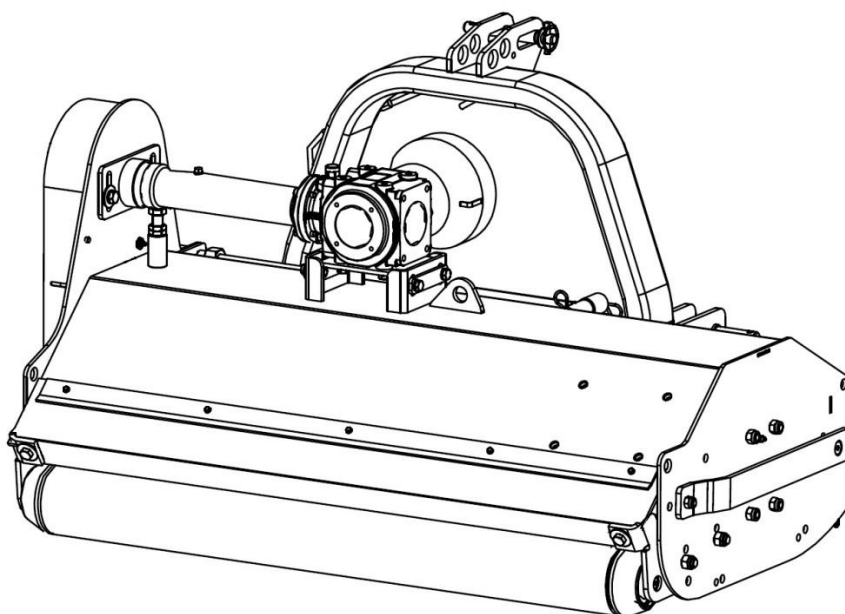
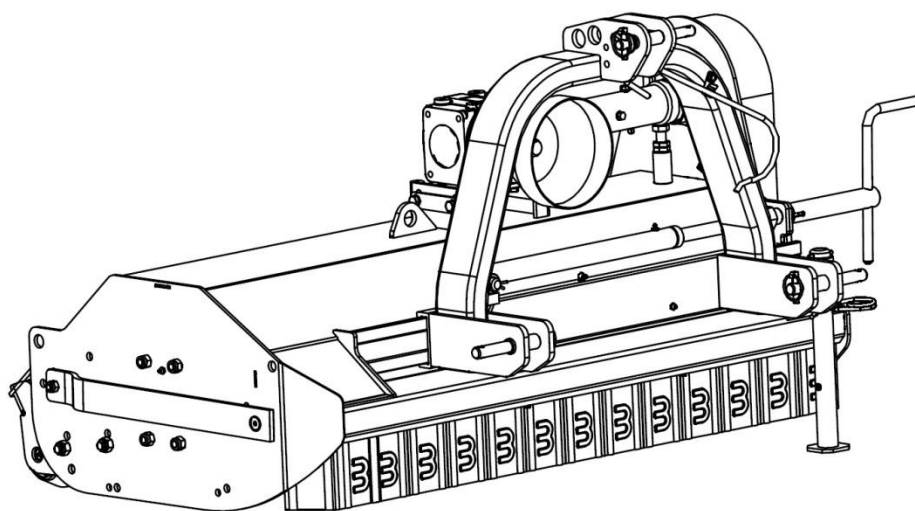


INSTRUCTION MANUAL

MULCHER

Trademark: BERTI Macchine Agricole

Models: AF



📖 Before using the machine, carefully read this Manual 📖

ORIGINAL VERSION

INDEX

INTRODUCTION	4
1 INFORMATION REGARDING THE INSTRUCTION MANUAL.....	5
1.1 MANUAL UPDATE	5
1.2 COPYRIGHTS	5
1.3 MACHINE IDENTIFICATION PLATE AND CE MARKING	5
1.4 CERTIFICATE OF CONFORMITY OF THE MACHINE	6
1.5 MACHINE INFORMATION	7
1.5.1 ENVISAGED USE	7
1.5.2 DESCRIPTION	7
1.5.3 TECHNICAL DATA	8
1.5.4 ACCESSORIES	8
1.6 SPECIAL VERSIONS	10
1.7 NOISE AND VIBRATIONS LEVEL	10
2 ACCIDENT PREVENTION AND SAFETY STANDARDS:	10
2.1 GENERAL SAFETY STANDARDS	10
2.2 FIRE-FIGHTING MEASURES	11
2.3 SAFETY SIGNS	12
2.4 POSITION OF PICTOGRAMS ON THE MACHINE	13
3 USE	13
3.1 INTRODUCTION	13
3.2 HANDLING AND TRANSPORTATION	13
3.2.1 TRANSPORTATION IN PUBLIC AREAS	14
3.2.2 MACHINE TRANSPORT PROCEDURE	14
3.3 VISIBILITY	14
3.4 CONNECTION OF THE MACHINE TO THE TRACTOR	15
3.4.1 CONNECTION PROCEDURE	15
3.5 CONNECTING THE HYDRAULIC PLANT	16
3.6 CARDAN SHAFT FEATURES	17
3.7 HYDRAULIC SYSTEM	17
4 STARTING THE MACHINE	17
4.1 WORK STAGE	18
4.2 RECOMMENDED SPEED	18
4.3 ADJUSTMENT OF CUTTING HEIGHT	19
4.4 JAMMING	19
4.5 MACHINE DISCONNECTION	20
5 MAINTENANCE	20
5.1 MACHINE HOT POINTS	21
5.2 MAINTENANCE INTERVENTIONS THAT CAN BE PERFORMED BY THE OPERATOR	21
5.3 TABLE OF TIGHTENING TORQUES	21
5.4 GREASING AND LUBRIFICATION	22
5.4.1 LUBRICATION OF THE TRANSMISSION UNIT:	22
5.4.2 LUBRICANTS TABLE	23
5.5 BELTS TENSIONING	23
5.6 PULLEYS INVERSION	24
5.7 HYDRAULIC SYSTEM (IF ENVISAGED)	24
5.7.1 HYDRAULIC PIPE REPLACEMENT	24
5.8 TOOLS WEAR CHECK	25
5.9 TOOLS REPLACEMENT	25
5.9 SUPPORT SLIDES REPLACEMENT	26
5.11 PANELS FRONT GUARDS REPLACEMENT	27
5.10 CHAINS FRONT GUARDS REPLACEMENT	28
5.13 REPLACEMENT OF THE REAR TYRE	28
5.14 CLEANING THE MACHINE	28

5.15 STORAGE - WINTERING	29
5.16 FIRST USE OR FIRST COMMISSIONING OF THE MACHINE AFTER LONG PERIODS OF DOWNTIME	29
5.17 SCRAPPING	29
6 SCHEDULED MAINTENANCE TABLE	30
7 TROUBLESHOOTING TABLE	31
8 SPARE PARTS	31
9 WARRANTY	32
9.1 CONDITIONS OF WARRANTY:	32

INTRODUCTION

This instruction manual describes the operating mode and contains all instructions necessary to properly use and maintain the mulcher as well as performing ordinary and periodical maintenance operations that will be referred to from now on as machine.

To facilitate consultation, this instruction manual is divided into clearly identifiable chapters.

The indications contained in this manual are intended for professional users, with specific knowledge regarding the methods of use of the machine, that are authorised, trained and properly educated.

The use of original spare parts and accessories is recommended. The use of unoriginal parts triggers invalidity of the warranty and may cause dangers, reducing the lifetime and performance of the machine as well as serious damages/injury to persons, property and animals.

The manual must always accompany the machine, even if the latter is sold. If the manual is damaged or lost, a copy should be requested to the Manufacturer of the machine or to the owner. This manual is an integral part of the machine.



ATTENZIONE

For the USER: Before using the machine you must carefully read this instruction manual in which are indicated the actions to be performed for proper use of the machine, paying particular attention to all the safety-related regulations. Abuse of performance and lack of compliance with the use and safety standards render the user responsible for any damages that may occur to persons, things or animals as a result of the use of the equipment.

The manufacturer of the machine does not directly control the field in which it is used, the method used or the method of maintenance and therefore the user is responsible to respect the rules of common sense in the operating areas, especially in the critical ones, paying utmost attention to its own safety, to the safety of other persons, animals and property, always assessing the danger before performing any operation.

If the user delegates the use of the machine to a third party, it is their responsibility to make sure that the other user has properly read and understood this instruction manual.

This instruction manual must always be kept in an accessible place, so that it can be immediately consulted in case of need.

For the DISTRIBUTOR, RESELLER and IMPORTER: the person responsible to deliver the machine to the end user must ensure application to the tractor. Therefore it is their responsibility to read this instruction manual and understand its contents before finally delivering the machine. It is also his responsibility to train the final user and make sure that the latter has read and understood the indications in the instruction manual.

GLOSSARIO

Machine	Mulcher.
Tractor	Motorised vehicle used to tow other vehicles, especially agricultural machines.
User	The user is considered as the owner and/or staff, the operator/user in charge of operating, cleaning, maintaining and repairing the machine, able to recognise and therefore avoid the dangers arising from the use of the machine.
Specialised personnel	Persons purposely trained and enabled to carry out maintenance or repair interventions requiring a particular knowledge of the machine, of its functioning, of the relative safety devices and their intervention modalities.
Safety Personnel	Personnel in charge of making sure that no persons are inside the machine operating area.
Manufacturer	Company that produces the → Berti Macchine Agricole S.p.A. mulcher
 PERICOLO	DANGER- This signal indicates and imminent and real dangerous situation, that may cause serious injuries or death if not avoided.
 ATTENZIONE	WARNING - This signal indicates a potentially dangerous situation, that may cause serious injuries or death if not avoided. Dangers marked by this signal present lesser degree of risk of serious injury or death than those indicated by the signal DANGER.
 CAUTELA	CAUTION - This signal indicates a potentially dangerous situation, that may cause minor injuries or moderate wounds. The symbol is used to inform that certain actions may cause personal injuries or damage.
	PLEASE NOTE

1 INFORMATION REGARDING THE INSTRUCTION MANUAL

This manual is an integral part of the machine and must accompany the same in case of resale and until its demolition.
If this manual should be lost or damaged, a copy of it must be requested from the manufacturer ("BERTI macchine agricole S.p.A.", via Musi 1/A - 3, Caldiero - Verona., Tel. +39.045.6139711) or from the Retailer.



The presence of this symbol informs the user to pay utmost attention to the subject in case.

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

1.1 MANUAL UPDATE

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, at any time, to apply modifications to the machinery 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 integration that the Manufacturer will consider opportune to supply later on must be preserved together with the manual and be considered an integral part of the same.

1.2 COPYRIGHTS

The copyrights of this manual belong to the Manufacturer. This manual contains texts, drawings and technical designs that may not be shared with third parties, either completely or partially, without written authorisation from the Manufacturer.

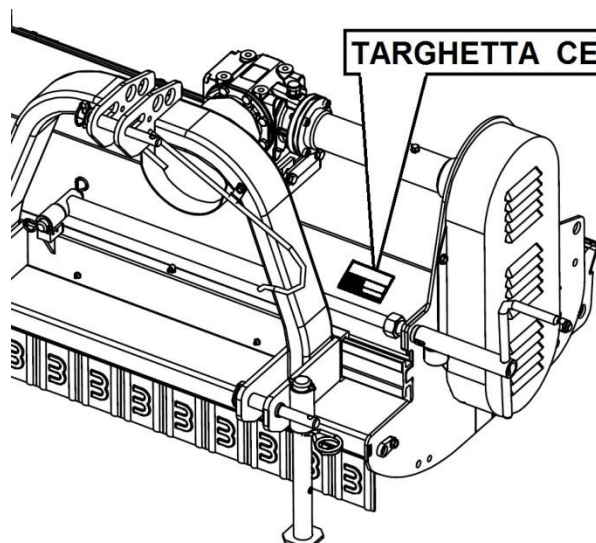
1.3 MACHINE IDENTIFICATION PLATE AND CE MARKING

Every machine is equipped with an identification plate, containing the following data:

- CE Marking;
- Country of fabrication;
- Manufacturer's name and address;
- Model and type;
- Serial number;
- Year of production;
- Weight
- Version.

The machine is supplied as standard with:

- The machine use and maintenance manual;
- The manufacturer "EC" declaration of conformity.



1.4 CERTIFICATE OF CONFORMITY OF THE MACHINE

   	BERTI BERTI MACCHINE AGRICOLE S.p.A. Via Musi 1/a - 3 - 37042 CALDIERO (Verona) - ITALY Tel. +39.045.6139711 - Fax +39.045.6150251 Info@bertima.it - www.bertima.it
CE	Dichiarazione CE di Conformità ai sensi della direttiva 2006/42/CE e 2014/30/EU(*) EC Certificate of Conformity - conforming to EEC Directives 2006/42/CE and 2014/30/EU(*)
La Ditta / We	BERTI Macchine Agricole S.p.A. Via Musi 1/A-3 37042 CALDIERO - VERONA - ITALY
dichiara sotto la propria responsabilità, in qualità di costruttore, che la macchina a cui si applica questa dichiarazione, è conforme ai requisiti essenziali di sicurezza e di tutela della salute di cui alla <u>Direttiva 2006/42/CE</u> e 2014/30/EU (*). Per la verifica delle macchine sono state consultate le seguenti norme armonizzate:	
declare in sole responsibility, that the product to which this certificate applies, conforms to the basic safety and health requirements of <u>EEC Directives 2006/42/CE</u> and 2014/30/EU (*), and according to the European harmonized standards.	
UNI EN ISO 4254-1:2012 UNI EN ISO 4254-1:2015 UNI EN 15811:2015	
Nonché le seguenti specifiche tecniche: And the following technical specifications:	
ISO 11684:1995	
(*) Valido solo se la macchina è dotata di dispositivi e accessori soggetti alle direttive/norme armonizzate/specifiche tecniche ivi indicate. Valid only if the machine is equipped with devices and accessories that are subjected to the directives/harmonized norms/technical terms here indicated.	
MODELLO -- TYPE	
MATRICOLA -- SERIAL NUMBER	
Custode del fascicolo tecnico Technical file repository	per la società / for the Company für die Firma / pour la société
MARIO BERTI C/o Ufficio Tecnico: BERTI MACCHINE AGRICOLE S.p.A. Via Musi 1/a - 3 - 37042 CALDIERO (Verona) - ITALY Caldiero, 03/05/2016	BERTI Macchine Agricole S.p.A. BERTI MARIO Amministratore Unico
La presente certificazione è parte integrante della macchina This EC certificate is an integral part of the unit	
Cod. Fisc. e Reg. Impr. di VR n° 00068150234 - P.IVA : 00068150234 - R.E.A. VR 84849 - Cap. Soc. € 151.704,00 I.v. Società soggetta a direzione e coordinamento da parte della società HB Holding Berti S.r.l. di VR03066950241	

1.5 MACHINE INFORMATION

1.5.1 ENVISAGED USE

The mulcher for vineyard and orchard model AF has been designed to be used exclusively in the agricultural sector, for mulching grass, pruning and woody material up to a diameter of about 4/5 cm, according to the type of tool used.

The machine is towed by the tractor via the three-point hitch and acts on the ground in virtue of its own weight and the rotation of the rotor, activated by the tractor power points via cardan connection.

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

NEVER USE THE MACHINE FOR DIFFERENT PURPOSES FROM THOSE PROVIDED

The use of the mulcher is strictly forbidden if connected to a tractor with different features from those listed in paragraph 1.5.3, on soils with stones, scrap metal, wire and any other synthetic materials, to fell trees, to mill logs, on unstable land (such as land with heavy uphill or downhill, steep slopes, near cliffs, on very uneven land etc....) and in any other situations that may cause dangerous conditions and serious consequences for the user, things, persons and animals.



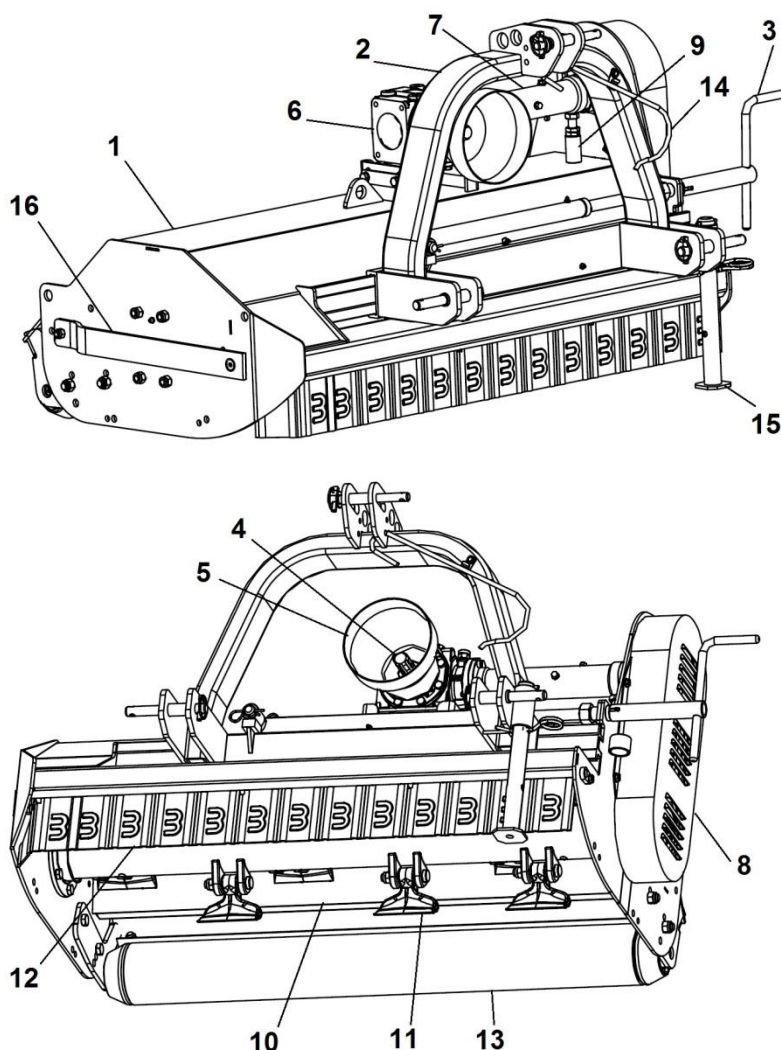
Any other use of the machine (different from the one indicated in the instruction manual) should be considered unauthorised and therefore dangerous.

1.5.2 DESCRIPTION

The machine has an operating component consisting of a rotor with horizontal axis, on which the mulcher tools are mounted, that rotates at high speed.

NOMENCLATURE OF THE LABELED COMPONENTS:

1. Chassis;
2. Shiftable three-point hitch cat. 1-2;
3. Mechanical shift (hydraulic on request);
4. Cardan shaft PTO;
5. Cardan shaft protective cap
6. Gear box multiplier;
7. Transmission extension cable
8. Lateral transmission (Carter, pulleys, locking sets, belts);
9. Tensioner
10. Tool holder rotor;
11. Mulching tools;
12. Front protection devices with straps (chains on request)
13. Levelling roll
14. Support cardan shaft in stand-by
15. Support foot
16. Lateral plant protection device



1.5.3 TECHNICAL DATA

The machine operates behind the tractor and can be applied on tractors with power between 23 and 45 kW (30 - 60 HP). The drawing and the tables below, indicate the machine operation field.

Attacco centrale
 Centre mounted linkage
 Mittiger Anbau
 Attelage axial.

Mod.		HP							A	B	C		
	cm	Min	Max	mm	n°	n°	n°	PTO				min	max
AF 135	135	30	60	715 635 345 1005 715 735	12	36	3	540 (1000)	85	150	100	375	460
AF 145	145	30	60	715 735 345 1105	14	42	3	540 (1000)	85	160	100	400	480
AF 160	160	30	60	715 885 345 1255 715 1085	14	42	3	540 (1000)	85	175	100	425	500
AF 180	180	30	60	715 1085 345 1455	16	48	3	540 (1000)	85	195	100	460	525

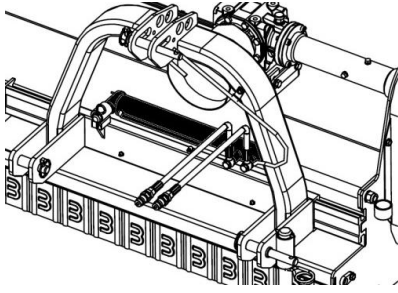
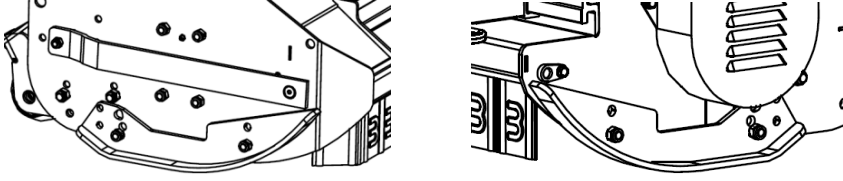
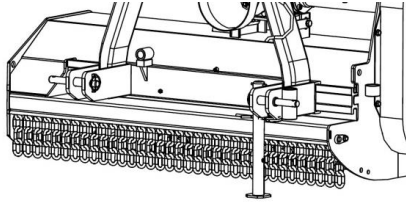
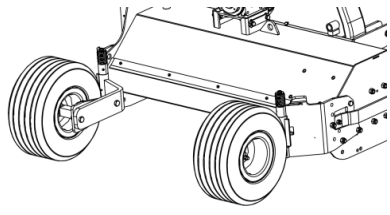
Mod.	
	mm
AF 160	893 707 520 1080
AF 180	893 907 520 1280

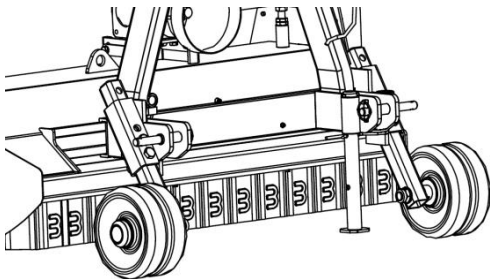
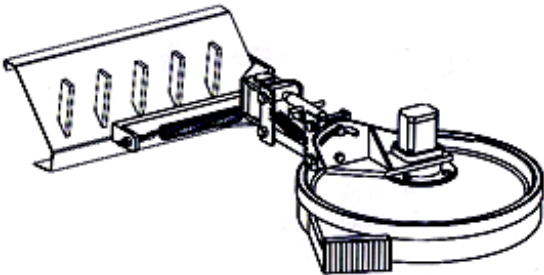
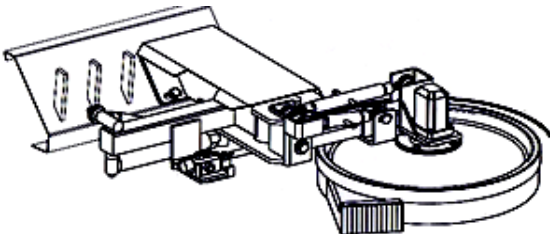
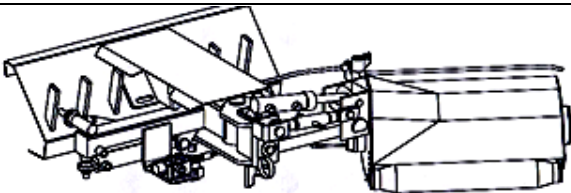
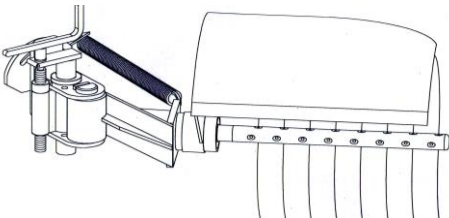
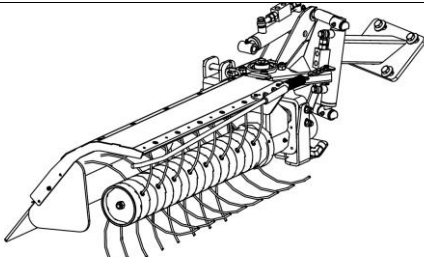
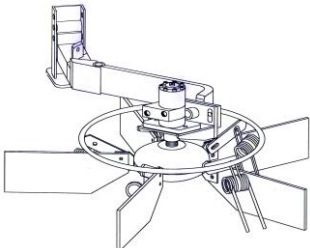
1.5.4 ACCESSORIES

The machine can be equipped with several accessories.



For each application, please bear in mind that the weights of the machine may vary; for each application verify the the tractor stability is not compromised (see chapter 3.2)

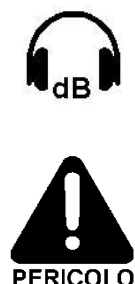
Description	Drawing	
Hydraulic shift 3 point-hitch		11
Pair of support skids		10
Front protection chains		-- (as an alternative to the panels)
Pair of steering wheels		65

Tiller with front wheels		26
Mechanical retraction inter row probe		120
Mechanical retraction inter row probe		250 (with independent hydraulic system)
Inter row mulcher Speedy		290 (with independent hydraulic system)
Inter row weeder Ecology		200 (with independent hydraulic system)
Inter row weeder ECOSPRINT		310 (with independent hydraulic system)
Rotant windrower		70

1.6 SPECIAL VERSIONS

The machine can be supplied, on request, with a "central" 3-point hitch only for the 160 and 180 sizes; technical features, weights and accessories are the same as the version described in the manual.

1.7 NOISE AND VIBRATIONS LEVEL



Even when operating without load, the machine exceeds 80dB(A) and the operators must use hearing protective equipment against the noise generated during operation: use earphones or earplugs.
 In compliance with the standards in force, after installing the machine and before starting it, the user must perform the noise emission measurements on the assembly made of tractor-mulcher.
 In time there may be an increase in the level of noise from the tractor - mulcher assembly due to phenomena of wear: it is advisable to regularly carry out assessment of risk from exposure to noise.
 The use of P.P.E. is mandatory and must ensure the dejection of the noise level registered in compliance with the standards in force.
 The vibrations to the tractor-mulcher assembly are included in the vibrations produced by the tractor alone. Excessive vibrations may be caused by a fault in the machine that must be immediately signalled and eliminated to protect the reliability of the machine and/or cause damages to the operator's health. Always work with suitable environmental conditions (e.g. with perfect visibility, terrain able to sustain the weight of the tractor-mulcher assembly, with slopes that allow proper vertical and lateral stability of the tractor-mulcher assembly etc.).

2 ACCIDENT PREVENTION AND SAFETY STANDARDS:

2.1 GENERAL SAFETY STANDARDS

A proper use of the machine and compliance with the standards indicated in this manual along with thorough appliance of all precautions to avoid any dangerous situations, will help to avoid accidents or damage, extending the machine lifetime and will minimise faults.

The Company "BERTI Macchine Agricole S.p.A." declines any responsibility, objective or subjective, if the indications contained in this instruction manual are not respected.

	The machine must not be used in sectors other than agricultural and a use different from that specified is considered improper.
	The machine must only be used by one operator driving the tractor.
	The user must check the proper connection between tractor and mulcher. The weight that can be lifted by the tractor in the most unfavourable conditions must be greater than the weight of the mulcher.
	Before getting out of the tractor and before performing any maintenance operations on the mulcher, use the parking brake, turn off the engine, remove the ignition keys from the dashboard, and wait for 5 minutes inside the cabin to ensure that the rotor and relative tools completely stop.
	It is forbidden to abandon and/or leave the tractor-mulcher assembly while the mulcher is still running.
	The use of the machine is strictly forbidden if the tractor to which is connected is not provided with cabin made of anti-break / armoured / shatter-proof glass and fixed guards (e.g. metallic grid). The final user must provide the tractor with guards suitable to resist the impact with the materials/objects thrown at high speed from the machine depending on the current state of the art technologies and must contact the manufacturer to request all necessary information.
	During use, the user must have proper visibility of the working areas that present dangers, therefore the mirrors and the windows of the tractor must be properly cleaned.
	During the operating phases, the user must always stay inside the cabin, where he is safe. It is strictly forbidden the operation with the doors/windows open. Danger from thrown objects!
	The machine must be used exclusively by authorised, instructed and trained operators. The operator, besides having read and understood the instructions contained in this manual, must also be sufficiently prepared on the proper use of the machine and must have a driving licence and must be an adult. The operator must contact the manufacturer if in doubt regarding use of the machine or interpretation of this manual.
	Never use the machine without knowing its features.
	The manual must always be on hand such that it can be consulted when necessary. If it should be lost or damaged, request a replacement copy from the manufacturer.
	The user must use all the safety devices and personal protection equipment (P.P.E.) during machine use, adjustment, repair and handling phases.        

 PERICOLO	During use, if operating with dry products (hay, straw, etc.), the machine may generate dust. The filters of the cabin ventilation system should be periodically checked and operators should always wear proper protection devices for the respiratory system, such as anti-dust masks.
	The operator assigned to the machine must not wear clothing that can cause entanglement.
	It is strictly forbidden to use the machine for lifting persons, animals or objects.
	It is strictly forbidden to use the machine for transporting persons, animals or objects.
	It is strictly forbidden to use the flexible tubes as supports; these components are mobile and do not offer proper support.
	The operating area must be thoroughly inspected before using the machine, paying attention to remove any stones, iron residues, steel cables, manholes, strains and all those materials and obstacles without any limitation which may constitute a source of danger, accidents and serious damage to the user, people, animals and things.
	The operator must make sure that no person or animal stops within the radius of action of the same during machine functioning. The user is responsible of stopping the machine immediately and clearing the machine operating area from people and animals. Never activate the machine near persons and animals standing or transiting within the radius of action of the machine.
	If the machine is used in public areas and on roads, take all necessary precautions for the safety of persons, animals and property, for example, using safety personnel, warning signs, placing them at the ends of the machine operating area, according to the laws in force in the country of use.
	Never work in areas with strong counter slope, on slippery surfaces and in areas / zones that reduce the adhesion of the tractor to the ground. Pay utmost attention to changes of direction.
	Use the machine during the day and under conditions of perfect visibility.
	It is strictly forbidden to operate in adverse environmental conditions, for example during storms, snows, in windy, rainy or cloudy days, etc.
	Avoid working on muddy, sandy or soft terrain.
	Pay attention to the risk of accidental ignition of the electric arc machine with overhead power lines.
	Do not use the machine if you are tired, ill or under the effect of alcohol, medicines or drugs.
	Carefully check the machine each time before starting it.
	Before using the machine, make sure that all safety devices are properly in place and in good conditions. If there are failures or damage to the guards, replace them immediately.
	It is strictly forbidden to remove or tamper with the guards and/or safety devices.
	Make sure that the safety pictograms are in proper conditions, readable and clean. If the pictograms have deteriorated, they must be replaced with other original versions requested from the manufacturer and placed in the position indicated by the use and instruction manual (paragraph 2.3.2). If necessary, clean with a damp cloth.
	It is strictly forbidden to perform any modification that may alter the original condition of the machine.
 ATTENZIONE	Any arbitrary modification made on this machine lifts the manufacturer from any responsibility for damage or injuries that could result to operators, third parties or to objects.
	Keep the machine free from foreign materials (debris, tools, other items), which may damage the operation or the operator.
	The signs applied to the machine provide a series of important indications: their compliance will determine your safety.
	The following paragraphs list other highly important safety standards. It is mandatory to read the entire instruction manual before using the machine.

2.2 FIRE-FIGHTING MEASURES

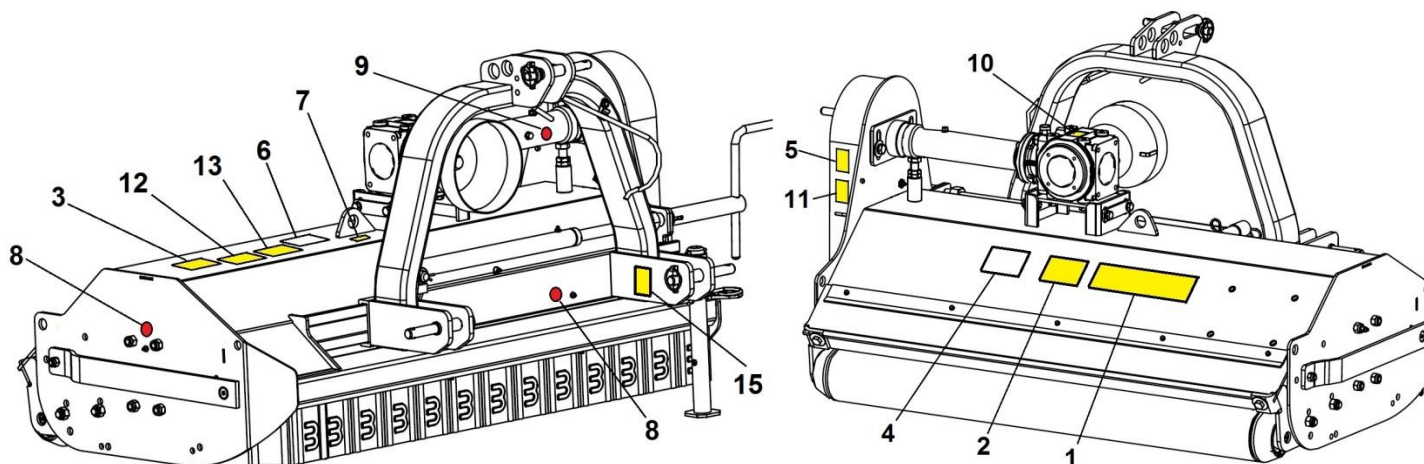
 PERICOLO	Keep an extinguisher of proper capacity in the tractor and maintain periodically. The hand extinguisher may only be used by personnel that know how to use it. The user is therefore responsible for providing proper training via particular courses.
	The personnel that use the machine must know the main intervention techniques in case of fire.
	Do not use the machine in areas that present explosion and/or fire hazard.
	Maintenance residues, such as, straps or replaced materials containing flammable residues must be kept away from sources of ignition and disposed of in accordance with applicable laws in the country of use.
	Use appropriate extinguishing means: e.g. carbon dioxide, foam, chemical powder.
	Do not perform any welding near containers, tubes, tanks, electric wires, or flammable materials in general.
	In case of welding protect with appropriate screens the flammable parts.

2.3 SAFETY SIGNS

Make sure the safety pictograms are in good conditions. If the pictograms have deteriorated, they must be replaced with other original versions requested to the manufacturer and placed in the position indicated by the use and maintenance manual. Make sure that the safety pictograms are readable. Clean them using a cloth, water and soap.

1		ATTENTION: it indicates the following dangers: do not stand between the equipments and the tractor, pay attention to the rotating parts, do not stand behind the tractor, risk of shearing, pay attention to the rotating tools for your hands and feet.			
2		ATTENTION: it indicates the following risks: pay attention to hot parts and to the foldable parts of the machine, pay attention to the projection of objects.			
3		ATTENTION: read carefully the use and maintenance manual, every action on the machine should be executed after switching off the tractor, after removing the ignition key and inserting the hand brake, pay attention to the pipes under pressure			
4		WARNING-DANGER minimum safety distance 50 m.	5		WARNING - DANGER of coming into contact with moving elements. Do not place your hands and feet near the transmission belts.
6		PERSONAL PROTECTIVE EQUIPMENT.	7		LIFTING POINT.
8		OIL LEVEL.	9		GREASING POINTS.
10		540 rpm, speed and rotating direction PTO	11		TENSIONED BELTS
12		NOTES ON WARRANTY	13		GENERAL WARNINGS
14		CARDAN SHAFT ROTATING AT 540 RPM	15		RESTING FOOT SAFETY LOCK

2.4 POSITION OF PICTOGRAMS ON THE MACHINE



3 USE

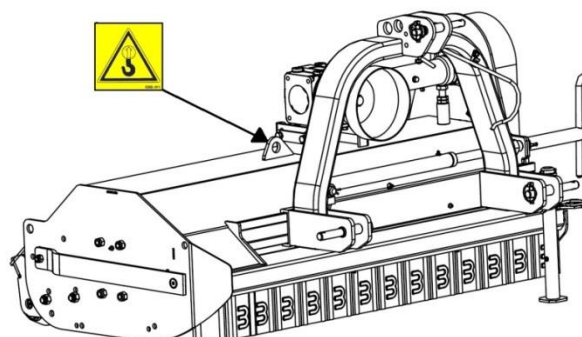
3.1 INTRODUCTION

	Before using the machine, carefully read and understand the instruction manual and get familiarised with the machine. The machine may only be used by expert and properly trained users.
 ATTENZIONE	Keep all the parts of your body inside the tractor cabin, to reduce to a minimum the exposure to any external dangers such as thrown objects. Before getting out of the tractor and before performing any maintenance operations on the mulcher, use the parking brake, turn off the engine, remove the ignition keys from the dashboard, and wait for 5 minutes inside the cabin to ensure that the rotor and relative tools completely stop. The safety of the user and of the people around him depends on his judgement and prudence in the use of the machine. Therefore the functions of the machine and the safety standards must be properly known. The user must use all the safety devices and personal protection equipment (P.P.E.) during machine use, adjustment, repair and handling phases.  The machine must always be in perfect working condition and must be repaired only with original spare parts.

3.2 HANDLING AND TRANSPORTATION

Pay maximum attention to safety during loading and unloading operations, which must be performed by qualified staff (people in charge of slining operations, truck drivers, etc.) Verify the suitability of lifting devices by referring to the chart Technical Data on page 8. In case you should lift the mulcher, use suitable chains equipped with hooks; fix them to the lifting points indicated by the pictograms.

In order to transport the machine, use a suitable vehicle with appropriate power and size. Once loaded, the mulcher must be secured with anchoring ropes.



The procedures described below may present dangerous situation; also, due to the size and weight of the components, you need to use an appropriate lifting device.

3.2.1 TRANSPORTATION IN PUBLIC AREAS

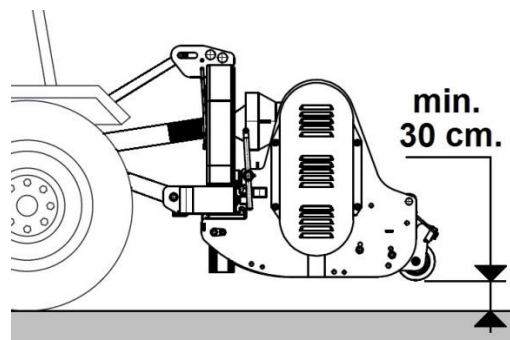


If the machine must be transported on a public road, the road regulations must be strictly respected, paying utmost attention in choosing the operational speed.

The means must be provided with orange or yellow blinking light. Before entering on a public road from a non-paved or dirty area, you must thoroughly clean the tires of the tractor from any residual mud.

During the transport on the road, the mulcher must be kept in transportation position at 35 cm from the ground and the PTO of the tractor must be switched off.

Before transport, check that all machine parts are integral and in good working order.



Road transportation must be performed paying maximum attention in order to avoid putting the persons or other vehicles in danger. Regulate the machine shift to the most internal position while respecting the outline of the tractor

3.2.2 MACHINE TRANSPORT PROCEDURE



Before being transported, all machine parts must be entire and in optimal status.

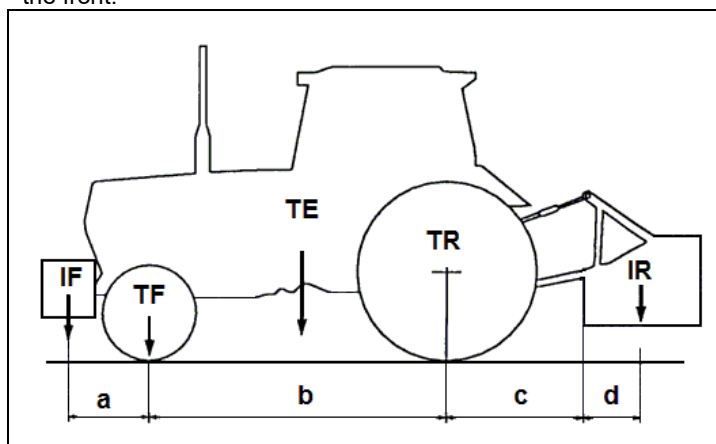
Disengage the P.T.O. and wait for the rotor to stop completely;

Lift the machine as much as necessary (D) so that the transmission organs do not touch the ground

The machine weight changes the stability of the tractor-mulcher complex, influencing steering and braking capability.

Therefore proceed at a moderate speed.

In particular, remember that the front axis must always be encumbered by a weight equal to at least 20% of the total weight of the tractor-mulcher complex. Check the lifting capability and tractor stability using the following formula and, if necessary, apply ballasts on the front.



$$I_{F, \min} = \frac{(IR \times (c+d)) - (TF \times b) + (0,2 \times TE \times b)}{a + b}$$

TE = Weight of the tractor (empty)

TF = Front axle load (empty tractor)

TR = Rear axle load (empty tractor)

IR = Rear mulcher weight/rear ballast

IF = Front mulcher weight/front ballast

a. Distance from the centre of gravity of the front mulcher/front ballast to the centre of the front axle

b. Tractor wheelbase

c. Distance from the centre of the rear axle to the centre of the ball of the tractor's parallels

d. Distance from the centre of the tractor's parallels' ball to the centre of gravity of the rear mulcher/rear ballast

N.B.: if the machine is mounted on certified agricultural tractors and registered before the 6th May 1997, the following relation should also be checked: $M < 0.3 \times T$.

3.3 VISIBILITY



The working areas can be controlled using the rear view mirrors of the tractor and the operator's range of view. While moving in reverse, dark areas may be created that cannot be seen using the rear view mirrors

3.4 CONNECTION OF THE MACHINE TO THE TRACTOR

Before installing the machine, make sure that it is in perfect condition, placed on the ground, levelled and in stable position, that there is a proper amount of lubricant, that all parts subject to wear and/or deterioration are efficient and that the protections are complete and functioning.

 ATTENZIONE	The user must check the proper connection between tractor and mulcher. The lifting capacity and the stability of the tractor must comply with the parameters described in chapter 1.5.3
	Before using the machine, the operator must know the commands and the features of the machine.
	Always keep all the parts of your body inside the tractor cabin, to reduce to a minimum the exposure to any external dangers such as thrown objects.
	Before getting out of the tractor and before performing any maintenance operations on the mulcher, use the parking brake, turn off the engine, remove the ignition keys from the dashboard, and wait for 5 minutes inside the cabin as to make sure that the rotor and relative tools completely stop.
 PERICOLO	It is strictly forbidden to stand between the mulcher and the tractor during the connection phases and any unauthorised persons must be requested to leave the machine operating area.

3.4.1 CONNECTION PROCEDURE

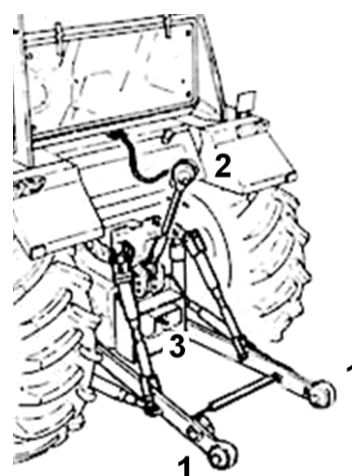


Make sure that the tractor is compatible with the machine to be connected (power, hitch point category, PTO speed etc.) while respecting the values indicated in the chart Technical Data on page 9.

Connection to either more or less powerful tractors may hinder stability or cause sudden breakage.

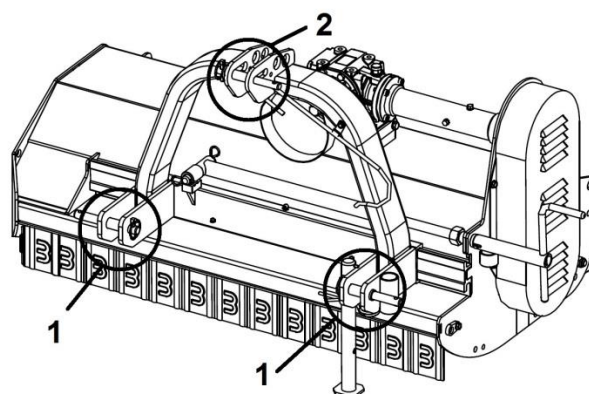


During use, adjustment, maintenance, repair or handling, the operator must use adequate Personal Protection Equipment (PPE)



After verifying what has been described above, connect the machine to the tractor by means of the following procedure:

- Remove the safety pin and the pins from the connection inlets 1 of the machine
- With the tractor in reverse and activating the elevator, make the lower arms 1 match the lower corresponding connection inlets 1 of the mulcher
- Insert the pins and lock them with the relating safety pins
- Connect the third point of the tractor 2 in the same way with the corresponding inlet 2 on the machine
- Adjust the third point so as the machine stands horizontally as regards the ground
- Lift and fix every supporting foot of the machine;



ATTENTION: BE SURE OF HAVING INSERTED THE SAFETY PINS INTO THE PINS OF THE CONNECTION INLETS 1 AND 2.

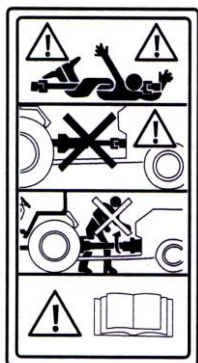
The following operations are very hazardous.

Avoid standing in front of the mulcher during the approach of the working vehicle.

Avoid the presence of uninvolved persons.

During the installation phases, the PTO of the mulcher should be disengaged.

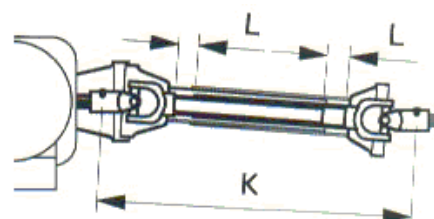
3.5 CONNECTING THE HYDRAULIC PLANT



During operation, the cardan shaft may generate dangerous situations.
Therefore you should:

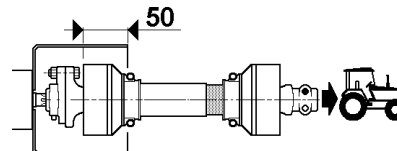
- Read and store the use and maintenance booklet near the cardan shaft;
- Make sure that the cardan shaft is appropriate for transferring the required power;
- Only use the cardan shaft delivered with the machine;
- Make sure that the guards are properly installed, complete and functioning;
- Do not operate with cardan shafts without guards.
- Replace the worn, damaged or missing guards;
- Turn off the engine of the tractor before operating on the cardan shaft or on the machine;
- Do not allow children or unauthorised persons to go near the machine during operation and/or maintenance interventions;
- Wear suitable clothes (not resistance, no loose clothes), especially tight clothes (e.g.: overalls with protections for both wrists and ankles).
- Grease the cardan shaft following the recommendations provided in the instruction manual of the cardan shaft.

When installing the cardan shaft for the first time, measure the distance K between the grooves of the P.T.O. buttons with the machine placed on the ground, levelled and with the multiplier aligned with the P.T.O. of the tractor; if necessary, adapt the length of the provided cardan shaft, making sure that the telescopic tubes are staked by length as to create at the ends a jog L of 40 - 50 mm. Such operation must be performed during the first installation, during each substitution and each time the machine is installed on a different tractor.



After installing the cardan shaft, fasten the guard on both sides using appropriate chains. When the machine is in stand-by mode, after installing the cardan shaft, perform some lifting and lowering manoeuvres of the machine to make sure that the tubes of the shaft are free to slide without any obstacles.

Check that between the guard of the cardan shaft and the guard mounted on the PTO of the machine, a minimum overlap of 50 mm is present, as required from the safety standards.



ATTENZIONE	Check that between the guard of the cardan shaft and the guard mounted on the PTO of the machine a minimum radial space between 50 and 150 mm is present so as to allow a hand to be inserted. 1 - machine protective cap 2 - cardan shaft protective cap	
	Check the rotating direction of the PTO of the cardan, on the tractor, looking from the rear side, it should rotate in clockwise.	
	When it is not being used, the cardan shaft must be placed on the suitable support S located on the three-point tiller in order to avoid the accumulation of dirt, deformation and breakage on the protection.	
PERICOLO	DO NOT CLIMB ON THE CARDAN SHAFT, EVEN IF IT IS STOPPED.	

3.6 CARDAN SHAFT FEATURES

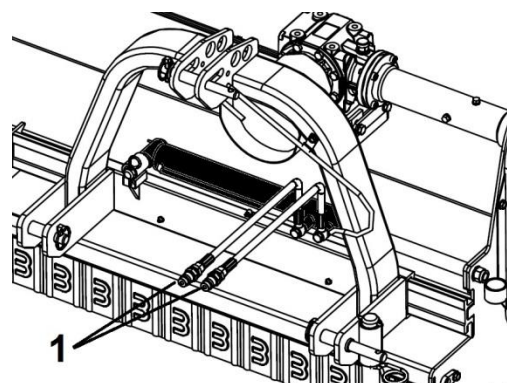
The cardan shaft is the transmission component that drives the mulcher; it must be chosen based on specific criteria that define its power and length. As far as its length is concerned, see chapter 3.5, for power use the chart shown here that indicates the minimum power that the cardan shaft has to sustain.	Model	kw	HP
	AF 105	22	30
	AF 115		
	AF 125		
	AF 135		
	AF 145		
	AF 160		
	AF 180		

3.7 HYDRAULIC SYSTEM

The machine can be equipped (on request) with the displacement hydraulic system in order to facilitate working under the plants.

Verify the level of the hydraulic oil; make sure that the mulcher's system provides at least 140/160 bar, that it is provided with a double effect distributor, that the quick couplings 1 are compatible with those of the machine; you can now perform the connection.

Make sure that no-one is near the machine; with the machine adequately lifted from the ground, you can slowly adjust the command distributor lever of the hydraulic cylinder while verifying the change of position



IMPORTANT: connect the 2 tubes 1 in pair on the tractor's distributor. After connecting the tubes, perform some movement operations to discharge any air bubbles that may form inside the jack.

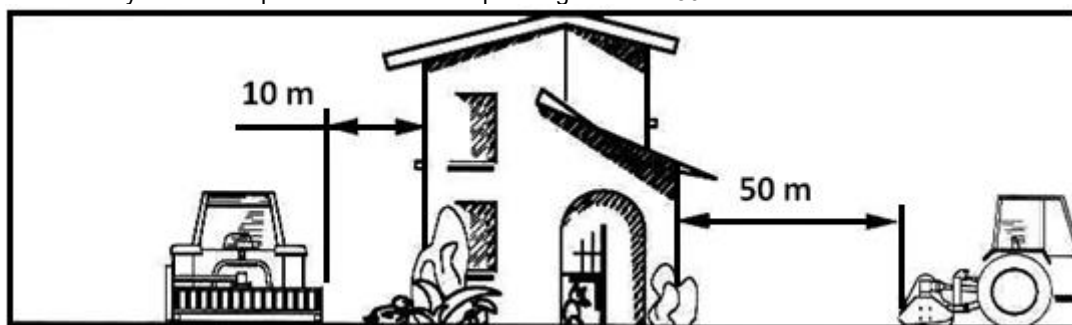
4 STARTING THE MACHINE



ATTENZIONE

Before starting the machine, make sure that all indications described in chapter 2 ACCIDENT PREVENTION SAFETY STANDARDS are met; comply with the following indications:

- Make sure that there are no persons, animals and things in the machine operating area as there are dangers, such as objects being thrown at high speed, that may cause serious injuries or death.
- Keep a minimum safety distance equal to the machine operating radius of 50 m.



- Do not allow any persons, animals or things to get near and to stand in the machine operating radius.
- Before using the machine, the operator must know the commands and the features of the machine.
- Always keep the guards in perfect state, properly placed and effective.
- Interventions on the mulcher must be performed exclusively when the engine of the tractor is stopped, the parking brake engaged, the PTO disengaged, the ignition key out of the dashboard and placed in a secure place.
- The rotor and relative machine tools must be stopped.
- Always check the machine verifying the nuts fastening, checking for any damage; if any damage is found, it must be repaired before starting the machine and thus restoring the machine to its original state.
- Supervise the operating area removing any stones, metallic pieces, steel cables or any other dangerous materials. Take all the necessary safety precautions as to keep yourself and other persons safe. Protect the cabin or the control area against falling/objects thrown at high speed using anti-break / armoured / shatter-proof windows and fixed guards (e.g. metallic grid) that can resist impacts in compliance to the state of the art technologies. Contact the manufacturer to request any further information regarding this case.
- Check the position and status of the terrain in the operating area; make sure that they do not affect in any way the stability of the assembly tractor-mulcher.
- Make sure the safety pictograms are in good conditions. If the pictograms are deteriorated, they must be replaced with other original versions requested from the manufacturer and placed in the position indicated by the instruction manual. Make sure that

the safety pictograms are readable. Clean them using a wet cloth.

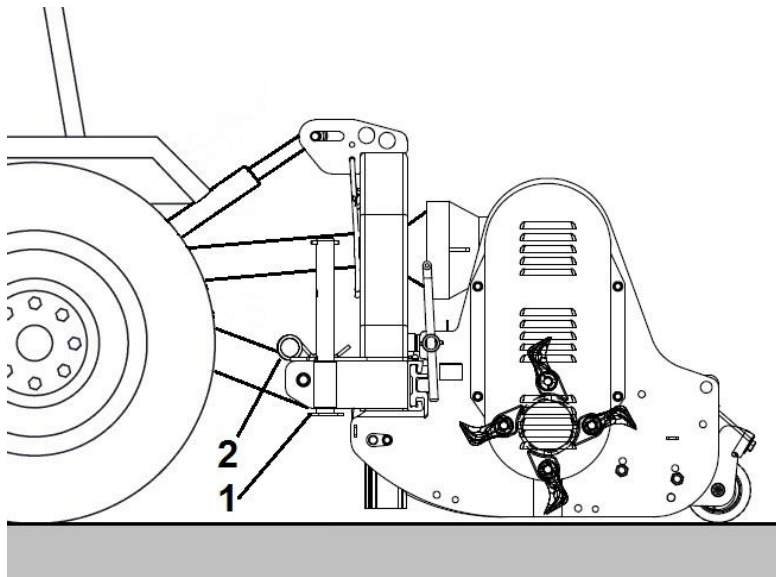
- During operations relating to the change of direction, slightly lift the machine from the ground and disengage the P.T.O. in order to avoid damaging the structure.
- The user must use all the safety devices and personal protection equipment (P.P.E.) during machine use, adjustment, repair and handling phases.



4.1 WORK STAGE

When the machine is properly attached to the tractor, approach the work area and proceed as follows:

- 1- Lift the support foot 1 to a high position and block it by means of the pin 2
- 2- Using the elevator commands to regulate the height, lower the machine until reaching the desired cutting height.
- 3- Engage the P.T.O. and gradually accelerate the tractor until reaching the operating speed of 540 rpm;
- 4- Engage running mode and start the operating process;
- 5- Cover a short distance so as to verify the quality of the work performed; if necessary, regulate the operating height with the tractor's lifter, always trying to prevent the tines from touching the ground;
- 6- Control the mulching of the product if necessary; adjust the tractor's forward speed according to the mulching desired.



4.2 RECOMMENDED SPEED

Adjust the operating speed, using the size (diameter) and volume of the material to be mulched, as well as the degree of shredding to be obtained. The machine must be used only for the intended purposes.



Please, bear in mind that the tractor's forward speed must be adjusted to both the type and the quantity of the material to be mulched in that, **EXCESSIVE SPEED** needlessly worsens the transmission organs, wearing them out prematurely.

In this case, the shredded material will be of poor quality, with possible expulsion of large pieces of material that, due to higher inertia, may exceed the envisaged safety limits.

The table below indicates the recommended speeds that should be respected in order to obtain maximum performance and in particular:

The following chart indicates the advised speed to be adopted in order to obtain the best result

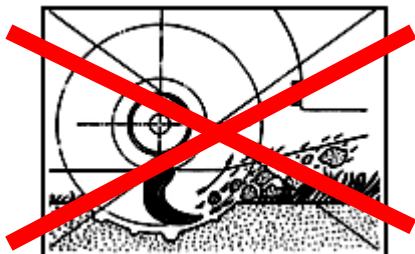
TYPE OF MATERIAL	RECOMMENDED FORWARD SPEED (km/h)														
	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	8
Sparse grass															
Grass that has not been mowed for months															
Grass that has not been mowed for years, very dense															
Vineyard pruning															
Apple - pear pruning															
Olive - peach pruning															
Bushes - branches															

4.3 ADJUSTMENT OF CUTTING HEIGHT

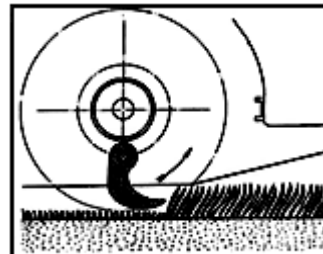


Before adjusting the machine cutting height, carefully read and make sure you have fully understood the instruction manual.

The operating height must be adjusted as to make sure that the cutting tools (hammers or blades) do not come into contact with the terrain causing projection.



NO



YES

In order to adjust the cutting and therefore the operating height, act on the position of the levelling roll of the machine as follows:

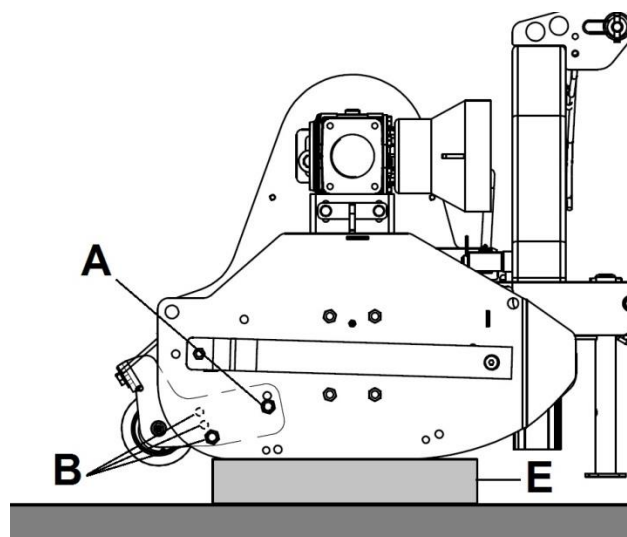


In order to perform the operations described below, make sure that the engine of the tractor is off, the parking brake engaged, the PTO disengaged, the ignition key out of the dashboard and properly stored.



At the workshop, use appropriate equipment to support and move the machine especially regarding the maximum weight that can be lifted and sustained (see table 1.5.3. for data related to the machine) in compliance with the laws in force in the country of use.

1. Level the machine leaving a thickness E of about 8 cm under the sides;
2. Make sure that the PTO is disengaged, brake and turn off the tractor;
3. Loosen bolt A and remove bolt B;
4. Rotate the plate of the roll, until centring the slot in the desired position of the plate with that of the side;
5. Remount bolt B;
6. Tighten bolts A and B



The adjustment operations must be performed on both sides of the machine.

4.4 JAMMING

If the machine should remain entangled in the dense vegetation or scrap iron e.g. scrub, shrubs, large quantities of bushes, steel cables and all those materials that can obstruct the machine, it is mandatory to:

- Operate the parking brake of the tractor;
- Turn off the engine.
- Remove the keys from the dashboard and keep them safe;
- Wait for the rotor and its tools to be completely still; get off the tractor.

Once the entity of the jamming has been verified, it might be necessary to:

- Manually free the machine following all necessary **safety norms**.
- In case manual operation should not be possible, contact an **authorised workshop**.

Check for any damage/breakage and proceed to immediate repair of the same using original spare parts.

4.5 MACHINE DISCONNECTION



PERICOLO

The procedures described below may present dangerous situations: avoid the presence of non authorised people where the machine will be located or in its proximity.

To perform the machine disconnection, follow the indications below thoroughly :

- 1 Make sure that the tractor-machine unit is on flat, stable ground;
- 2 Disengage the P.T.O. and wait for the rotor to stop completely;
- 3 Slow down the tractor;
- 4 Lower the support foot and block it with the adequate pin
- 5 Lower the machine to the ground completely and turn off the tractor;
- 6 Disconnect the tiller fastening pins to the 3 points of the tractor;
- 7 Disconnect the cardan shaft from the tractor and put it on the bracket;
- 8 Disconnect the hydraulic supply tubes.

Put the connection pins and the safety clicking pins in their housings on the tiller; it will be easier to find them when operating the machine again.

5 MAINTENANCE



ATTENZIONE

In case of failure, the operator must stop the cardan from rotating, wait for the rotor and its tools to be still, disengage the ignition key, get off the tractor to verify the problem and perform the necessary interventions on the machine.



Before performing any maintenance operation, carefully read and fully understand the instruction manual.

Please note that all maintenance must be performed by qualified and trained personnel with the machine stopped. Maintenance and repair operation must not be carried out outside, but in a suitably equipped workshop.



During use, adjustment, maintenance, repair or handling, the operator must use adequate Personal Protection Equipment (PPE)

Used oil must be properly recovered and should not be released in the environment, since, according to the prevailing legislation, it is classified as hazardous waste and as such should be given to specialised collection sites. Therefore contact the nearest Used Oils Consortium.

Before starting any maintenance, the following operations must be carried out:

- During maintenance, the machine must be placed on flat and compact ground;
- Switch off the tractor engine, operate the parking brake and remove the key from the dashboard;
- Any maintenance operation can be performed only after the temperature of the oil is below 60 °C.
- Always use appropriate Personal Protection Equipment (safety shoes, overalls and work gloves, etc....);
- Provide all forms of accident prevention for the type of operation being conducted;
- If you use compressed air to clean the machine, you must protect yourself with special glasses;
- When maintenance operations implies accessing parts of the machine that cannot be reached from the ground, or from a height of more than 1.50 m, use a ladder or a platform compliant with norms in force;
- Do not perform repairs of which you have no knowledge. Always follow instructions; in the absence thereof, contact the dealer or experienced staff;
- Attention: replace worn or cracked tubes every time they are damaged;
- Do not use lifting points different from those prescribed;
- Make sure that the lifting equipment is suitable to carry out the operations in compliance with safety rules;

- Do not keep the tractor engine running indoors and without a suitable ventilation system to dispose of harmful exhaust gases;
- Avoid prolonged or repeated skin contact with fuels/lubricants/fluids, as it may create skin disorders or other syndromes;
- Do not ingest fuels/lubricants/fluids. In case of accidental contact with eyes, rinse the affected area thoroughly with clean water, contact a physician if necessary;
- Operate with extreme caution because of the possible high-temperature of oil/fluid discharged;
- Do not weld in closed or unsuitably ventilated environments;
- Do not weld on, or in proximity of, painted surfaces, to prevent the development of toxic vapours. Remove paint with suitable products, then wash the surfaces and leave to dry;
- Relieve pressure from the circuits before working;
- Do not try to detect leakages of pressurised fluids with your hands; leakages of pressurised fluids can penetrate the skin and eyes with very serious consequences.

5.1 MACHINE HOT POINTS

Before any maintenance intervention, make sure that the temperature of the hot parts is below 60°C. Pay the utmost attention to:

- Drive sump;
- Gearbox;
- Pulleys, automatic belt tensioner and belts;
- Hydraulic tubes.

5.2 MAINTENANCE INTERVENTIONS THAT CAN BE PERFORMED BY THE OPERATOR

The interventions described below do not require any specialisation. The operator has to know and thoroughly follow the indications; they have to stop and disconnect the machine before proceeding (see paragraph 4.5).

Periodic inspections and maintenance must be performed in the times and manner prescribed and are the operator's responsibility. Failure to comply with rules and maintenance schedules undermine the proper operation of the machine and its duration and thus voids the warranty.

Increasing the frequency of maintenance in harsh operating conditions (frequent stops and starts, prolonged winter season, etc).

To use and maintain the machine at best, follow the instructions (after the first 4 hours and then every 50 hours):
Verify that pins, plugs and all bolts are properly connected or fixed; tight them if necessary as indicated in the following table.

5.3 TABLE OF TIGHTENING TORQUES

Table tightening torques for steel screws 8.8

Coarse pitch screw	M8	M10	M12	M14	M16	M20	M24
Coupling torque Nm	25	49	86	135	210	410	710
Fine pitch screw	M8x1	M10x1.25	M12x1.25	M14x1.5	M16x1.5	M20x1.5	M24x2
Coupling torque Nm	27	52	95	150	225	460	780

Table tightening torques for steel screws 10.9

Coarse pitch screw	M8	M10	M12	M14	M16	M20	M24
Coupling torque Nm	35	69	120	190	295	580	1000
Fine pitch screw	M8x1	M10x1.25	M12x1.25	M14x1.5	M16x1.5	M20x1.5	M24x2
Coupling torque Nm	38	73	135	210	315	640	1100

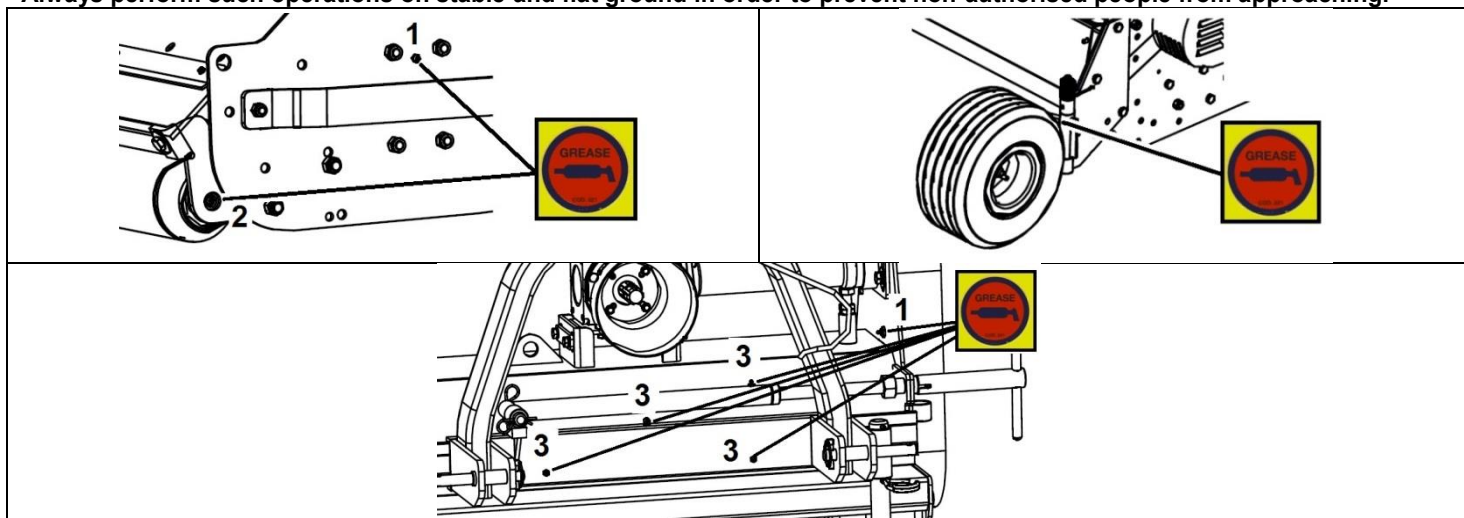
5.4 GREASING AND LUBRIFICATION

Periodical greasing and lubrication of the machine will keep its performances high and increase its lifetime
 Using a special greasing pump, thoroughly grease the points indicated by the sticker.
 Only use a manual greasing pump, in order to prevent the breaking of bearing seals and grease passage pipes.



- 1 ROTOR:** Grease every 8 working hours, giving 1-2 pumps maximum to avoid damaging the internal seals of the supports; the rotor is lubricated from the pulley side, by means of a greaser placed on the small tube coming out of the transmission carter.
- 2 LEVELLING ROLL:** grease every eight working hours on both sides of the roll by pumping grease in until it comes out.
- 3 CRANK GUIDES TIMON SHIFT** if frequently used, grease every 40 working hours by pumping grease in until it comes out.
- STERRING WHEELS** (optional if present): grease every 8 hours by manually activating the manual pump on the 4 grease fittings of the wheel brackets.
- CARDAN SHAFT :** Grease as indicated in the use and maintenance booklet of the cardan shaft provided by the manufacturer.

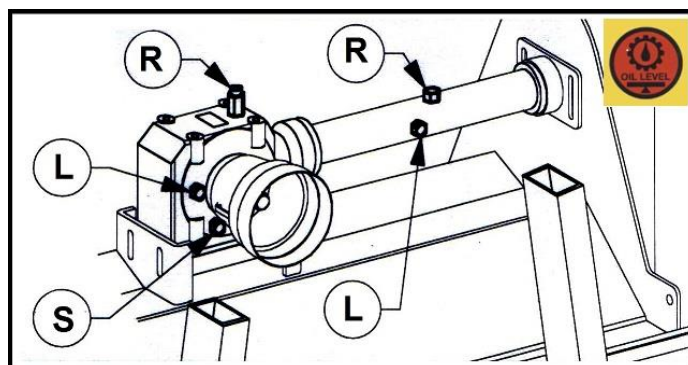
Always perform such operations on stable and flat ground in order to prevent non-authorized people from approaching.



5.4.1 LUBRICATION OF THE TRANSMISSION UNIT:

Before taking any action on the transmission unit: gearbox and extension, properly clean the areas around the caps to avoid any dirt intrusion inside the units. Follow the following schedule:

- 1- During the first 20 working hours, verify oil levels: oil must reach the level hole L. Add oil if necessary from cap R; afterwards, verify levels every 50 hours;
- 2- After the first 40 working hours completely replace the oil of the transmission unit by pouring it from cap S. Afterwards, repeat the same operation every 250 hours of work.



R =filling cap L= level cap S=drain cap

Recommended lubricant:
Oil type ISO VG 460



ATTENZIONE

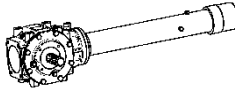
Used oil must be properly recovered and should not be released in the environment, since, according to the prevailing legislation, it is classified as hazardous waste and as such should be given to specialised collection sites. Contact the "Consortium for used oils" for the collection of waste oil.



Periodical greasing and lubrication of the machine will keep its performances high and increase its lifetime

5.4.2 LUBRICANTS TABLE

The following table represents the sticker affixed on the machine; the lubricant of reference is highlighted on a grey background.

 RECOMMENDED LUBRICANTS empfohlenen Schmiermittel - lubrifiant recommandé							
	PETRONAS	TAMOIL	ENI	IP	ESSOMOBIL	SHELL	TOTAL
	AMBRA HYPOIDE 140	TAMGEAR MP 85W/140	ROTRA MP 85W-140	PONTIAX HD 85W/140	MOBILLUBE HD 85W/140	SPIRAX S2 A 85W/140	EP 85W/140
	AMBRA GRS PLUS EP2	TAMLITH EXTRA BLU EP2	GREASE MU EP 2	ATHESIA EP GREASE 2	MOBILPLEX EP 2	GADUS S2 V220 2	MULTIS EP 2

5.5 BELTS TENSIONING



Before adjusting the tension of the belts, carefully read and make sure you have fully understood the instruction manual.



All adjustment operations must be performed at authorised workshops by specialised personnel.

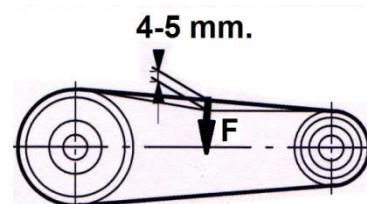
Place the machine on levelled terrain, with the head resting on the ground, the engine stopped, the parking brake engaged, the PTO disengaged, the ignition key out of the dashboard and properly stored.

The belts are tensioned when, by applying on each belt a power F of 4 - 5 Kg, at the centre between the two pulleys, the measurable breakage is 45 mm approximately.

Bearing this in mind, verifying the belts tension is extremely important:

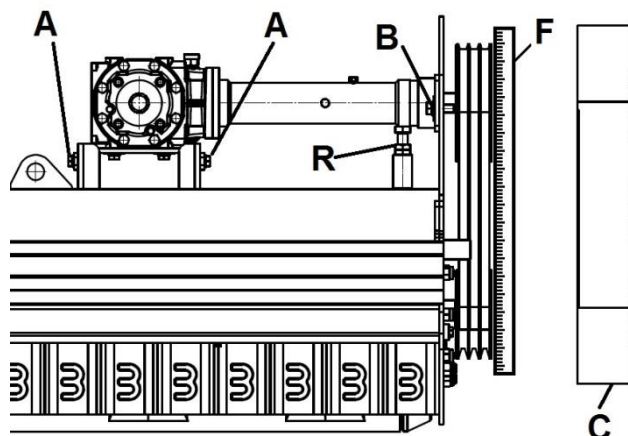
check the belts tension: if necessary adjust the belts so as the breakage complies with the above mentioned data.

This operation should be executed after the first 4 working hours and, afterwards, every 50 hours



To regulate the belts tension, follow the steps below:

- 1- remove the transmission covering casing C;
- 2- loosen the screws A on both sides of the multiplier supports
- 3- loosen the screws B on the side support;
- 4- turning the tensioning nut R, readjust the belts' tension;
- 5- verify that the multiplier's extension is parallel to the frame: this will allow pulleys to be aligned too;
- 6- verify with a ruler F that this has been done; in case it should not, readjust alignment by turning the regulation screw;
- 7- block screw R;
- 8- tighten screws A and B
- 9- re-assemble the carter C fixing it with the screws.

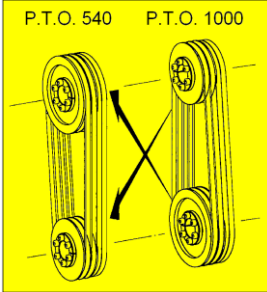


Perform the same operation for the replacement of the belts too



NEVER WORK WITHOUT THE BELT PROTECTION CASING!

5.6 PULLEYS INVERSION

 ATTENZIONE	The machine can be used with PTO active of the operating machine both at 540 rpm and 1000 rpm. The machine is designed with PTO at 540 rpm. In order to use machine with PTO at 1000 rpm, invert the puleys.
	
 ATTENZIONE	ATTENTION: DO NOT invert the pulleys for PTO at 1000 rpm if the machine is designed with inter-row element (inter row probe, SPEEDY, ECOLOGY, ECOSPRINT, ROTO WINDROWER) The rotation regime of the inetr row component wouldn't be correct

5.7 HYFRAULIC SYSTEM (if envisaged)



Visually check the machine, make sure tat there are no loosened couplings, damaged tubes, cuts or any other signs of wear. Tighten the loosened couplings and replace the damaged or worn tubes. Make sure there is no leakage of pressurised oil

5.7.1 HYDRAULIC PIPE REPLACEMENT

Before attempting to replace a hydraulic pipe, be careful to take all safety measures for maintenance, stop the machine and close the hydraulic system valves.

Before removing a hydraulic pipe, be sure to release any residual pressure in the system.

Accurately identify the damaged pipe and loosen the two points of connection with a spanner, paying attention to potential leakage of hydraulic fluid.



Replace the damaged pipe with original spare parts only.

Ensure the perfect condition of connection points (threads, gaskets, etc....), before installing the new pipe.

With the proper tools screw clockwise the fittings of the hydraulic tubes that present leakage. Do not tighten excessively otherwise you will damage the threads of the fittings.



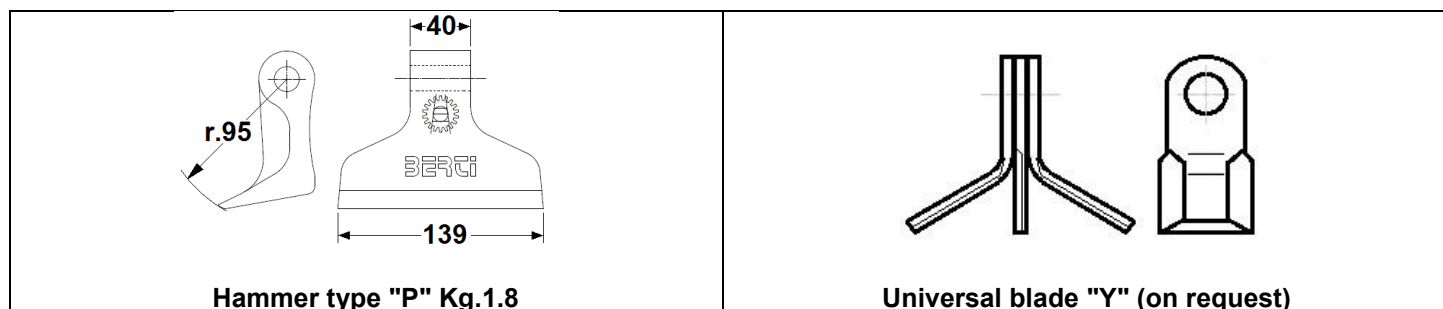
Used oil must be properly recovered and should not be released in the environment, since, according to the prevailing legislation, it is classified as hazardous waste and as such should be given to specialised collection sites. Contact the "Consortium for used oils" for the collection of waste oil.

5.8 TOOLS WEAR CHECK

The mulcher tools must be visually checked for any signs of wear. Replace them if the material is not perfectly cut or when observing that a slight increase of the absorbed power generates a significant increase of the oil temperature of the mulcher. If the machine is used with tools that are not sharpened, its performance will decrease.

The dimensions and the weights of the tools are strictly controlled: if they are replaced completely, the rotor might not require a new dynamic balancing (refer to: "TOOLS REPLACEMENT PROCEDURE")

Damaged or tools that are excessively worn might transmit vibrations to the machine; in this case, the operating cycle should be stopped immediately and it should be restored only after replacing the tools.

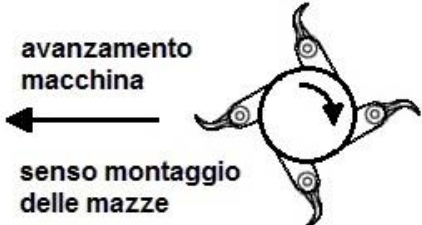
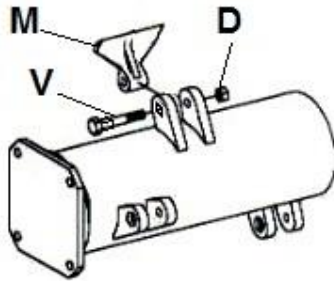


	The lifetime of the tools depends on the type of operation and on the type of terrain being processed. They should be fully replaced after about 200 working hours. ATTENTION: Mounting only original tools is recommended.
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5.9 TOOLS REPLACEMENT



Such operations have to be carried out only in authorised workshops by qualified personnel; adequate lifting and support tools should be used.

 ATTENZIONE	In case only one tool should be replaced, it is recommended to replace the entire series. Using non-original tools can cause anomalous vibrations of the machine. When mounting the tools, pay attention to the assembly direction.	
 PERICOLO	Attach the machine, lift it until it reaches the tools and place it on appropriate supports; use adequate lifting equipment to move the machine in terms of liftable and sustainable weight (see table 1.5.3 for data relating to the machine)	
IF THE MACHINE ROTOR USES HAMMERS, PROCEED AS FOLLOWS: Unscrew nut D, pick up hammer G and remove screw V. After removing the hammer, check the wear condition of the supports, paying particular attention to the oval holes, the squared housing of the screw head. If any of the described phenomena are present, contact the manufacturer and request further indications. Replace the new hammer M placing it between the rotor supports, insert the new screw matching the square head of the screw with the square housing on the support. Mount the new nut D and fasten it.		

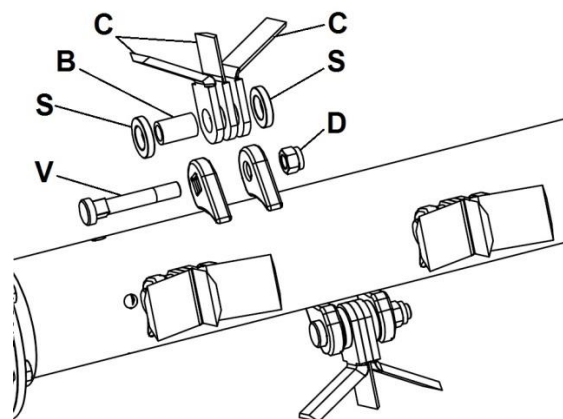
IF THE MACHINE ROTOR USES BLADES, PROCEED AS FOLLOWS:

Unscrew nut D, pick up blades D and remove screw D being careful so as not to let spacers S and bushing B fall on the ground.

After removing the hammer, check the wear condition of the supports, paying particular attention to the oval holes, the squared housing of the screw head. If any of the described phenomena are present, contact the manufacturer and request further indications.

Replace the new blades C placing them between the rotor supports, insert the new screw matching the square head of the screw with the square housing on the support.

Mount the new nut D and fasten it.



Complete all operations, put the machine back on the ground by using adequate lifting equipment

 ATTENZIONE	Pay attention to the direction in which you assemble the tools. If mounted in the wrong direction, the machine will not be able to cut. Periodically check the hammers screws and nuts fastening; if they are loose, the rotor may get damaged and dangerous ejections may occur.
 PERICOLO	If after replacing the tools the vibrations persist, proceed with a new dynamic balancing of the rotor at a specialised workshop.
	The original spare parts provided by our company ensure complete and correct use of the machine.

5.9 SUPPORT SLIDES REPLACEMENT

The machine can be equipped, on request, with anti-wear slides to be mounted as follows:

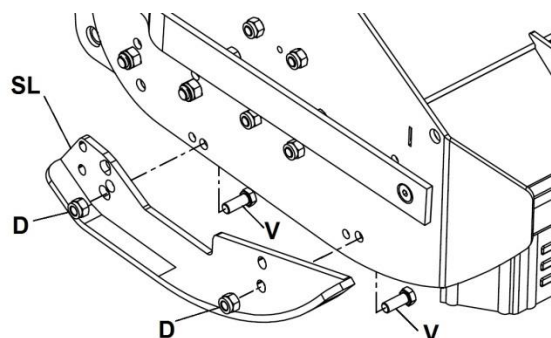


Such operations have to be carried out only in authorised workshops by qualified personnel; adequate lifting and support tools should be used.



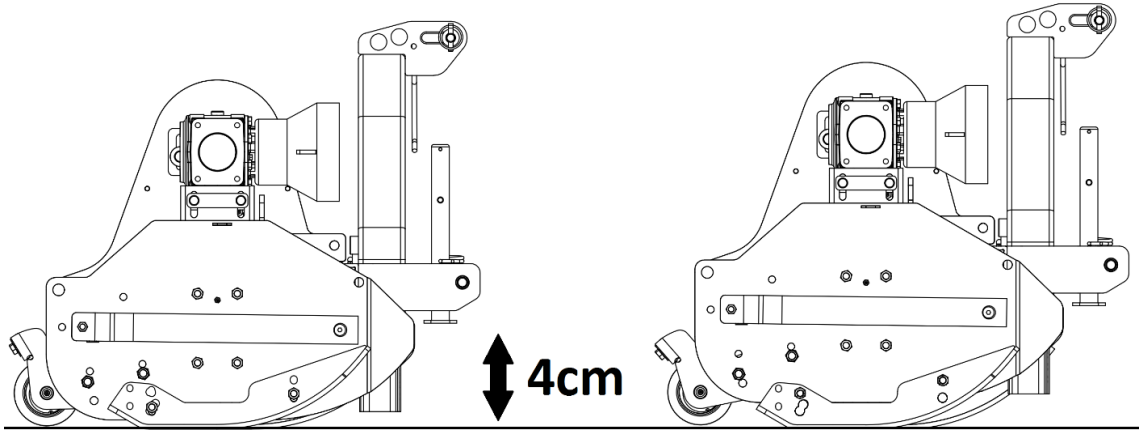
Attach the machine, lift it until it reaches adequate height and place it on appropriate supports; use adequate lifting equipment to move the machine in terms of liftable and sustainable weight (see table 1.5.3 for data relating to the machine)

Place the slide SL in the holes situated on the side; mount screws V by using nuts D; repeat the same operation on the opposite slide. Complete all operations, put the machine back on the ground by using adequate lifting equipment



The original spare parts provided by our company ensure complete and correct use of the machine.

SLEDS ADJUSTEMENT

 ATTENZIONE	Sleys can be adjusted in order to obtain a different cutting height. IMPORTANT: adjust the levelling roll height according to sleys' height. The machine must be parallel to the ground.
	

5.11 PANELS FRONT GUARDS REPLACEMENT


ATTENZIONE

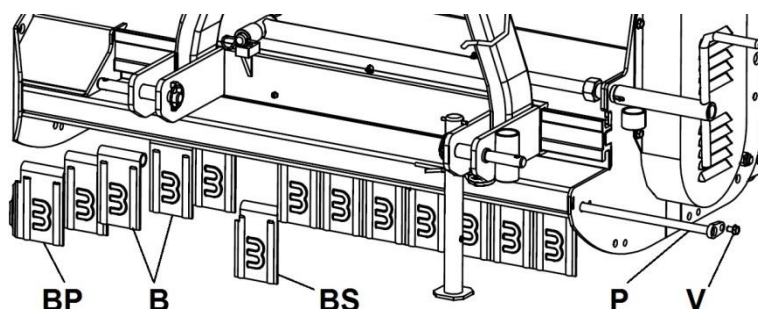
Such operations have to be carried out only in authorised workshops by qualified personnel; adequate lifting and support tools should be used.

The machine is equipped with frontal guards consisting of panels or chains fastened to the machine crate. Panels must always be present and they must be in excellent state. Operating without panels means operating without guards, and therefore the use of the machine in such conditions is considered improper. The manufacturer declines any responsibility for serious damages/accidents to persons, property and animals due to improper use of the machine.


PERICOLO

Attach the machine, lift it until it reaches adequate height and place it on appropriate supports; use adequate lifting equipment to move the machine in terms of liftable and sustainable weight (see table 1.5.3 for data relating to the machine)

1. Remove the screw V;
2. Gradually unscrew the front protection pin P, making sure that the panels B do not fall to the ground;
3. Check for any damages; if any, proceed to immediate repair;
4. Replace the panels (the first in the series must be notched BP), introducing them into the through-pin P; near the supports of the through-pin thread, introduce the notched panels leaving no gap between them.
5. Tighten the screw V.



Complete all operations, put the machine back on the ground by using adequate lifting equipment



The original spare parts provided by our company ensure complete and correct use of the machine.

5.10 CHAINS FRONT GUARDS REPLACEMENT



ATTENZIONE

Such operations have to be carried out only in authorised workshops by qualified personnel; adequate lifting and support tools should be used.

The machine can be equipped, on request, with chains front guards as an alternative to panels.

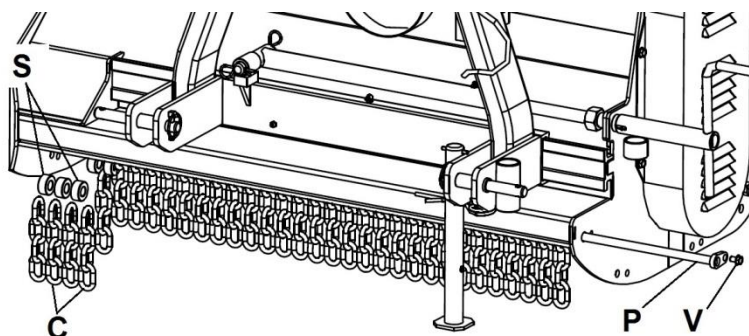
The panels must be properly stored. Operating without chains means operating without guards, and therefore the use of the machine in such conditions is considered improper. The manufacturer declines any responsibility for serious damages/accidents to persons, property and animals due to improper use of the machine.



PERICOLO

Attach the machine, lift it until it reaches adequate height and place it on appropriate supports; use adequate lifting equipment to move the machine in terms of liftable and sustainable weight (see table 1.5.3 for data relating to the machine)

1. Remove the screw V;
2. Gradually unscrew the front protection pin P, collecting chains C and spacers S;
3. Check for any damages; if any, proceed to immediate repair;
4. Replace chains C by putting them into the through-pin P alternating them with the spacer S;
5. Tighten the screw V.



Complete all operations, put the machine back on the ground by using adequate lifting equipment



The original spare parts provided by our company ensure complete and correct use of the machine.

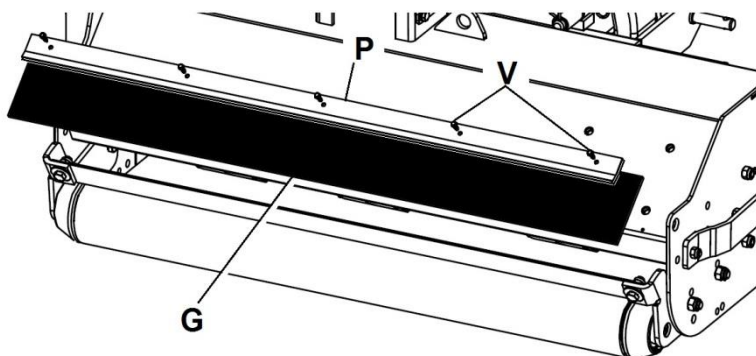
5.13 REPLACEMENT OF THE REAR TYRE



ATTENZIONE

The machine has a rear guard against objects at a high speed, the consisting of a rubber fabric sheet fixed on a suitable support by means of bolts; when this is worn out, it has to be replaced. Working without such protection tyre is forbidden. The manufacturer declines any responsibility for serious damages/accidents to persons, property and animals due to improper use of the machine.

1. remove screws V, then plate B and tyre G;
2. mount the new tyre that must be as long as the previous one
3. remount the plate P by fixing it with screws V



The original spare parts provided by our company ensure complete and correct use of the machine.

5.14 CLEANING THE MACHINE

Periodically clean the machine using water under pressure, paying particular attention to any flammable residues. Make sure that the hot parts of the machine are free of straws, hay or flammable residues.

5.15 STORAGE - WINTERING

If the machine is immobilised for long periods, it must be stored in a place sheltered from atmospheric conditions and be protected to avoid damage.

Before every wintering, proceed as follows:

- Free the rotor and the tools from shredder residues
- Clean the machine thoroughly
- Carry out a general visual control of the machine to identify structural damage, to detect deep paint abrasions, to check that all original safety pictograms are in place, and that they are integral and legible
- Grease all mechanical parts and fastening pins
- If possible, recover the machine in a covered place, on flat and consistent ground.



Make sure that the storage temperature is between 0 °C and 50 °C.



ATTENZIONE

In order to dispose of the oil and of all the other materials used for gathering, cleaning it, etc., follow the standards in force in the country of use.

5.16 FIRST USE OR FIRST COMMISSIONING OF THE MACHINE AFTER LONG PERIODS OF DOWNTIME

Before using the machine for the first time, or after a long period of downtime, proceed as follows:

- verify that the machine is not damaged;
- check mechanical parts; they must be in good conditions and not rusty;
- check the wear condition of the tools;
- Accurately grease all mobile parts;
- ensure that there are no oil leakages coming from the fittings or from the tubes;
- ensure that all the protections are complete and correctly positioned.

5.17 SCRAPPING



ATTENZIONE

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

Before scrapping, separate the parts in rubber or plastic as well as the electric and electronic equipment (if present).

Recover any waste oils and dispose of them at relevant collection centres.

The parts made only in plastic, aluminium, steel, can be re-cycled, if collected by appropriate centres.

6 SCHEDULED MAINTENANCE TABLE

Description	Checks
GENERAL MACHINE CHECKS	
Rotor greasing	Every 8 working hours
Roll greasing	Every 8 working hours
Tiller greasing	Every 8 working hours
Greasing mechanical movement	Every 8 working hours
Greasing optional steering wheels	Every 8 working hours
Machine bolts fastening check	After the first 4 h and then every 50 hours
Belt tension check	After the first 4 h and then every 50 hours
Tools wear and fastening check	Before each work shift
Tools, screws and nuts replacement	Every 200 working hours or when damaged or when worn
Transmission belts replacement	Every 400 hours or when too worn out
Pulleys replacement	Every 400 hours or when too worn out
Rotor balancing	Every partial or total replacement of tools
Support slide replacement	Every 400 hours or when too worn out
Guards integrity check	Every machine start-up. Restore the guards if worn and/or damaged.
Pictograms check	Every machine start-up. Restore if worn and/or damaged.
HYDRAULIC SYSTEM	
Hydraulic tubes fastening check	At each start-up and each fluid leakage
Check of the hydraulic tubes	Check at every start-up. In case of damage or seepage, replace immediately

7 TROUBLESHOOTING TABLE

ANOMALY	CAUSE	REMEDY
Uneven or poor quality mulching	- Worn or damaged tools - Machine not set up according to the instructions - Machine clogged - The rotor does not rotate as it should - Rotor roll support - Worn slides; - Terrain with excessive ripples	- Replace the tools - Carry out adjustments - Decrease tractor advancement speed - Check the speed of the tractor's PTO - Replace the roll support - Replace the slides - Make more working passages
Premature tool wear	- Stony/sandy land - Tools cutting height too - The rotor rotates too quickly or too slowly	- Searching - Adjust cutting height - Check the speed of the tractor's PTO
Machine noise	- Unbalanced rotor - Counter-weights loss - Damaged, worn or missing tools - Worn bearings	- Balancing in specialised workshop - Balancing in specialised workshop - Replace the tools - Replace bearings
Excessive heating of the gearbox	- Mulcher oil level too low - Oil finished - Excessive amount of material to be processed;	- Add more oil in the mulcher - Replace oil - Make more passages or decrease the advancement speed.
Frequent breakage of the bearings	- No bearings lubrication - The rotor was stressed excessively - Unbalanced/folded rotor	- Grease the bearings following the scheduled maintenance Table - Use the machine in compliance with the allowed working limits - Balancing performed at specialised workshop or rotor replacement
The rotor does not rotate	- Foreign body stuck - Breakage of the bearing - Breakage of the gearbox - Breakage of the transmission - Breakage of the belts - Breakage of the rotor shaft	- Consult the "machine clogging" procedure - Seals and bearings replacement - Gearbox replacement - Transmission replacement - Belts replacement - Rotor replacement
Worn/thorn seal rings	- Excessive lubrication - High rotor rotation speed - Incorrect seals assembly	- Change the seal rings - Check the machine adjustment - Ask the manufacturer for further information
Broken/detached frame	- Worn sheet steel - operate with machine on the ground - Unbalanced rotor	- repair at an authorised workshop; - Lift the machine when manoeuvring - Balance the rotor
Rear supporting roll locked	- Broken supports - Missed greasing - Folded support roll - Wet ground - Material encrusted on the supports	- Supports replacement - Grease - Replace the support roll - Avoid working in unfavourable working conditions - Clean the support lubricate
The rotor vibrates	- The rotor is unbalanced - The tools are worn/broken, - Folded rotor	- Balancing in specialised workshop - Replace the worn and/ or deteriorated and/or missing tools - Replace the rotor

8 SPARE PARTS

Repairs and replacements must be performed using original spare parts, which must be requested from the Dealer. Remember that the request for spare parts must be correct and accompanied by the following indications:

- Machine type;
- Serial number;
- Spare part code that can be found in the Spare Parts Catalogue.

If it is a component that is part of a major unit (rotor, multiplier unit, guards), you should also specify the model and serial number of the unit.

9 WARRANTY

Check on delivery that the machine was not damaged during transportation and that the accessories are complete.

9.1 CONDITIONS OF WARRANTY:

- The manufacturer ensures its products for a period of 12 months from the delivery, stating that the form attached hereto is shipped from the manufacturer and completely filled within 15 days from the delivery date (refer to the delivery tax document).
- In accordance with the terms mentioned above, the manufacturer is deemed to agree to provide warranty service all parts to be replaced according to his assessment, or in the opinion of its authorized representatives, with respect to defective parts in both the material and the construction. In any case, the transport and labour costs will be borne by the customer.
- The warranty does not include payment for damages due to improper use of the machine or for parts subject to wear and tear such as: hammers, blades, belts, etc.
- The manufacturer is not responsible for accidents to the operator or third parties arising from improper use of the machine.
- This warranty is void if:
 - a) the maintenance and repairs have been performed by unauthorised individuals or companies;
 - b) the machine has been previously repaired or modified with non-original spare parts;
 - c) If there is confirmation of incorrect operation of the operator;
 - d) The machine was not properly maintained/lubricated;
 - e) The permitted power limit is exceeded;
 - f) Whenever the instructions given in this manual are not followed;
 - g) Any unauthorised modifications were performed.
- Any damages to the machine occurred during or after the period covered by the warranty, do not involve any right to suspend payments for already delivered goods. No breakage or fault may be used as a motive to delay the payment.
- The manufacturer reserves the right to make any modifications considered necessary to improve its products at any moment and is not obliged to add these modifications to machines that have already been manufactured, delivered or are under construction.
- These general warranty conditions replace and cancel any other previous condition, expressed or implied.

CERTIFICATO DI GARANZIA GUARANTEE CERTIFICATE GARANTIESCHEIN CERTIFICAT DE GARANTIE CERTIFICADO DE GARANTÍA GARANTIBEVIS GARANTIECERTIFICAAT	 
Nome / Name / Nom / Nombre / Namn / Naam Indirizzo / Address / Anschrift / Adresse / Dirección / Adress / Adres	Si conferma di aver ricevuto il libretto uso e manutenzione e di essere stati informati circa il trattamento dei dati personali in base al Decreto Lgs. 196/03. We confirm to have received the instructions manual and that we have acquired all the information of the Legislative Decree 196/03 about the treatment of personal information. Wir bestätigen, dass wir das Betriebs- und Wartungshandbuch erhalten haben und dass wir alle Informationen über die Verarbeitung unserer persönlicher Daten (Verordnung 196/03) gelesen haben. Nous confirmons d'avoir reçu la notice d'emploi et d'entretien de l'appareil et d'être informés notamment le traitement de nos coordonnées selon le décret législatif 196/2003. Se confirma la recepción del manual de uso y mantenimiento y haber sido informado acerca del tratamiento de los datos personales en base al Decreto legislativo 196/03. Undertecknad bekräftar mottagandet av användar- och underhållsmanualen och har informerats angående hantering av personuppgifter enligt lagdekret 196/03. Ik bevestig de handleiding voor gebruik en onderhoud te hebben ontvangen en dat ik geïnformeerd werd betreffende de behandeling van mijn persoonlijke gegevens, krachtens het Wetsdecreet 196/03. Firma dell'acquirente / Purchaser's signature / Unterschrift des Käufers / Signature de l'acheteur / Firma del comprador / Kåparens underskrift / Handtekening van de koper Data / Date / Datum / Fecha

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