the ignition key and keep possession of it;
- Connect the cardan shaft to the tractor PTO (see para. 5.2).



RECOMMENDATION:

It is good practice to start the equipment at low speed, especially in cold environments, to allow the system to run-in and to prevent flail mower malfunctioning.

Once connected to the cardan shaft, the operator must:

- Start the flail mower engine;
- Release the parking brake;
- Start the flail mower by activating the PTO of the tractor;
- With the vehicle running at a speed not exceeding 6 km/h, operate the hydraulic lift allowing the flail mower to descend and penetrate the soil.

Keep the tractor engine running at a speed that guarantees the level of power needed to complete the task at hand.

Travel a short distance with the flail mower running and check the quality of its work; if unsatisfactory, repeat and revise the machine adjustment operations (chap. 6).

CAUTION RISK OF CUTTING AND SHEARING HANDS AND FEET!
Do not approach the tool-holder rotor with hands or feet when it is rotating.

CAUTION RISK OF PROJECTING OBJECTS!
During operation, the machine can project material from the back: make sure that people and animals are at least 5 metres from it.

When changing direction, turning or reversing, disengage the PTO and slightly lift the flail mower off the ground to avoid damaging the structure.

When work is complete, the operator must:

- Engage the parking brake;
- Stop the engine;
- Remove the ignition key and keep possession of it;
- Disconnect the cardan shaft from the tractor PTO and place it in the relevant support hook;
- Release the parking brake and, when necessary, restart the tractor engine;
- Bring the flail mower back to the depot, making sure there are no exposed persons, animals or property during handling.

Having reached the depot, the operator must:

- Place the flail mower on the ground;
- Engage the parking brake;
- Switch the engine off;
- Remove the ignition key and keep it on themselves;
- Have the flail mower cleaned (chap. 10);
- Check that there are no oil leaks and if so, have them repaired (danger of polluting the ground);
- Check and if necessary, replace any worn parts (chap. 8).





NOTE

If the equipment stops unexpectedly during working, see the following chapter (chap. 7).

7. STOPS



CAUTION RISK OF INJURY!

Only qualified operators that have read and fully understood the safety prescriptions (chap. 2) can perform the operations described below. Moreover, they must check that there are no persons, animals and property at risk in the dangerous area.

The equipment must be stopped in the following ways:

- Temporary stop;
- Day end stop;
- Long downtime period;
- Emergency stop.

TEMPORARY STOP

To temporarily stop the flail mower, simply deactivate the rotation of the tractor power take-off using the command on the tractor console.

If the operator needs to climb down off tractor, they must:

- Engage the parking brake;
- Switch the engine off;
- Remove the ignition key and store it in a safe place;
- Climb down off the tractor.

DAY END STOP

- Engage the parking brake;
- Stop the engine;
- Remove the ignition key and keep it on themselves;
- Climb down off the tractor;
- Arrange for cleaning of the equipment (chap. 10);
- Check that there are no oil leaks and if so, have them repaired (danger of polluting the ground);
- Check and if necessary, replace any worn parts (chap. 8).

LONG DOWNTIME PERIODS

When the machine is parked for long periods of time:

- Engage the tractor parking brake;
- Place the flail mower on the ground;
- Stop the tractor engine,
- Remove the ignition key from the control panel and store it;
- Climb down from the drive position;
- Disconnect the cardan shaft;
- Place the cardan shaft in its support hook;
- Extract the cotter and pin from the 3rd upper point, disconnect the tie rod and secure it to the relevant tractor support;
- Extract the cotter and pins connecting the two lower points, then extract the hydraulic lifting arms from the tractor;
- Climb onto the tractor again;
- Start the engine and move away carefully;
- Clean the flail mower again (chap. 10);
- Lubricate all the non-painted flail mower parts with an anti-rust product.

The ground on which the flail mower is positioned must be flat and inside a protected area, preventing access to unauthorised persons.

EMERGENCY STOP

- Stop the rotation of the tractor power take-off using the command on the tractor console.
- Engage the parking brake.
- Turn the tractor engine off.



- Remove the ignition key and keep possession of it.
- Identify the cause behind the emergency stop; if necessary, see par. 13.2 “Troubleshooting”.

Decide:

- Whether it is necessary to place the equipment in a zero energy state;
- Whether to call for technical assistance;
- Whether it is possible to repair the equipment.

After remedying the cause that prompted the emergency stop, the equipment can be restarted and used.

8. ORDINARY MAINTENANCE



CAUTION RISK OF INJURY AND DAMAGE!

Only qualified operators that have read and understood the safety requirements (Chap. 2) may perform the operations described below. Moreover, they must check that there are no persons, animals and objects exposed in the dangerous area.

The operator must know and scrupulously follow the indications and must have placed the machine out of service.

The periodic controls and the maintenance operations described in this chapter must be performed in the times and ways established and are the operator's responsibility.

Failure to comply with the standards and maintenance times jeopardises efficient functioning of the machine and its duration and as a consequence validity of the warranty.



For all other maintenance, see par. 13.2 “Troubleshooting” or contact the manufacturer or the after-sales centres.



Given the complexity of the equipment, all repairs, modifications, special maintenance operations other than those listed below should NOT be performed without consulting the manufacturer or its service centres. Depending on the circumstances, these will provide authorisation and all necessary instructions, or alternatively they will recommend an intervention by one of their own technicians. These precautions are necessary due to the fact that incorrect or untimely operations may result in anomalous operating conditions, damage to the equipment and pose a risk to staff.



CAUTION RISK OF INJURY AND DAMAGE!

Before performing maintenance, read this entire section to be prepared for all possible events.



CAUTION OVERTURNUNG, CRUSHING HAZARD!

Ensure stability of the equipment before performing any maintenance operations (the maximum allowed ground slope is 3°).

Before carrying out any maintenance operations, the operator must place the flail mower into a Zero Energy State (par. 2.10).



The maintenance technician and any assistants must have the relevant Personal Protection Equipment (P.P.E.) available and use them as required.

Do not carry out repairs, the details of which are unknown. Always follow the instructions and in the absence of these, contact the supplier or expert personnel.

Do not use lifting points other than those prescribed.

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

Do not keep the tractor engine running in closed areas without a suitable ventilation system to dispose of the harmful exhaust gases that concentrate 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. In the event of accidental contact the eyes, wash them well with water.

Do not weld in closed or inadequately ventilated areas.

Do not weld on coated surfaces, to prevent the development of toxic vapours. Remove paint with suitable products and then wash and leave to dry.

Relieve pressure from circuits before working on the hydraulic system.



CAUTION OIL EJECTION!

Do not use hands to identify leakage of fluids under pressure; fluid leaks under pressure can penetrate the skin and eyes, with very serious consequences.



CAUTION BURNS HAZARD!

Wait for the gearbox to have cooled down before touching it.



CAUTION POLLUTION OF THE LAND AND WATER TABLE HAZARD!

The operator must immediately arrange for any oil leaks to be repaired; moreover, lubricants must not be poured onto the ground when topping up or replacing the oil.



WARNING!

Collect any waste oil and dispose of it at appropriate collection centres. According to current legislation, these must not be disposed of in the environment because they are classified as hazardous waste. It is therefore necessary to contact the "Waste Oil Mandatory Consortium" (www.coou.it, Toll Free Number 800-863048). For the other countries, refer to the relative anti-pollution regulations in force.



The oil level in the multiplier gearbox must be visually checked, making sure the oil level is clearly visible from the sight glass of cap "A".

If the oil needs to be topped up, the operator must:

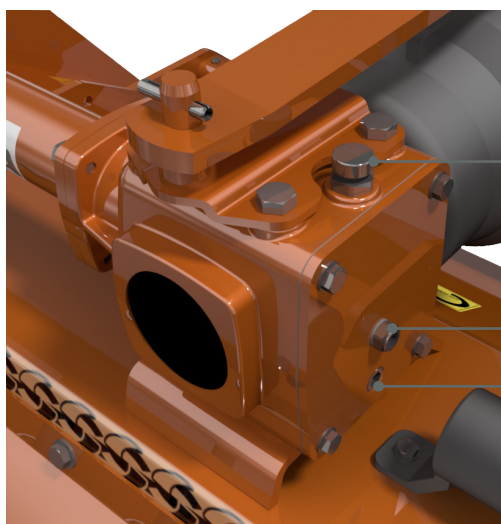
- Unscrew the oil filling/drain cap "C"
- Refill oil type **AGIP-ENI BLASIA 150**, using a funnel until the oil level is visible through the sight glass of cap "A"
- Reinsert and tighten the filling cap "C".

The oil in the multiplier gearbox must be replaced:

- The first time after the first 50 working hours;
- Every 500 working hours.

To replace the oil the operator must:

- Place a container under the oil drain "B" (lower part of the sump);
- Unscrew the oil filling/drain cap "C";
- Unscrew the oil drain cap "B" and drain the oil completely;
- Dispose of the drained oil in appropriate containers for waste oils;
- Screw the previously unscrewed oil drain cap "B";
- Using a small funnel, refill with oil type **AGIP-ENI BLASIA 150**, pouring it into the hole in cap "C" until reaching the desired level;
- Top up the oil and tighten cap "C".



8.2 GREASING

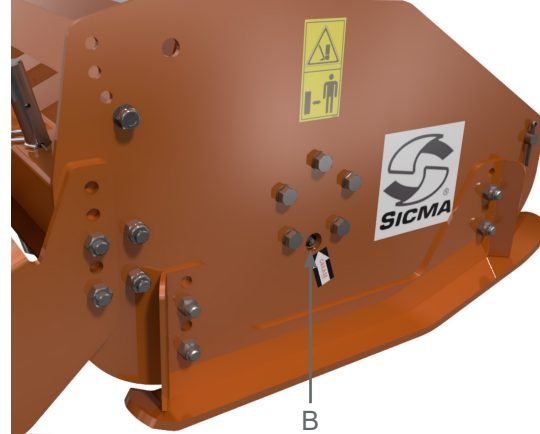
Parts must be greased using a dedicated greasing pump and grease type **AGIP GREASE MU EP 2** after thoroughly cleaning the grease nipples.

SHAFT SUPPORT GREASING

(Every 20 working hours)

To grease supports, the operator must:

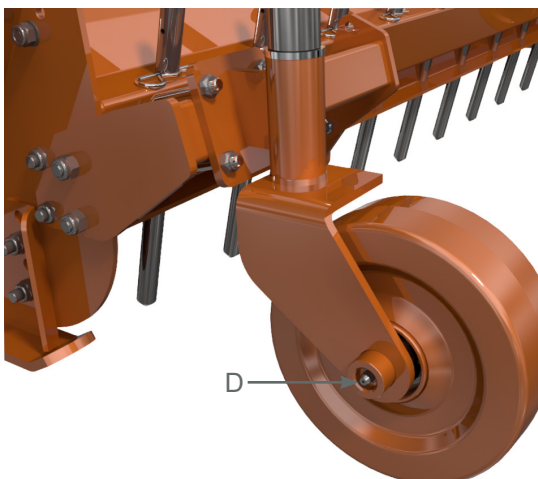
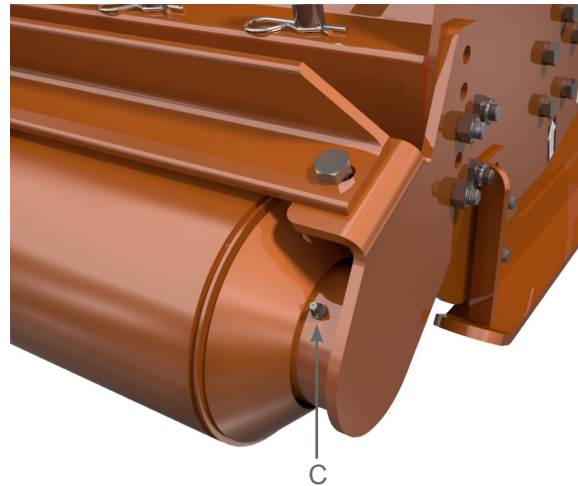
- Remove plastic cap "A" on the transmission casing and inject the specific grease through the nipple underneath;
- Inject grease into greasing point "B" located on the opposite side of the flail mower.



REAR ROLLER SUPPORTS GREASING

(Every 20 working hours)

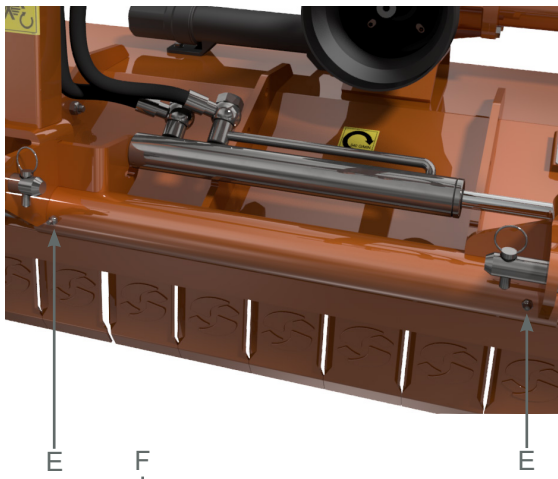
Inject grease into grease nipples "C" located on the top inside of the supports of the rear roller.



SWIVEL WHEELS SUPPORTS GREASING (OPTIONAL)

(Every 50 working hours)

Inject grease into the grease nipples "D" 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 "E" located on the front part of the guide runner tube.

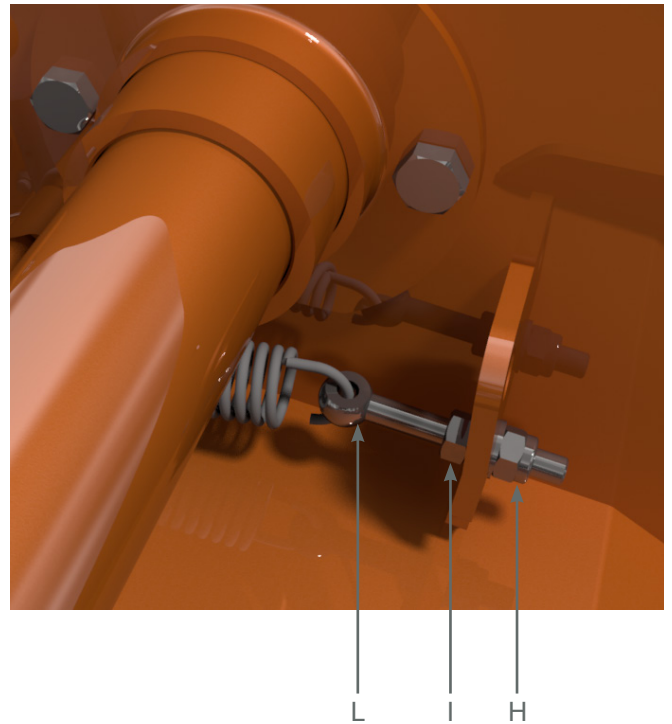
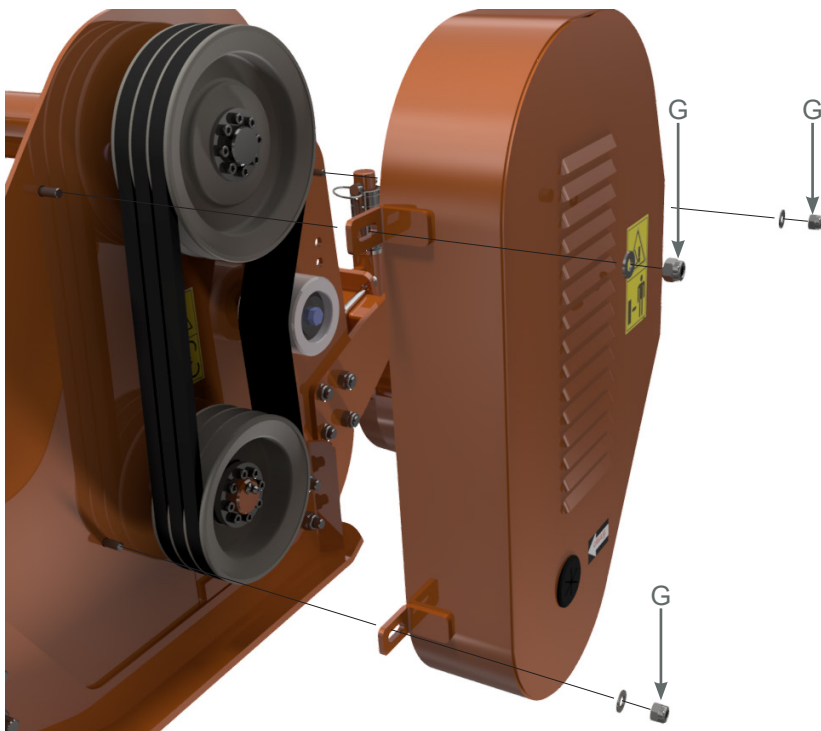
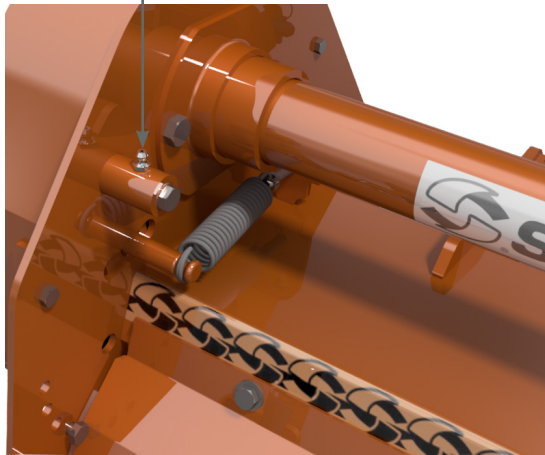
BELT TENSIONER GREASING
 (Every 50 working hours)
 Inject grease into the grease nipple "F" on the tensioner joint located above the tensioning spring.

8.3 REPLACING THE TRANSMISSION BELTS

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 drive belts, the operator must:

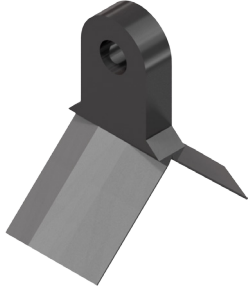

- Unscrew bolts "G" fixing the protective casing of the belts and remove it;
- Completely loosen the automatic belt tensioner, unscrewing check-nut "I" first and then nut "H" of the eye screw "L";
- Once the belts have been fully loosened, remove the outermost one first and then the others;
- Replace all the belts with a new set, carrying out the assembly steps in reverse starting from the previous point (spare parts on www.sicma.it);
- Tension the belts as per par. 6.5;
- Reposition the protective casing and tighten all its bolts "G".



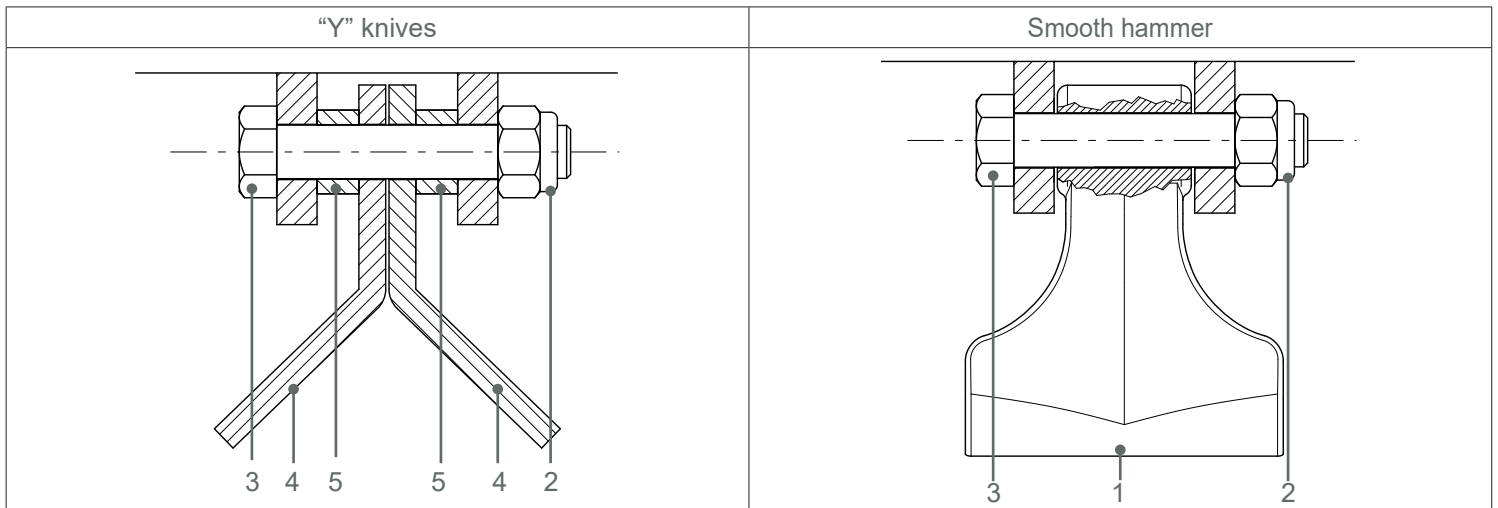
8.4 REPLACING KNIVES/HAMMERS

The TMX, as already seen in par. 1.9, can be equipped with knives and hammers depending on the work to be carried out:

- “Y” knives;
- Smooth hammers.

“Y” knives	Smooth hammer
	
Grass and shrubbery	Grass, shrubs and pruning

To ensure perfect machine performance, the hammers or knives of the flail mower should be regularly checked (at least every 50 working hours) to ensure they are in good condition and perfectly secured by their fastening bolts; if any of the bolts are broken or worn, all must be replaced with new and original spare parts (spare parts on www.sicma.it).



TOOLS LIST								
Ref.	Description	Code	Quantity					
			TMX/095	TMX/110	TMX/125	TMX/140	TMX/155	TMX/185
1	Smooth hammer	5715100	12	14	16	18	20	27
2	Nut M16 UNI 7473	3464101016	12	14	16	18	20	27
3	Screw M16x95 UNI 5737	30016090	12	14	16	18	20	27
4	Knife	5815160	24	28	32	36	40	54
5	Knife spacers	5535710	24	28	32	36	40	54



CAUTION CRUSHING HAZARD!

Check the equipment's stability before performing any type of maintenance operation, working on flat and stable surfaces with the machine in a “Zero Energy State” (par. 2.10).



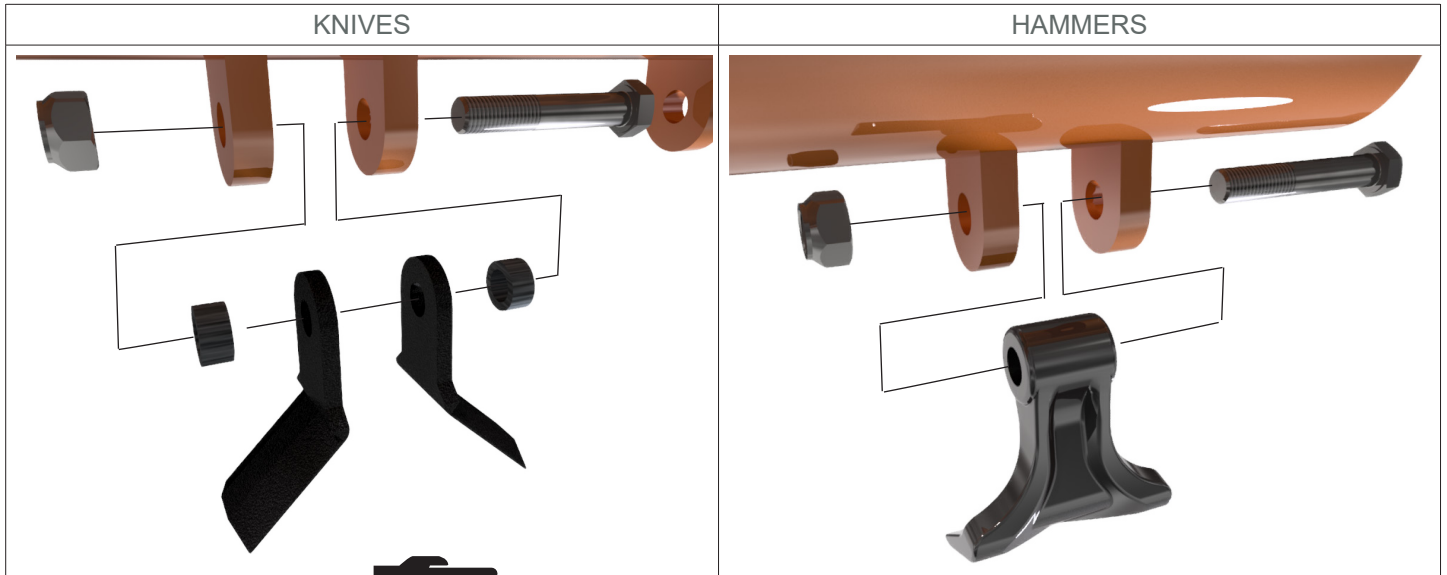
CAUTION CUTTING HAZARD!

When replacing tools, safety gloves and footwear must be worn.



If any of the tools are worn, the entire set of tools will need to be replaced. Replacing only some of the tools will cause an imbalance of the shaft.

To replace knives or hammers, contact the closest SICMA service centre or employ expert personnel with the skills to reassemble the tools, strictly following the assembly instructions described in the images below. Please remember to mount tools with the cutting edge facing the direction of rotation of the rotor. In order to avoid assembly errors, it is also advisable to reassemble the knives with their relative spacer in the same way for all knife groups.



NOTE!

Failure to assemble original tools may cause anomalous machine vibrations, which may compromise the operator's safety and the performance of the flail mower.

Always use original spare parts supplied by SICMA to guarantee minimal tolerance on the weight of the tools (www.sicma.it).



RECOMMENDATION!

SICMA **advises against** making changes to the types of tools originally assembled on the shaft, for example replacing smooth hammers with knives or vice versa: if the user wishes to proceed with this operation, after assembling the new tools, the complete shaft must be rebalanced by an authorised SICMA centre to prevent the onset of any dangerous vibrations; in this case, remember to remove the additional weights used for the original balancing.



WARNING!

Sicma denies all liability for any damage that may arise due to non-compliance with the requirements described above.

9. CARDAN SHAFT



For both lubrication and maintenance operations on the cardan shaft supplied with the flail mower, always act in accordance with the respective use and maintenance manual supplied by the manufacturer.



10. CLEANING



CAUTION RISK OF INJURY!

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



CAUTION CUTTING HAZARD!

When cleaning the flail mower, safety gloves and footwear must be worn. The maintenance technician must operate on flat and stable surfaces with the flail mower in the zero energy state (par. 2.10).



If compressed air is used, suitable goggles must be worn.

When use of the flail mower is complete, the equipment should be washed with a high-pressure water cleaner, in particular:

- The body;
- The three-point hitch;
- The tool-holder rotor and its tools;
- The rotor compartment.

After cleaning, dry with compressed air and then with a clean cloth. Then brush on some lubricating oil to protect the unvarnished metal parts.

11. STORAGE AND WINTERING

If the machine will not be used for long periods of time:

- Clean it thoroughly again;
- Check that the rotor turns freely;
- Lubricate the mechanical parts properly to prevent the formation of rust.
- Identify any structural damage, deep abrasions on the paintwork;
- Check for the presence, correct location, integrity and legibility of all original safety decals;
- Store the machine in a place not accessible to unauthorised persons and protected against the weather;

12. SCRAPPING

In the event of scrapping, the machine must be disposed of in suitable waste disposal sites, in compliance with the Law in force.

In Italy, prior to scrapping, plastic or rubber parts must be separated from metal parts. Parts made up of only plastic, aluminium and steel materials can be recycled, if collected by dedicated centres.

Collect any waste oil and dispose of it at the appropriate collection centres. Used oil must be properly recovered and should not be released into the environment because, according to current legislation, it is classified as hazardous waste and as such must be delivered to designated collection centres. For the collection of waste oil it is required to consult the "Waste Oil Mandatory Consortium" (www.coou.it, Green no. 800-863048);

For the other countries, refer to the relative anti-pollution regulations in force.



13. QUICK CONSULTATION TABLES

The following paragraphs state the information necessary to speed up the interventions described up to this point in table form, both regarding maintenance and troubleshooting.

13.1 TABLE OF TIGHTENING TORQUES

Check the tightness of nuts and bolts daily. If necessary, replace them by repositioning them (screws, washers, nuts) respecting the disassembly sequence.

COUPLING TORQUE				
	Bolt class			
	8.8		10.9	
Threading	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

13.2 TROUBLESHOOTING TABLE



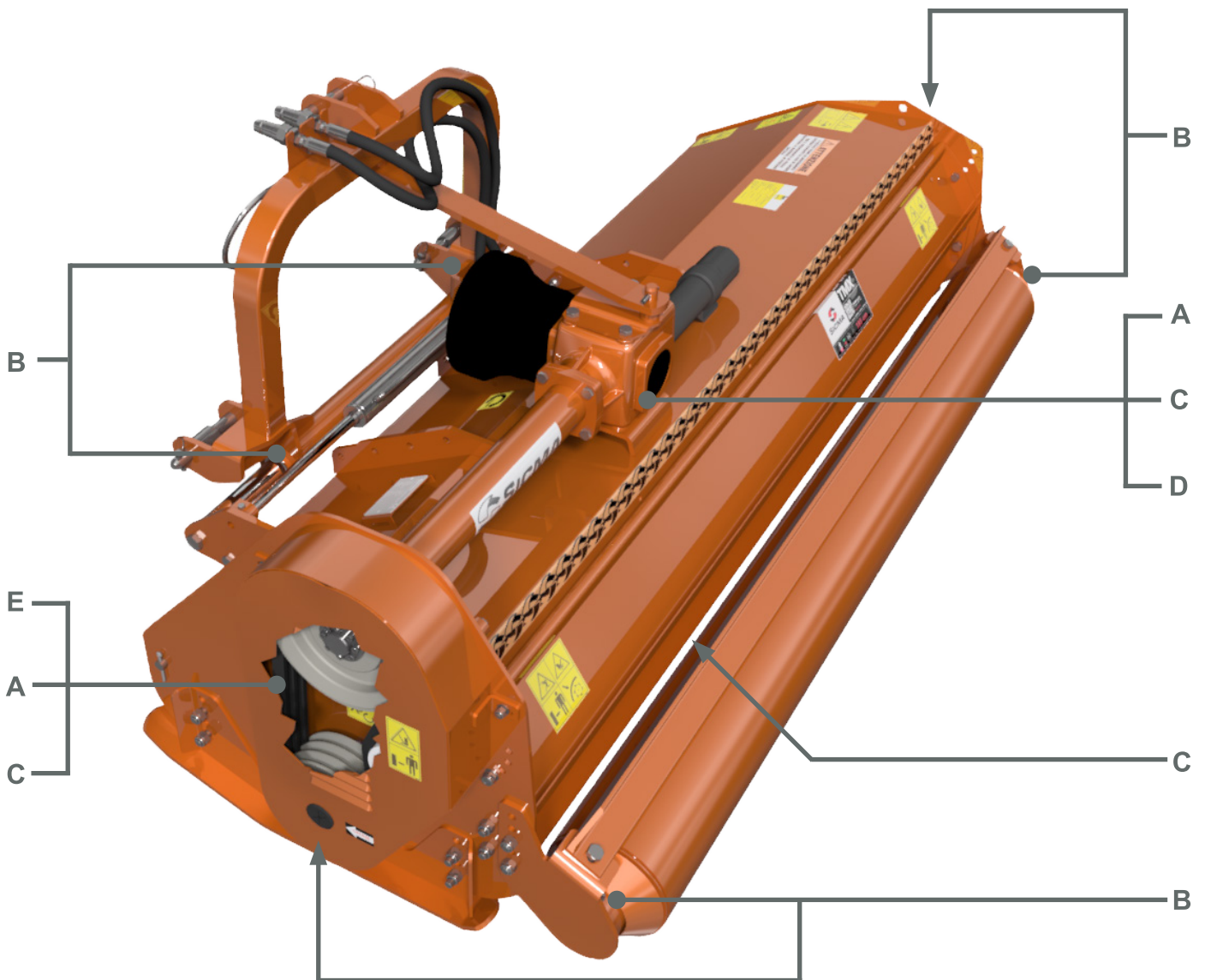
NOTE!

Before applying the suggested remedies, make another attempt to see if the problem persists. In this case, begin to adopt the most elementary remedies. If the fault persists despite having taken the necessary measures, contact the service centre.

FAULT	CAUSE	REMEDY
Oil leakage from the box multiplier	<ul style="list-style-type: none"> Too much oil in the box Breather plug with faulty valve Caps loading / unloading / slow levels Damaged gaskets 	<ul style="list-style-type: none"> Restore the proper oil level Replace the breathing cap Tighten the caps of loading / unloading / level Replace the gaskets
Uneven shredding	<ul style="list-style-type: none"> Tools worn or damaged Roller / wheels are not properly adjusted Machine clogged 	<ul style="list-style-type: none"> Replace the tools Carry out adjustments Decrease tractor advancement speed Clean shredding chamber
Multiplier gearbox overheated	<ul style="list-style-type: none"> Insufficient oil Finished oil Material hard to shred 	<ul style="list-style-type: none"> Restore the oil level Reduce advancement speed
Premature tool wear	<ul style="list-style-type: none"> Stony ground Tools cutting height too low 	<ul style="list-style-type: none"> Patrol the ground previously Adjust the cutting height
Machine noise or vibrations	<ul style="list-style-type: none"> Unbalanced rotor Rotor bearings worn Tools damaged, worn or missing 	<ul style="list-style-type: none"> Perform balancing in a specialist workshop Replace the bearings Replace the tools

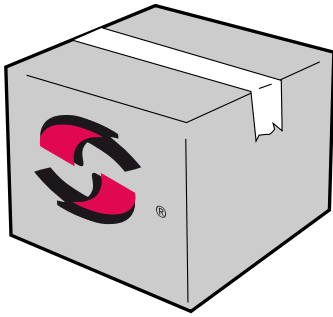
13.3 MAINTENANCE INTERVALS

	INTERVAL IN HOURS	DESCRIPTION OF THE INTERVENTION
A	AFTER THE FIRST 50 WORKING HOURS	<ul style="list-style-type: none"> • Check the correct tension of the drive belts • Check the correct tightness of the nuts and bolts • Replace the oil in the multiplier gearbox
B	EVERY 20 WORKING HOURS	<ul style="list-style-type: none"> • Grease the supports of the rear roller • Grease the supports of the shaft • Grease the mobile arc supports
C	EVERY 50 WORKING HOURS	<ul style="list-style-type: none"> • Check the correct tension of the drive belts • Check the correct tightness of the nuts and bolts • Check the wear of the knives / hammers • Check the oil level in the multiplier gearbox and eventually fill to restore the level • Grease the rear wheel supports (if any) • Grease the belt tensioning pin
D	EVERY 500 WORKING HOURS	<ul style="list-style-type: none"> • Check the correct tightness of the nuts and bolts • Replace the oil in the multiplier gearbox
E	EVERY 1000 WORKING HOURS	<ul style="list-style-type: none"> • Replace the drive belts



RECOMMENDED LUBRICANTS	
Oil	AGIP-ENI BLASIA 150
Grease	AGIP GREASE MU EP 2





14. SPARE PARTS

Repairs and replacements must be performed using original spare parts, which must be ordered from the Dealer or from the website www.sicma.it. Remember that the spare parts order must be properly filled in and complete with the following information:

- Machine Type;
- Serial number;
- The code and description of the requested spare part can be found in the spare parts exploded diagram (www.sicma.it);
- Requested quantity.

Given the particular stress to which the equipment is exposed and due to safety reasons, only original spare parts may be used to replace worn or damaged parts.

15. WARRANTY

In order to claim under the contractual warranty supplied by the manufacturer, the operator must strictly comply with the instructions provided in the Use and Maintenance Manual, in particular:

- Respect the limits for use set forth by the Manufacturer;
- Must not make any changes or modifications to the machine without the written approval of the Manufacturer;
- Must always perform all the maintenance required;
- Must only use original spare parts;
- Must ensure that the personnel engaged in the use of the vehicle meet the necessary requirements in terms 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 the modification of guards and protections relieves the Manufacturer from all liability due to damage/injury caused to objects and/or persons.



SICMA S.p.A.
Contrada Cerreto, 39
66010 MIGLIANICO (CH) - ITALY
Tel. +39 087195841 - fax +39 0871950295