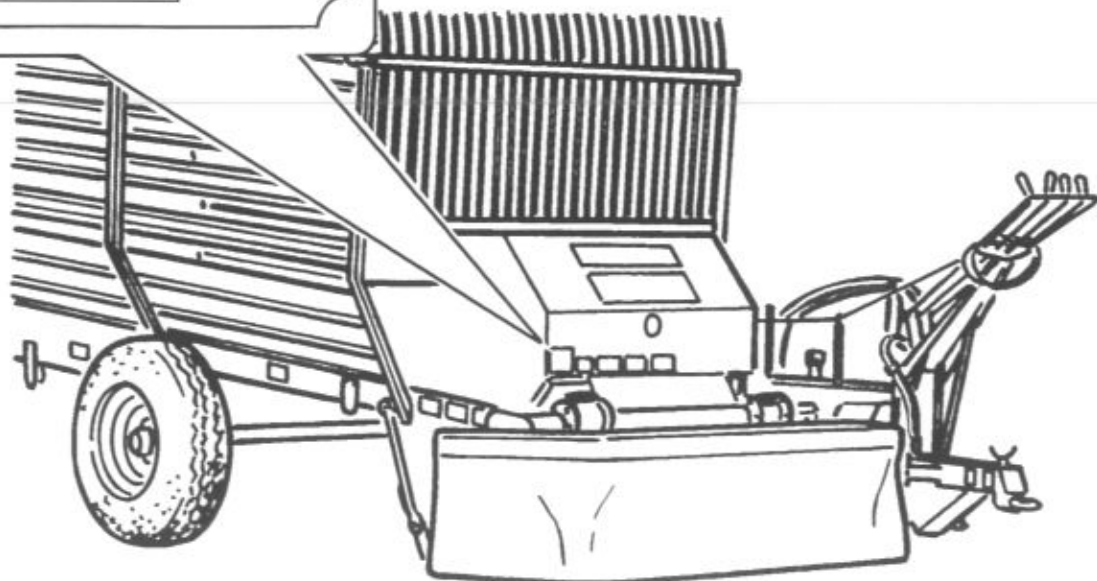


INTRODUCTION

- Thank you for choosing our agricultural machine "towed self-loading mower".
This machine complies with the general contents of the Machine Standard 98/37
- The maker guarantees the supply of the spare parts for a period of 5 years since the last model of this range left the factory.
- The guarantee period is 12 months from date of purchase.
- To assure a correct operation and obtain the best performances from your machine please carefully read all the chapters in this manual before use.
- All rights are reserved. It is forbidden to reproduce text and illustrations even partially.
The data contained in this manual are purely indicative. Bonino Sas might modify the machine described in this manual at any time for any technical or commercial reason.
- In case of dispute competent court will be Alba (CN)

BONINO®	
COSTRUZIONE MACCHINE AGRICOLE	
12048 Sommariva Bosco (CN) ITALY	
Via Torino, 173 - S.S. 661 km 9 - Tel. 0172.54.132	
MODEL	<input type="text"/>
SERIAL NUMBER	<input type="text"/>
YEAR	<input type="text"/>
WEIGHT	<input type="text"/> Kg.
CE	

In any letter exchange with the maker please always specify the data contained in your machine data plate.



DECLARATION OF CONFORMITY

(For machines not included in Attachment IV for purposes of Presidential Decree no. 459/96)

EEC Directive 98/37 Attachment II Part A

BONINO[®]
MACCHINE AGRICOLE

The maker

BONINO di Bonino C. & C. s.a.s. - Via Torino, 173 - Strada Statale 661 Km 9

12048 Sommariva Bosco (CN) Italy - Tel/Fax 0039.0172.54132

DECLARES

under his own responsibility that the
Self-loading mowing machines in tow
described in this manual

AB _____

Serial n: _____

Year of manufacture:

to which this declaration refers conforms to the essential safety requisites required by EEC Directive 98/37, by EEC Directive 89/336 (electromagnetic compatibility), and by EEC Directive 73/23 (low voltage).

The machine has been constructed in compliance with the following harmonised standards:

UNI EN 292/1 - UNI EN 292/2 - UNI EN 294 - CEI EN 60204

This declaration will lose validity if any modifications are made to the machine without the constructor's authorisation.

CE

Legal representative

Sommariva Bosco (CN), _____

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General information

1



Page 2
Information about the manual

Page 3
Information about the machine

Page 4
Technical data

Page 6
*Identification of the
components*



Information about the manual

This manual contains safety precautions, instructions for the operation, lubrication and maintenance, a list of spare parts as well as some hydraulic and electric diagrams in the enclosure. Some illustrations contained in the manual show parts or accessories that might be different from the ones mounted on your machine.

We have sometimes removed the guards and the covers for clearer illustration.

The constant improvement and the evolution of the product might have required some modifications that are not included in this edition.

Please read thoroughly, study and keep this manual in an accessible place.

Should any problem arise as to the machine or this manual, please ask Bonino snc for more updated instructions.

CAUTION

Should you sell the machine the manual and the enclosures shall always go with it.

Safety

The chapter concerning safety contains the essential precautions. This chapter contains the text and position of the warning stickers on the machine.

Please read and learn the precautions specified in the "safety" chapter before starting any activity or carrying out any operation of lubrication, maintenance or repair on the machine

Operation

The chapter concerning the operation of the machine is a reference for the operator who is not familiar with the machine and a review for skilled operators. This chapter illustrates the machine controls. The illustrations lead the operator through the correct procedures of how to control, start, operate and stop the machine

The operating techniques contained in this manual are basic techniques. The ability and the techniques develop mostly by acquiring experience with the machine and its capabilities.

Road transport

This chapter describes how the operator shall tow the machine to the tractor and drive out of the working area.

Maintenance

This chapter contains a guide for machine maintenance



Information about the machine

Machine features

The self-loading mowing machine in tow has been designed to comply with the requirements of a vanguard zootechnical industry in hilly and mountain areas.

It is equipped with a rotary mowing bar with two drums adjustable in height for a sharp cut of any kind of forage on uneven ground, too

Behind the rotary drums a platform helps loading the forage immediately after mowing so that it does not come in touch with the ground. Its cleanliness is therefore guaranteed.

The product is loaded by a self-loading bar conveyor equipped with hooks that pull the grass up after mowing and send it directly to the bin unspoilt.

This system can be equipped with shredding blades absolutely necessary for long stalks.

All the movements of the machine are controlled from tractor thanks to levers located on the machine linkage .

The latter is operated by the tractor PTO, equipped with a pump and a hydraulic distributor for easy handing and maneuver in all situations without any effort by the operator.

The self-loading mowing machine is available in the following models:

AB	20	TR
AB	25	TR
AB	25	TRL

Each model is different as to size of the machine, axles, loading capacity, weight and cutting width.

– The machine consists mainly of an oscillating mowing bar independent from the chassis for perfect grass cutting even on uneven ground.

A self-loading bar conveyor permits to load the grass immediately after mowing directly into the bin.

– The machine is also equipped with the following optional parts:

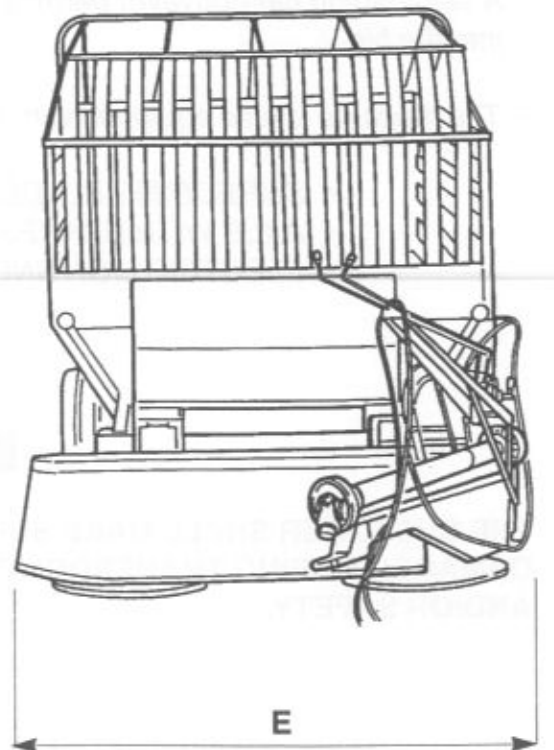
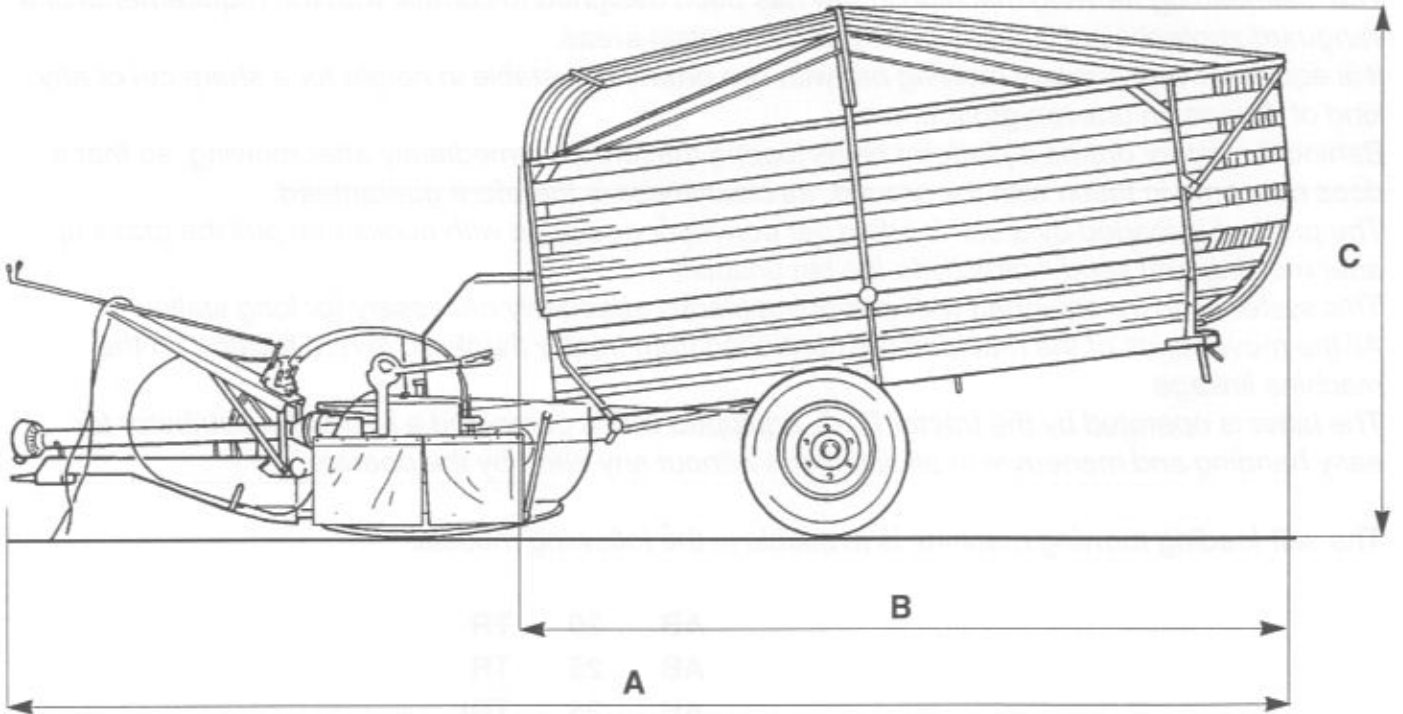
- SHREDDING BLADES
- AXLE WITH BRAKES
- ELECTRIC LIGHTING INSTALLATION

CAUTION

THE CUSTOMER SHALL MAKE SURE THAT THE MACHINE STRUCTURE HAS NOT BEEN DAMAGED DURING TRANSPORTATION AS THIS MIGHT JEOPARDIZE ITS OPERATION AND/OR SAFETY.



TECHNICAL DATA





Weights and dimensions

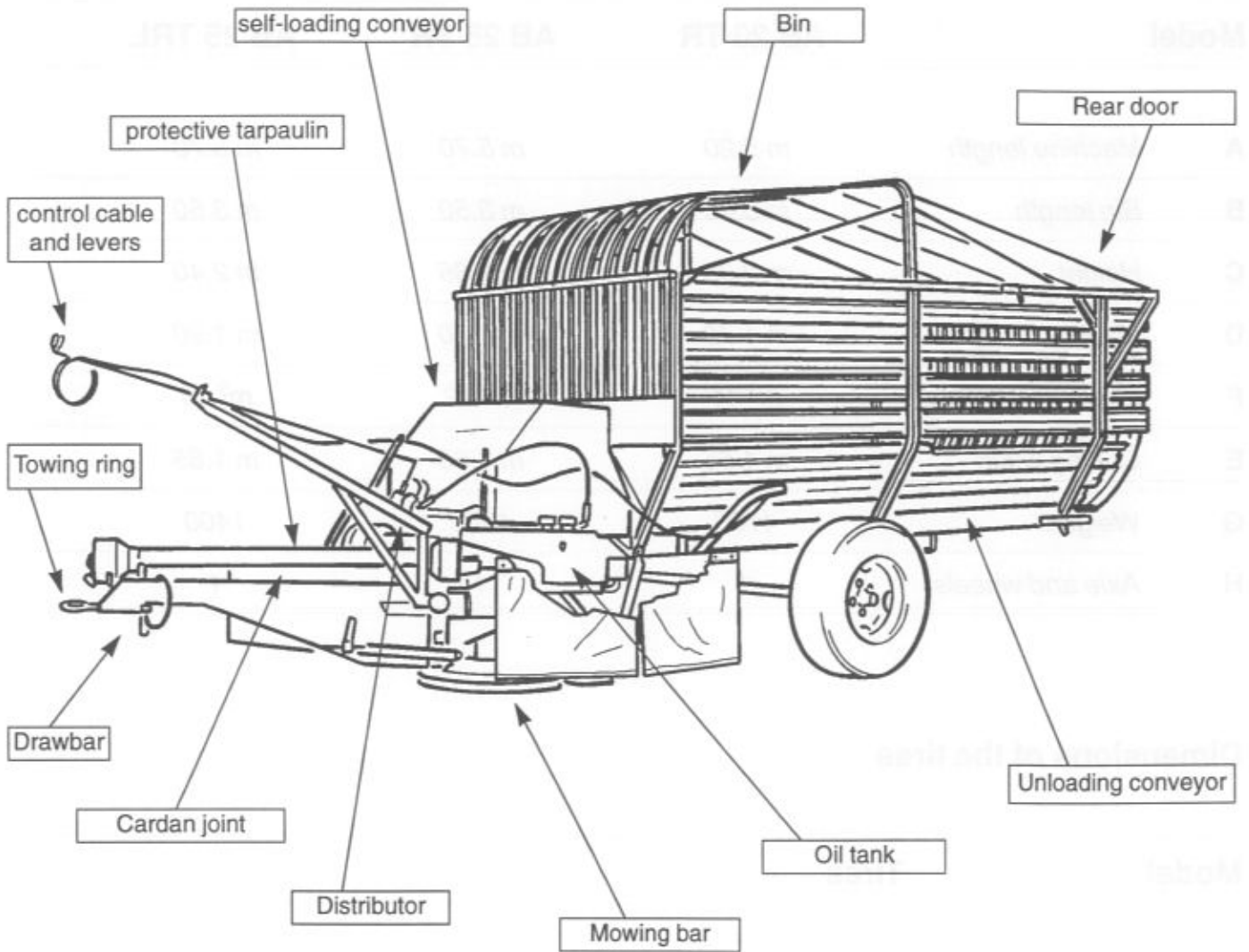
Model	AB 20 TR	AB 25 TR	AB 25 TRL
A <i>Machine length</i>	<i>m 5.20</i>	<i>m 5.70</i>	<i>m 5.70</i>
B <i>Bin length</i>	<i>m 3.00</i>	<i>m 3.50</i>	<i>m 3.50</i>
C <i>Height</i>	<i>m 2.35</i>	<i>m 2.35</i>	<i>m 2.40</i>
D <i>Machine width</i>	<i>m 1.70</i>	<i>m 1.70</i>	<i>m 1.90</i>
F <i>Loading capacity</i>	<i>m³ 11</i>	<i>m³ 12</i>	<i>m³ 14</i>
E <i>Cutting width</i>	<i>m 1.65</i>	<i>m 1.65</i>	<i>m 1.85</i>
G <i>Weights</i>	<i>1100</i>	<i>1300</i>	<i>1400</i>
H <i>Axle and wheels</i>	<i>1</i>	<i>1</i>	<i>1</i>

Dimensions of the tires

Model	Tires
AB 20 TR	<i>215 x 51</i>
AB 25 TR	<i>235 x 51</i>
AB 25 TRL	<i>235 x 51</i>



IDENTIFICATION OF THE COMPONENTS



Safety

2



Page 8
Safety information

Page 9
General precautions

Page 10
Safety plates and symbols



Important safety information

Lack of compliance with safety rules or basic safety precautions might cause accidents during the operation, maintenance and repair of the machine. An accident can often be avoided if one understands the potential dangers he/she is going to face before getting involved.

The operator shall be aware of potential dangers, be trained and have the instruments needed to work properly.

The machine could cause some serious accidents if used in an incorrect or improper way during its operation, maintenance and repair.

Never operate, lubricate or repair the machine before reading and understanding the relevant instructions.

Safety instructions and warning signs are contained in this manual and applied on the machine. If the operator is mindless of danger signs he might have an accident with serious consequences for him and for any third parties involved

Dangers are identified by the symbol "Safety alarm" followed by a warning word such as "CAUTION", as follows:

CAUTION

The meaning of this safety alarm symbol is the following:

Be careful! Your safety is in danger

The danger message under the warning word can be either written or illustrated.

The operations that might damage the machine are explained in this manual and appear on the machine with the word WARNING.

Bonino snc cannot foresee all possible circumstances that might lead to a potential danger. The warnings contained in this manual and on the product are not the only possible ones. Should you use any tools, procedures, methods or techniques that are not clearly advised by BONINO snc" please make sure that they are no danger for the operator or for any third parties. Make sure the machine is not damaged or its safety jeopardized by the procedures of operation, lubrication, maintenance or repair.

All data, specifications and illustrations contained in this manual refer to the information available at the time when the manual has been written. Specifications, adjustments, illustrations and other points might change at any time and the modifications might have a repercussion on maintenance operations.



General warnings

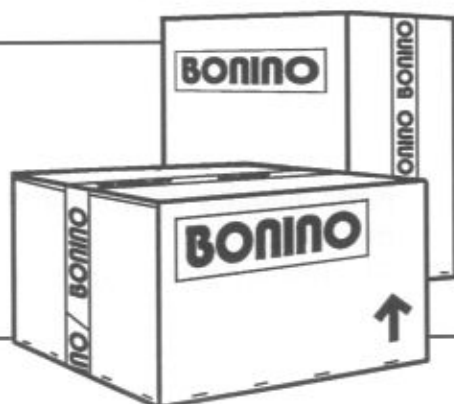
- *AVOID LOOSE CLOTHES OR PROTRUDING ELEMENTS THAT MIGHT BE PINCHED IN THE CONTROLS OF THE TRACTOR AT WORK.*
- *KEEP THE MACHINE CLEAN WITH NO FOREIGN MATTERS SUCH AS DEPOSITS, OIL, TOOLS AND OTHER OBJECTS THAT MIGHT BE AN OBSTACLE TO A CORRECT OPERATION AND CAUSE ACCIDENTS .
CLEAN THE REAR TRAVERSE AND THE TAIL REFLECTORS WHEN YOU WISH TO TOW THE MACHINE ON THE ROAD.*
- *NOBODY SHALL BE ALLOWED TO APPROACH THE MACHINE AT WORK WITHIN 15 METERS FROM IT*

CAUTION

Do not use this machine if you have not read or understood the instructions, the suggestions and the warnings contained in the operating and maintenance manual. Ask the dealer of BONINO machines for any copy to replace the old manuals. The operator shall take his own precautions.

Any possible structural damage, modification, alteration or incorrect repair could jeopardize the safety of this machine and make these instructions useless.

- *USE ORIGINAL BONINO SPARE PARTS .*
- *ANY MAINTENANCE OPERATION SHALL BE CARRIED OUT WHEN THE MACHINE IS OFF.*

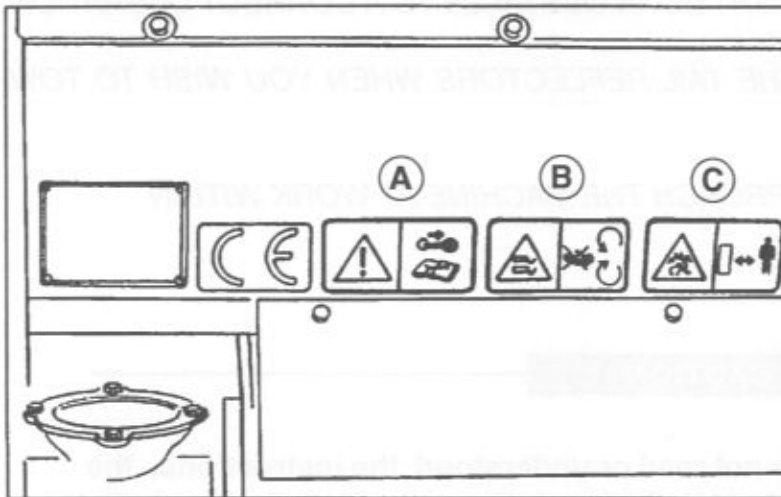


USE BONINO ORIGINAL SPARES ONLY!



Safety plates and symbols

Stickers have been applied to the machine with symbols and messages relevant to safety. This page shows their position and their meaning.



CAUTION

Make sure that all messages concerning safety are readable. You should clean them with a cloth, water and soap. Never use any solvent, Diesel oil or petrol. Refer to your BONINO dealer to replace any damaged stickers. If a sticker was on a part that has been replaced, make sure a new one has replaced it.



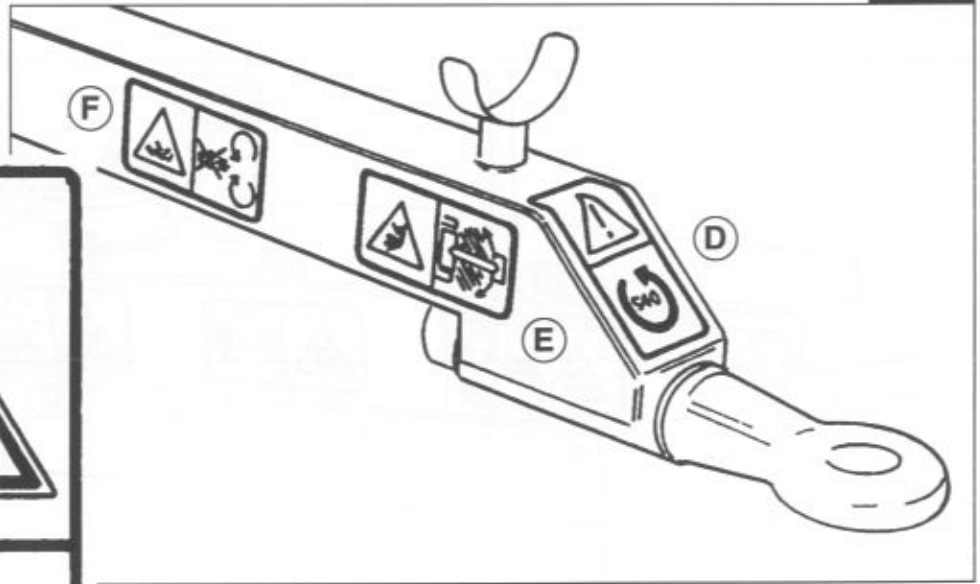
Stop the engine and remove the starting key before any maintenance or repair.



Keep away from the mowing blades when the engine is on. It is dangerous for both hands and feet.



Keep at safety distance from the machine. The whole body is exposed to danger.



D



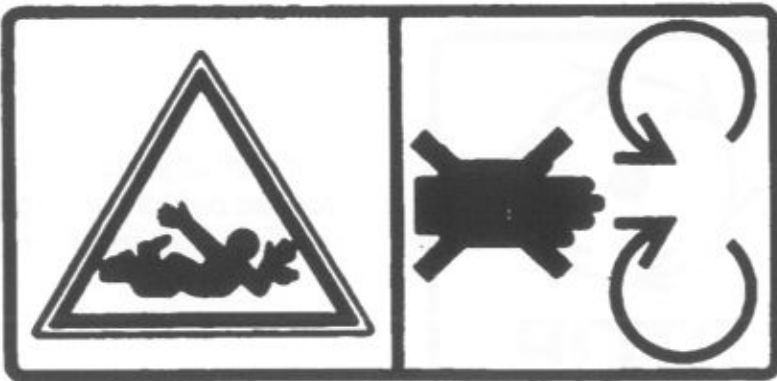
Max. rotation of the Cardan shaft: 540 rpm

E

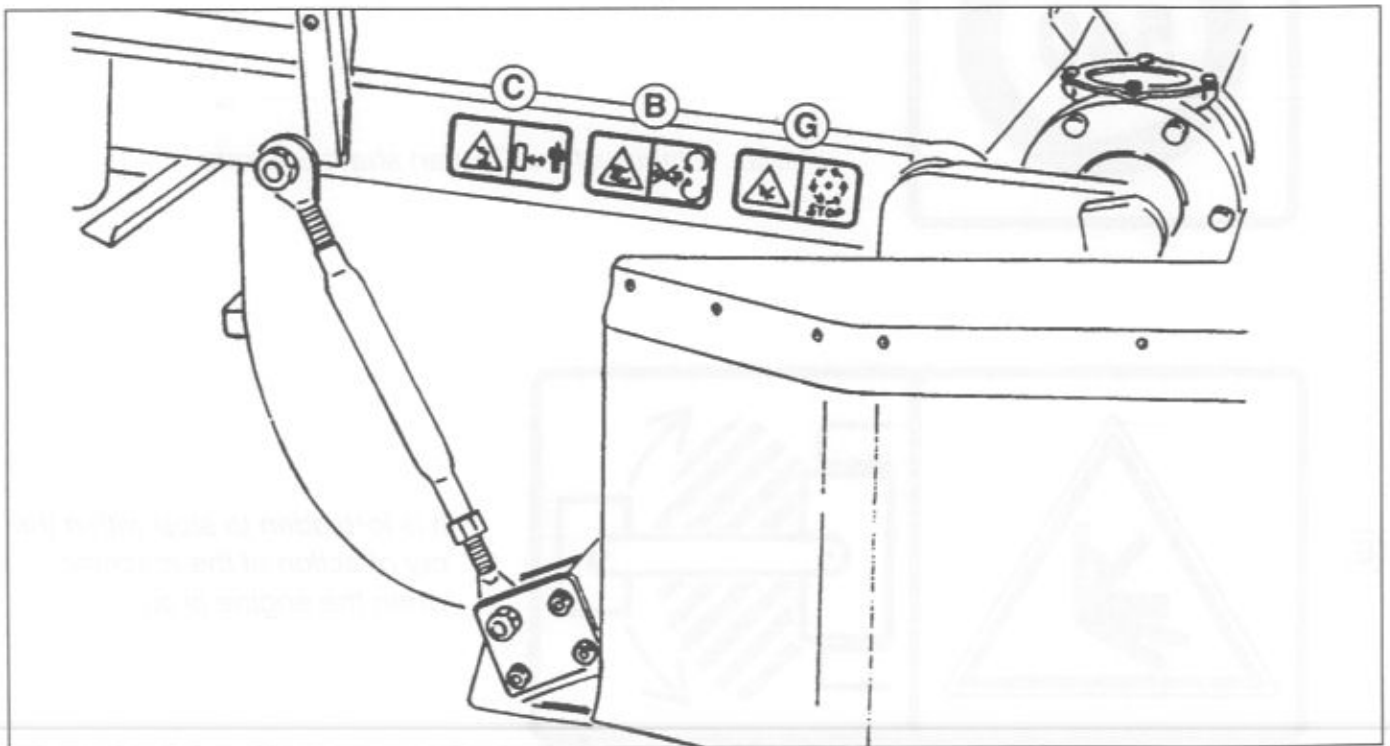
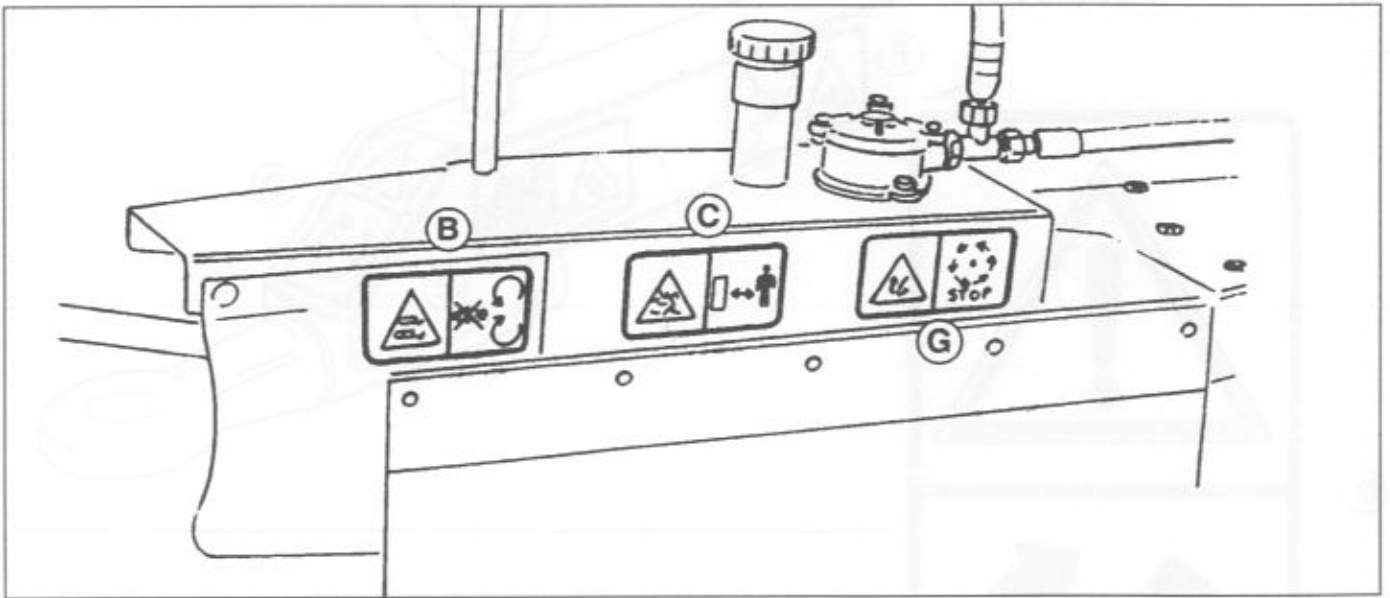


It is forbidden to stop within the ray of action of the machine when the engine is on

F



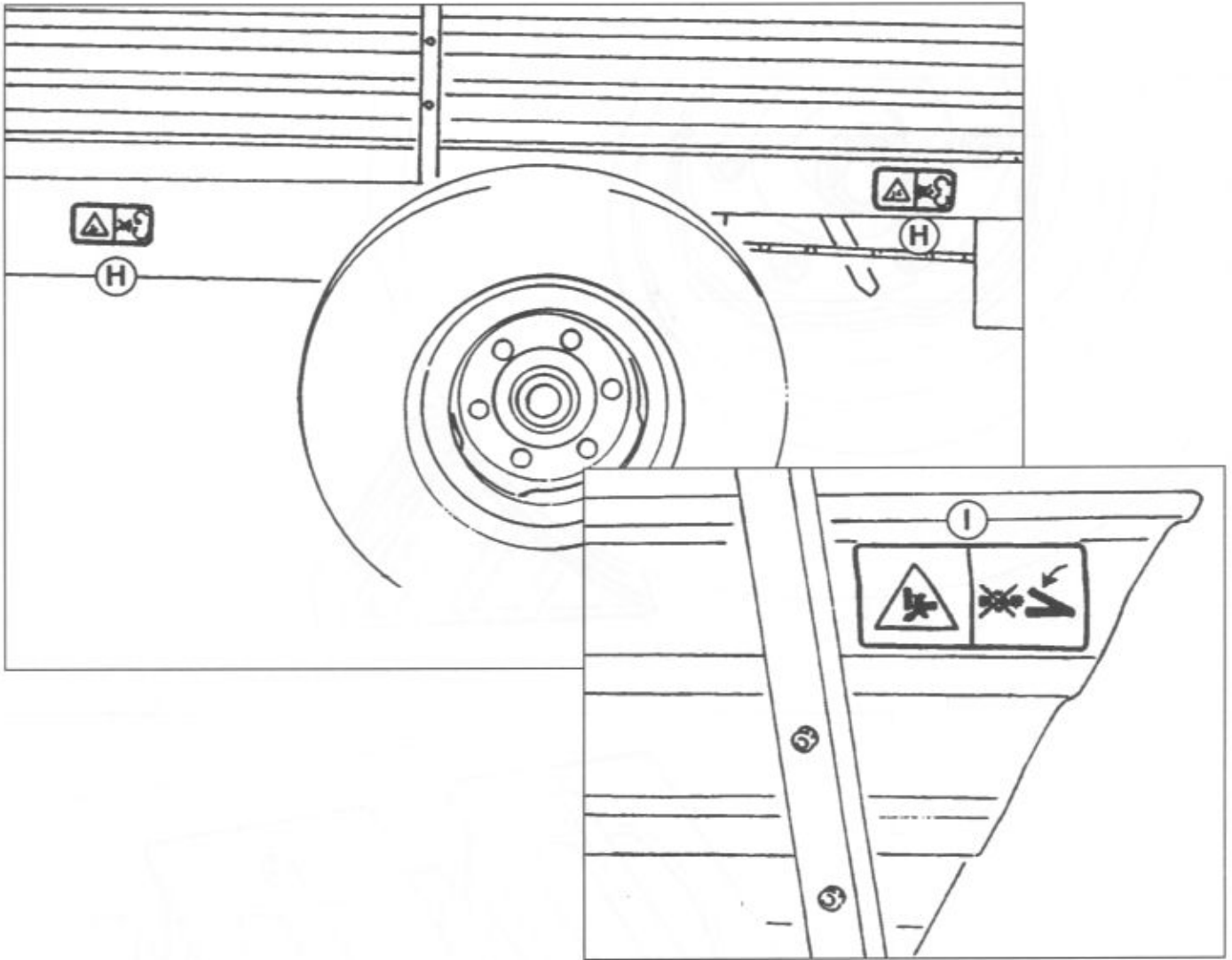
It is forbidden to remove or open the safety hood when the engine is on



G



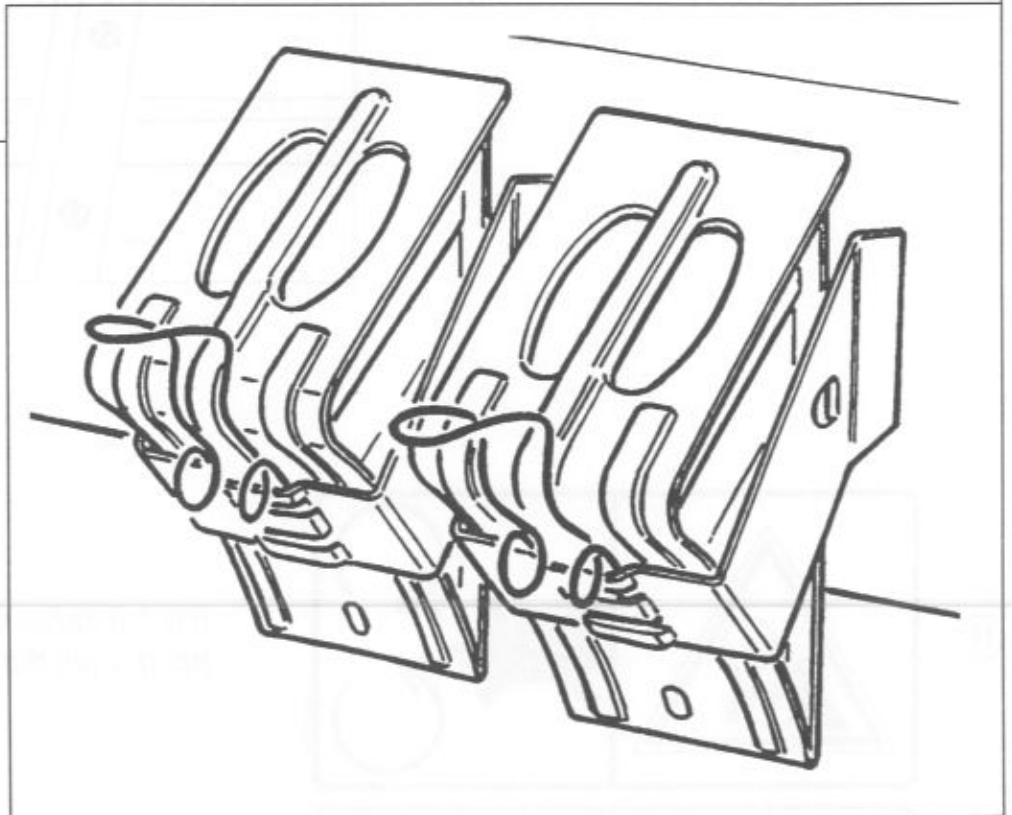
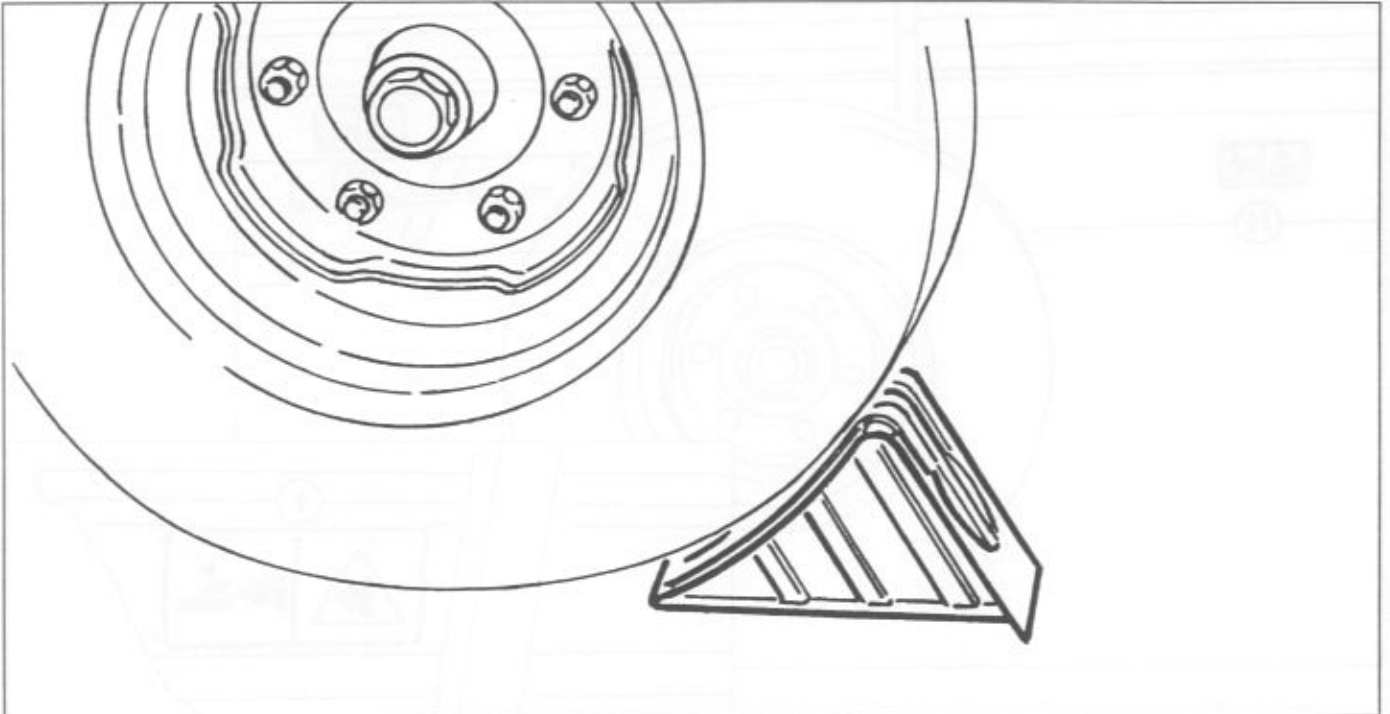
Wait until all parts have stopped before carrying out any operation on the machine



It is forbidden to open or remove the hood when the engine is on.



It is forbidden to open the rear door while the engine is on



CAUTION

Always lock the wheels with the wedges that come with the machine, when the machine is stationary.

Road transport

3

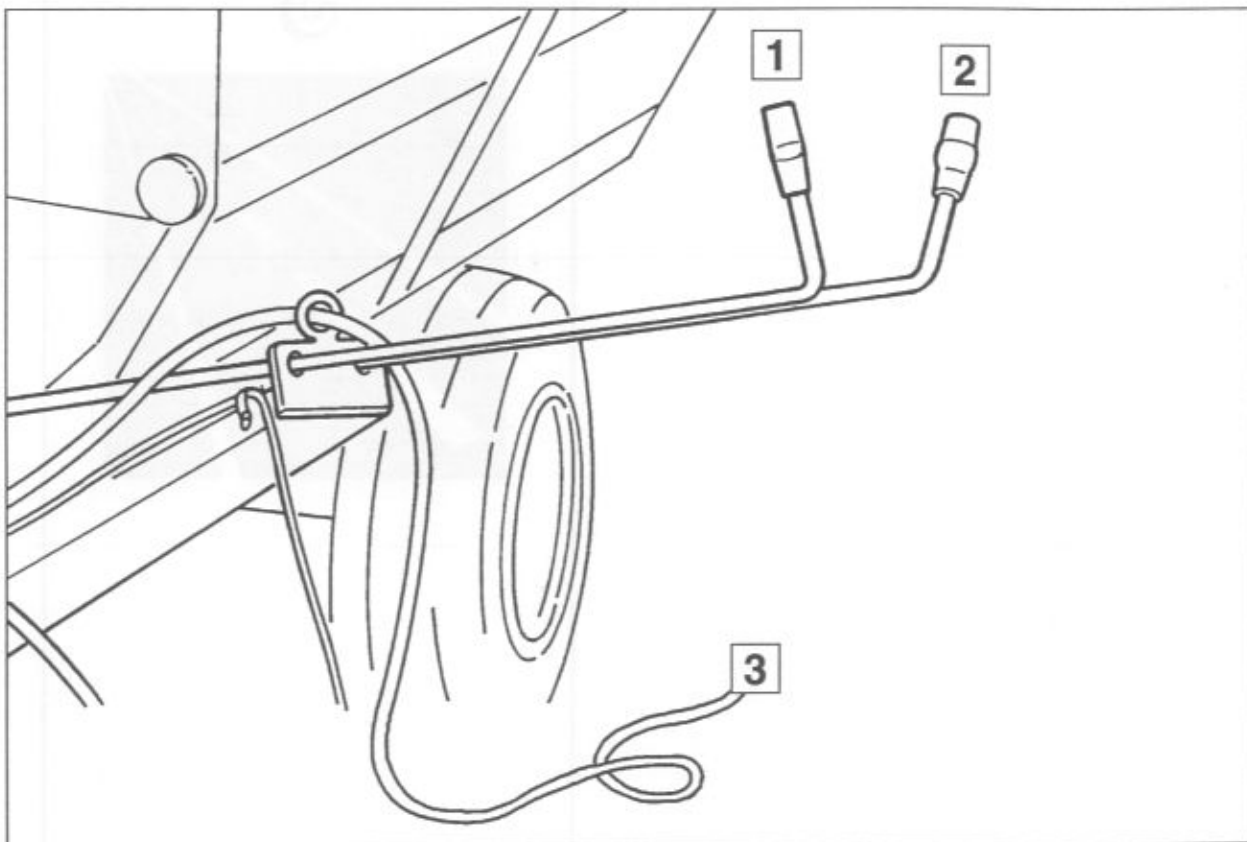


*Page 16
Information concerning
road transport*



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Prognost

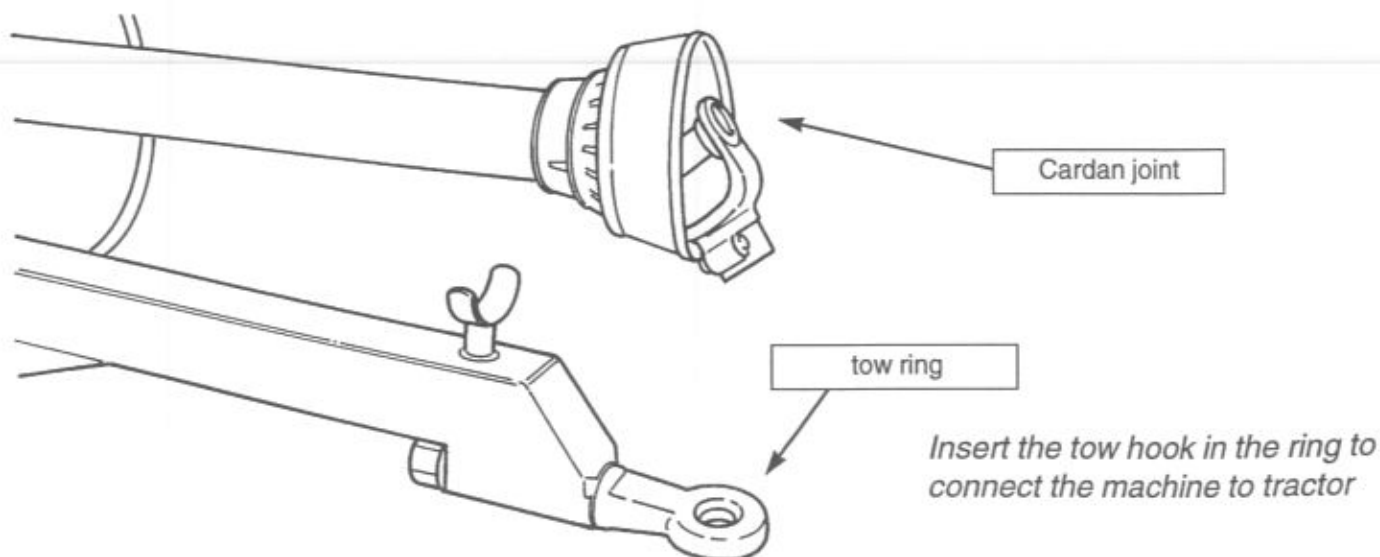
ROAD TRANSPORT



Lever **1** Lifts/lowers the mowing bar.

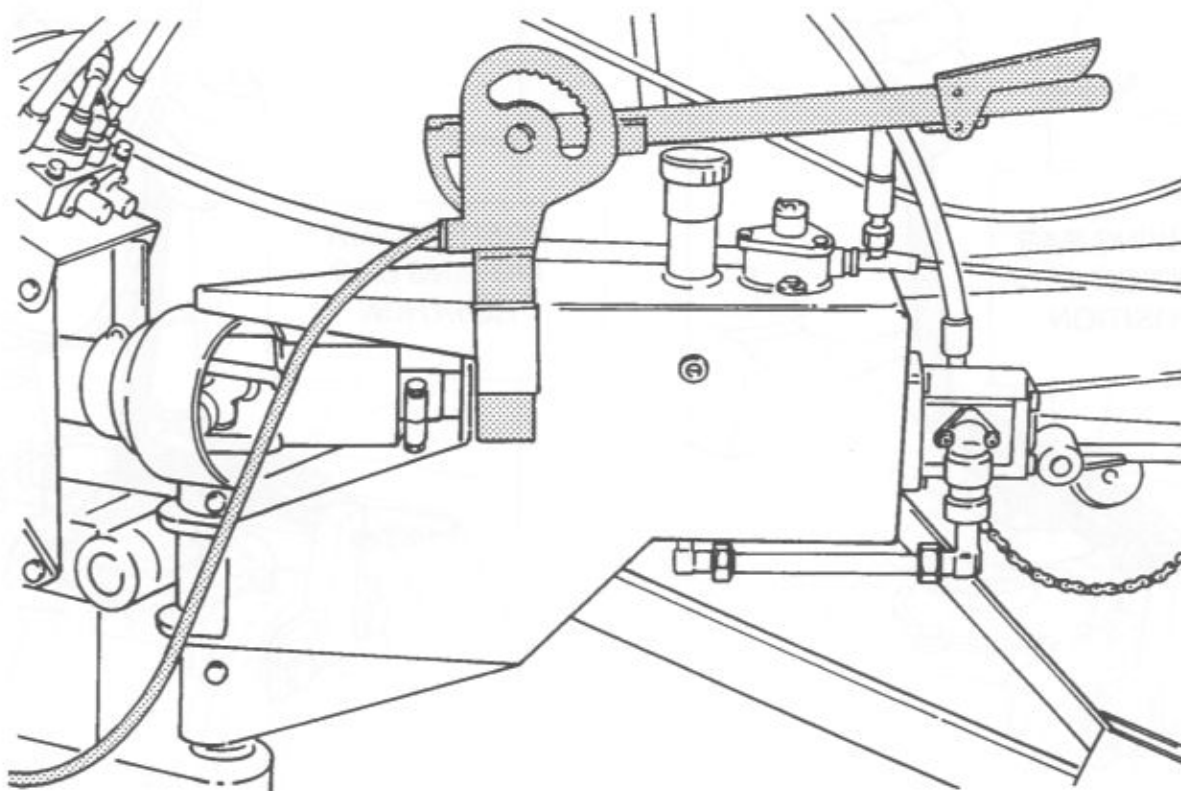
Lever **2** Opens/closes the drawbar.

Lever **3** Starts/stop the unloading conveyor.





- Plug in the tail light system
- Extract the hand brake lever of the drawbar and fix it to the tractor.

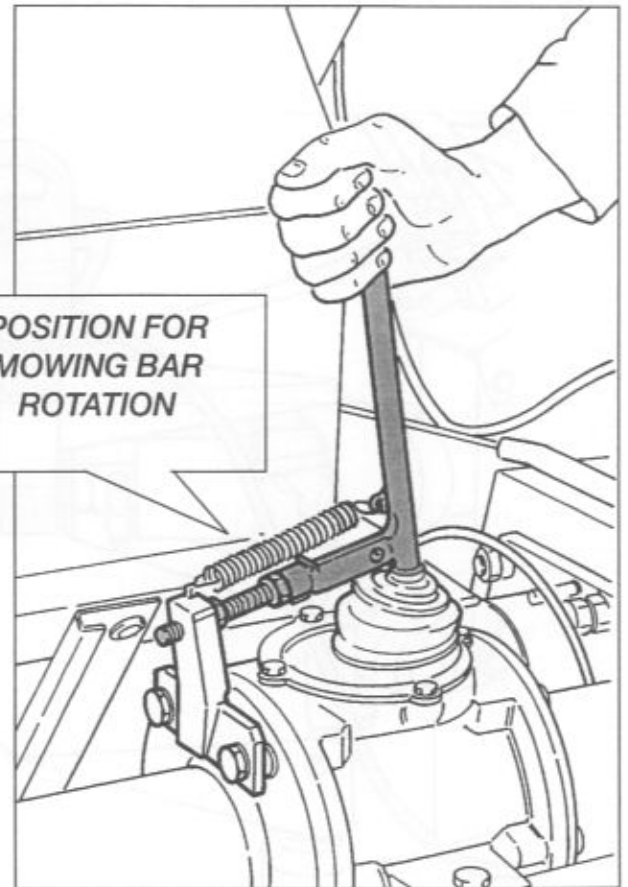
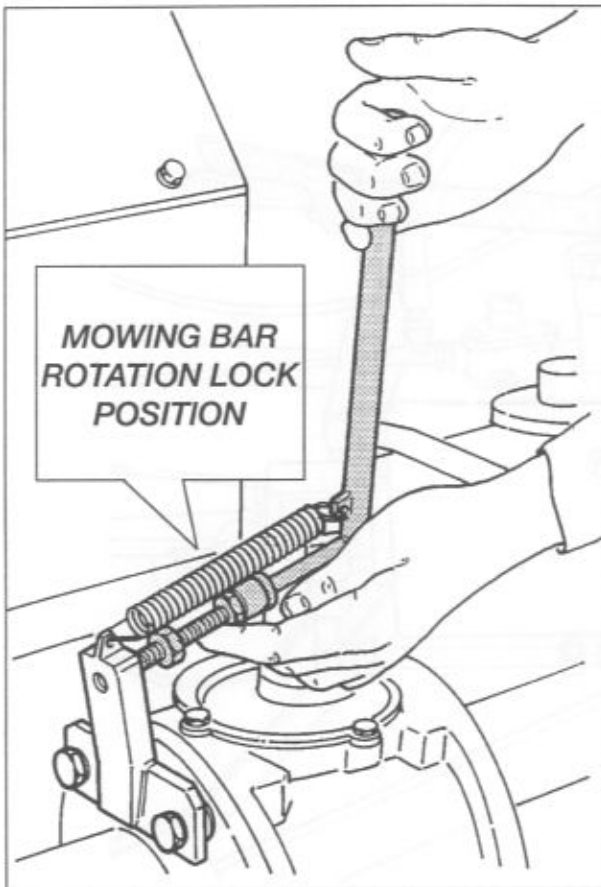


- Link the Cardan joint of the machine to the tractor PTO.
- Let the machine run for at least 5 minutes to allow the oil to be distributed in the circuit.

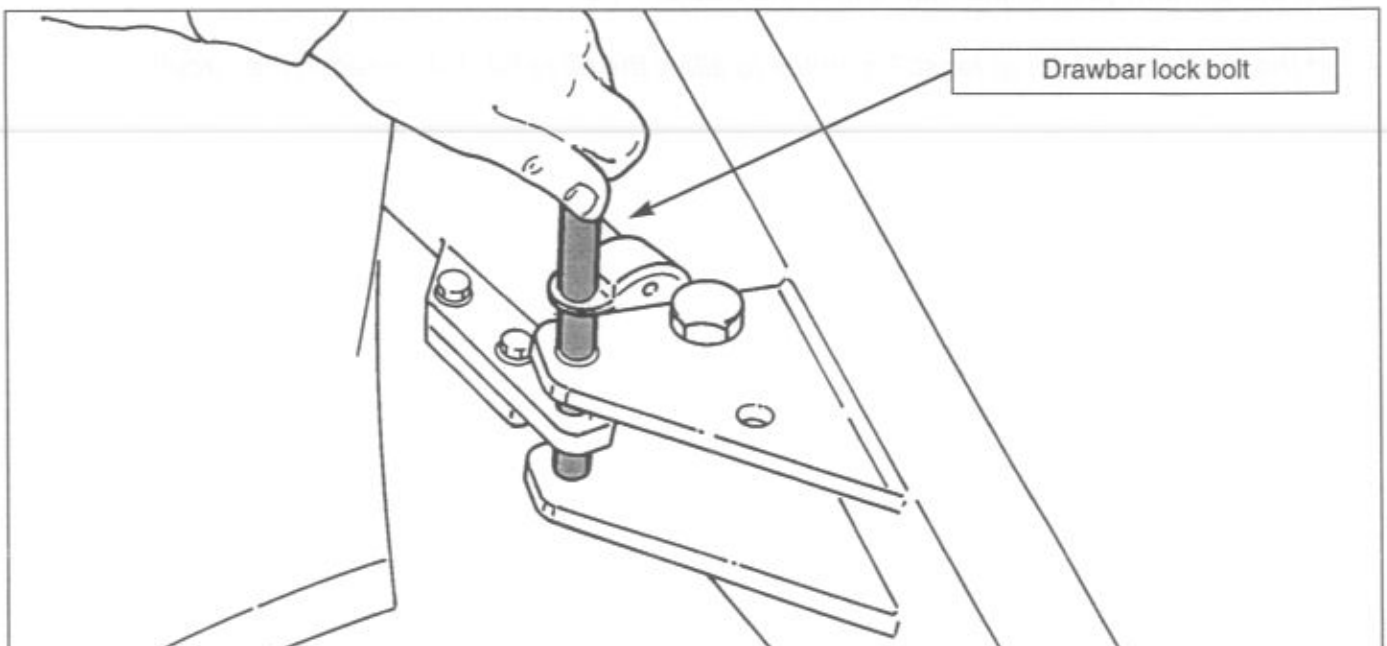


CAUTION

THIS OPERATION SHALL BE CARRIED OUT WITH TRACTOR ENGINE OFF
AND AFTER REMOVING THE STARTING KEY



- Stop the rotation of the mowing bar blades
- Keep the drawbar locked and make sure the lock bolt is in the position shown by the picture





- Carry out some tests to make sure the connection is correct and no lamp is burnt.
- Clean the tail lights.
The plate number shall be visible as well as the tail lights.

CAUTION

THE MACHINE IN TOW SHALL CARRY NO PROTRUDING LOAD FOR ANY REASON WHATSOEVER.

THE TRANSPORTATION OF ANY THIRD PARTY, ANIMALS OR OBJECTS IS STRICTLY FORBIDDEN.

Operation

3



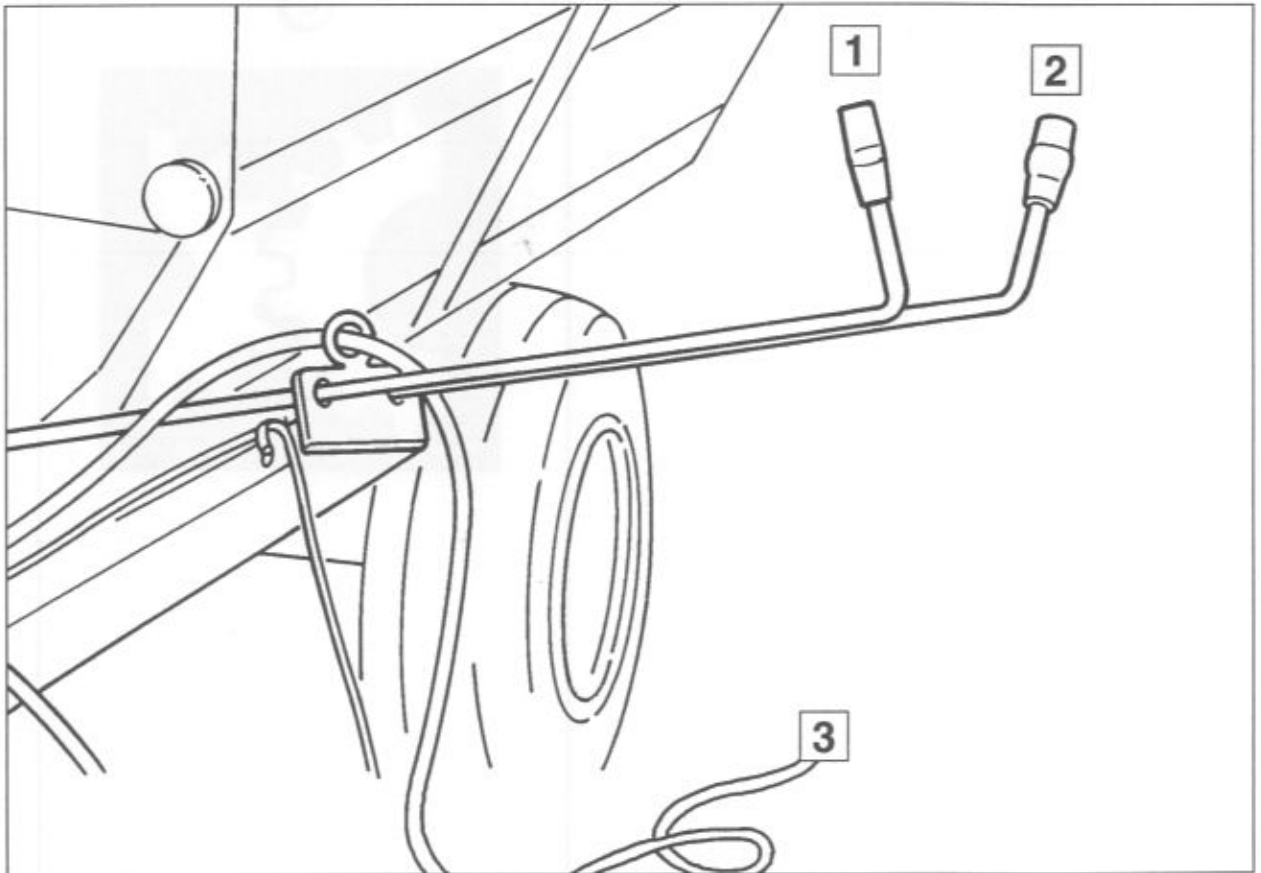
Page 22
Control description

Page 23
Towing

Page 28
Operating cycle



Control description



- Lever **1** Lifts/lowers the mowing bar .
- Lever **2** Opens/closes the drawbar.
- Lever **3** Starts/stops the unloading conveyor

Towing

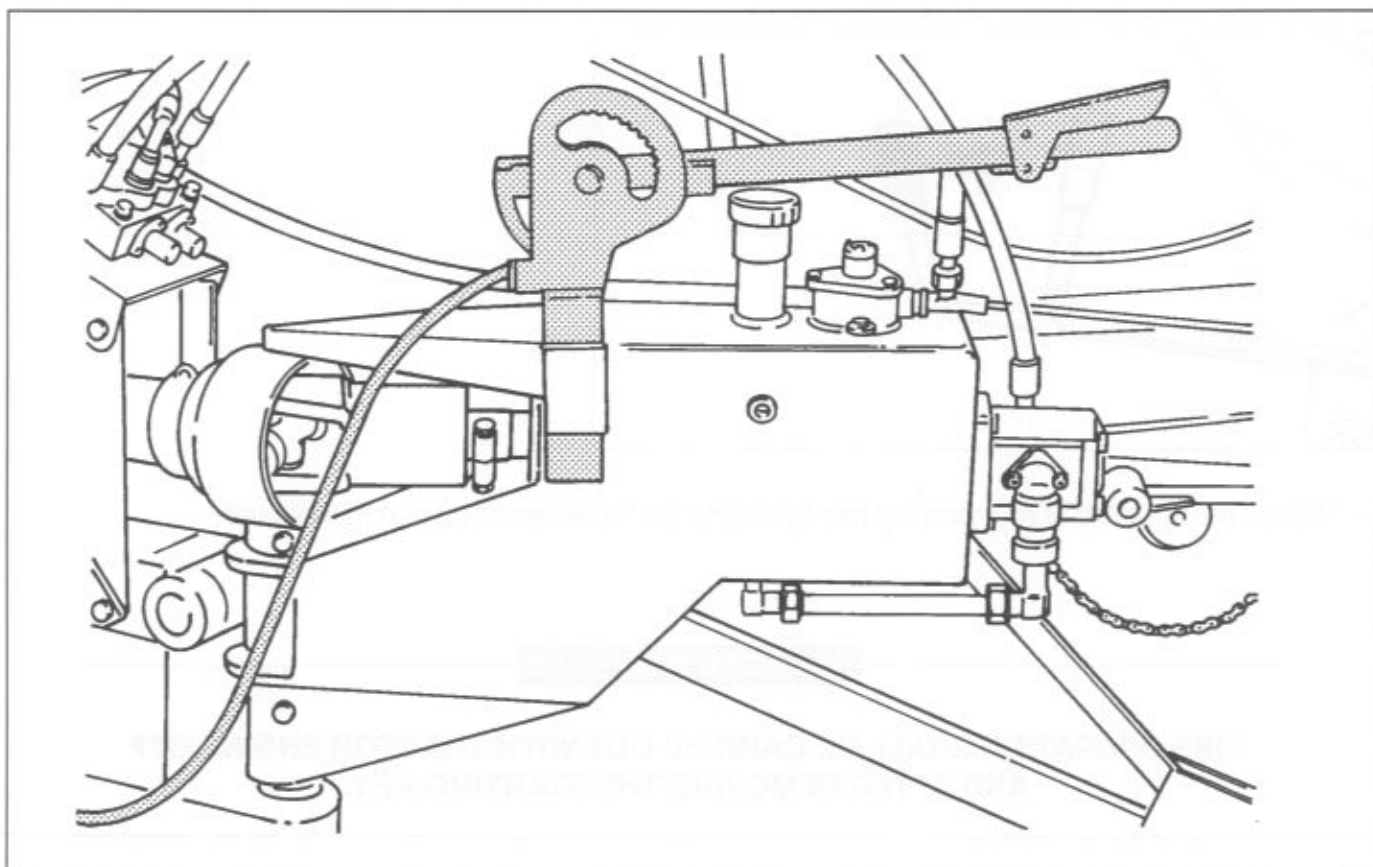
- Tow the machine to the tractor, by hooking the tow ring at the end of the drawbar to the tractor tow hook.

CAUTION

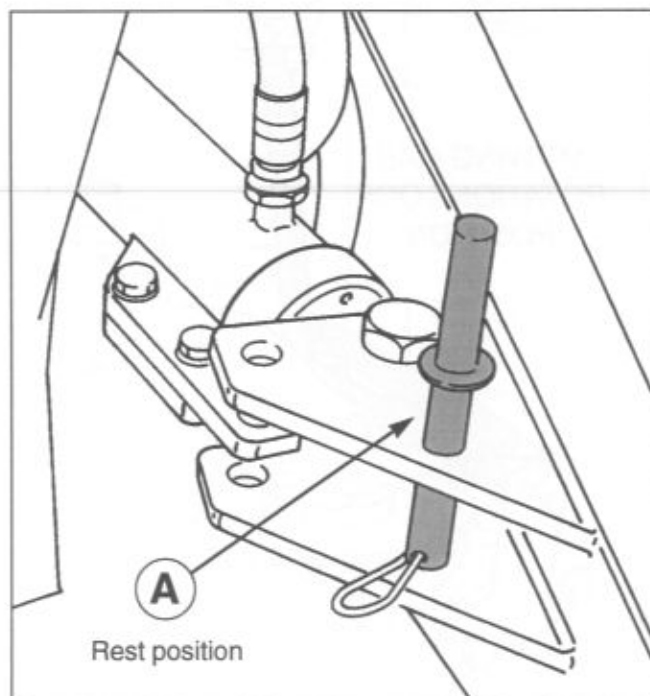
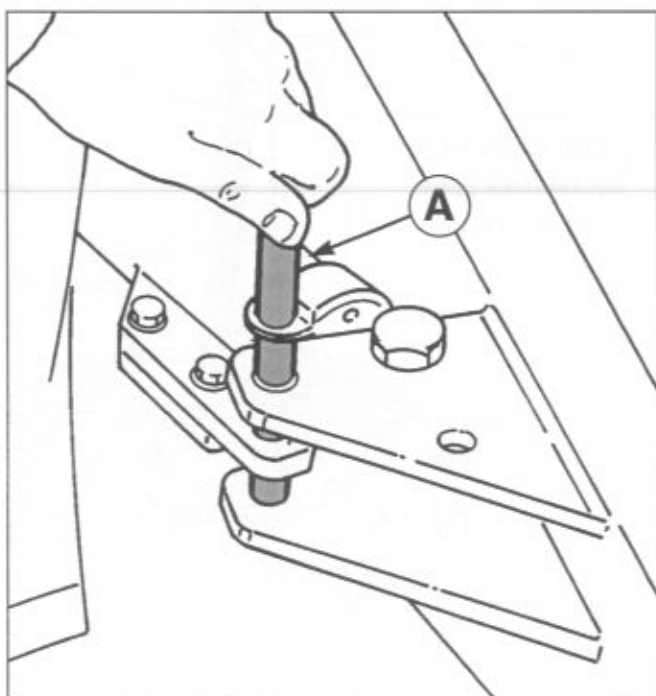
THESE OPERATIONS SHALL BE CARRIED OUT ON FLAT GROUND



- Take the hand brake lever out of the drawbar and connect it to the tractor

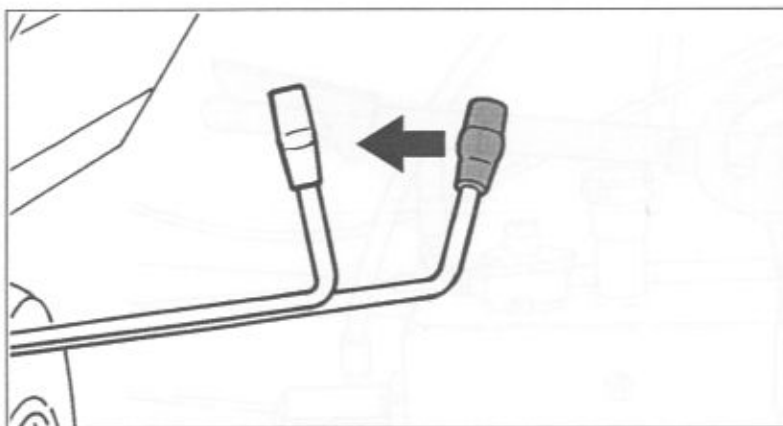


- Link the Cardan joint of the machine to the tractor PTO
- Let the machine run for at least 5 minutes to let the oil distribute in the circuit.
- Extract safety bolt A of the drawbar and insert it in the rest position B.





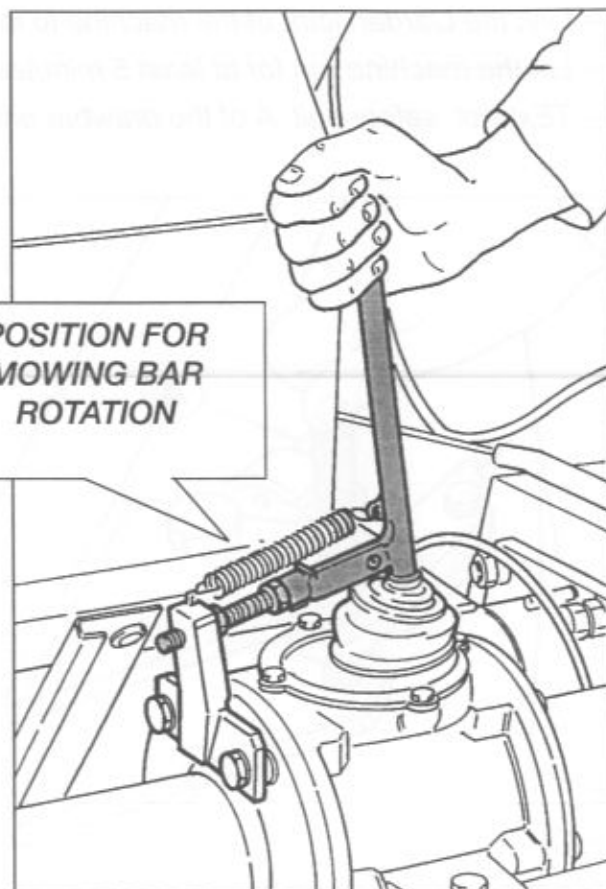
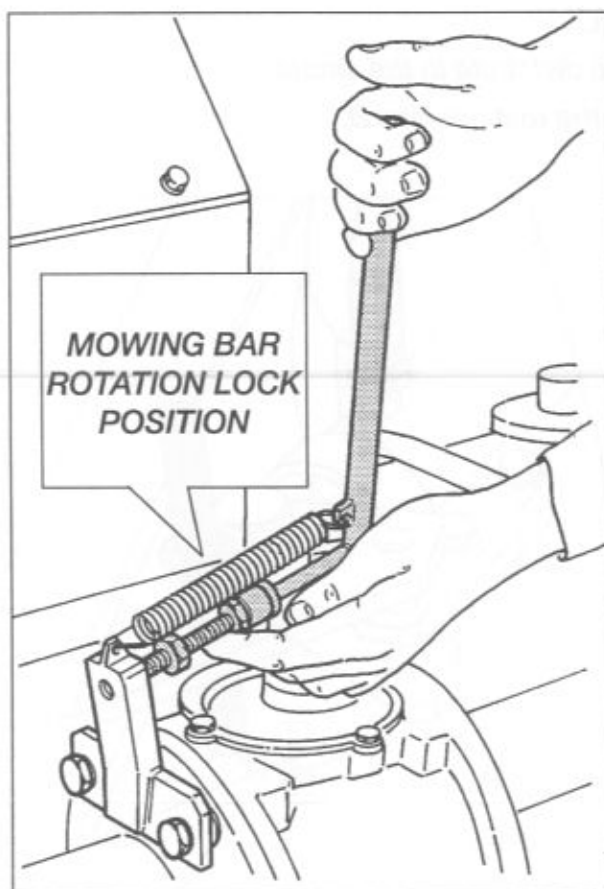
– Push the central lever 2 forwards to fully open the drawbar.



– Unlock the rotation of the mowing bar by acting on the lever shown in the picture.

CAUTION

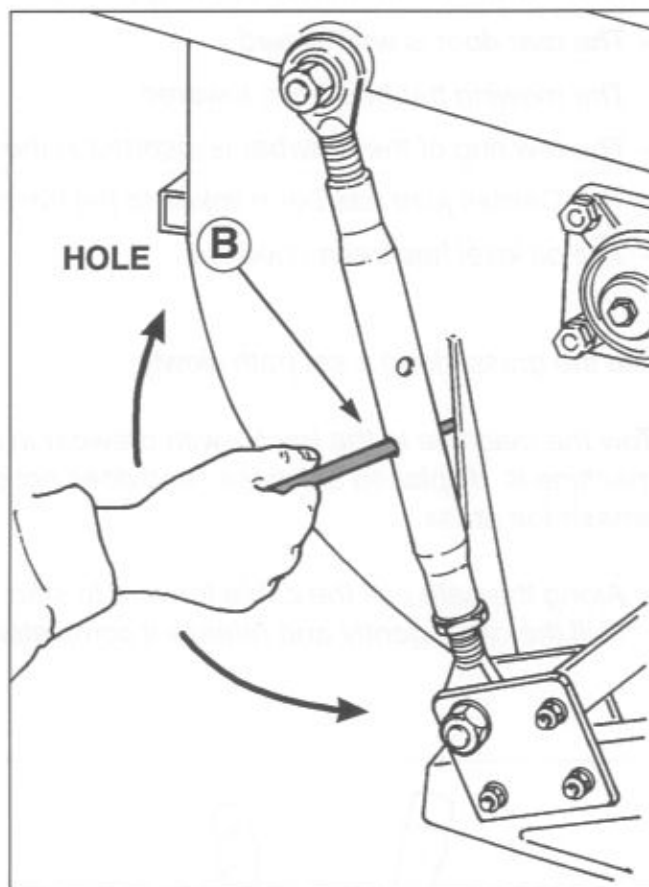
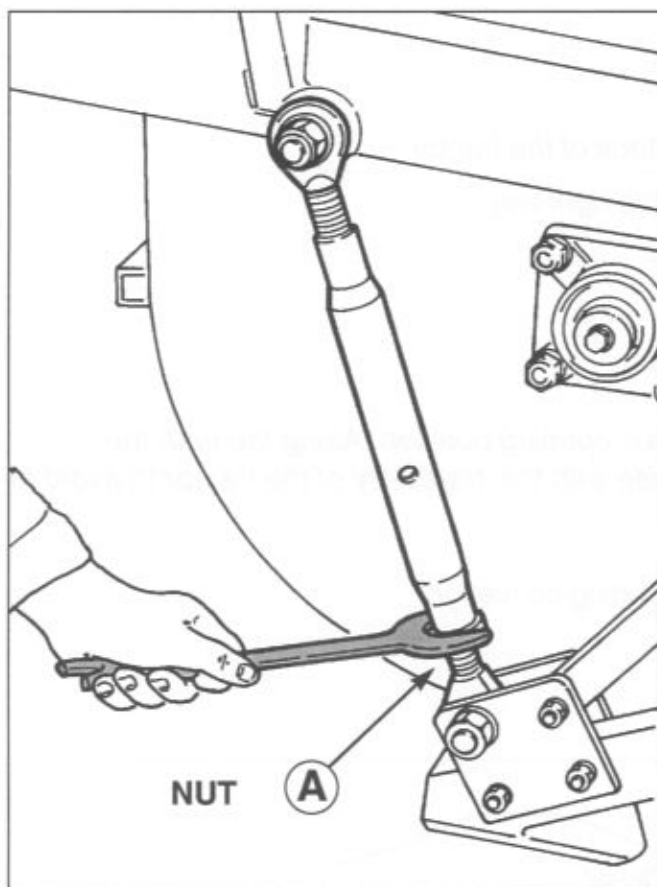
**THIS OPERATION SHALL BE CARRIED OUT WITH TRACTOR ENGINE OFF
AND AFTER REMOVING THE STARTING KEY.**





Before starting the operating cycle

- Adjust the grass cutting height by means of the straighteners on each side of the mowing bar.



- Unscrew nut A, rotate the straightener by inserting a bolt in hole B as shown by the picture.
 - Rotate the straightener towards " + " to increase the grass cutting height and towards " - " to reduce it.
- The adjustment shall be identical on both sides.
- Once the operation is over, lock the straighteners by tightening nut A that had been loosened.

CAUTION

**THIS OPERATION SHALL BE CARRIED OUT WITH MACHINE OFF
AND TRACTOR ENGINE OFF**



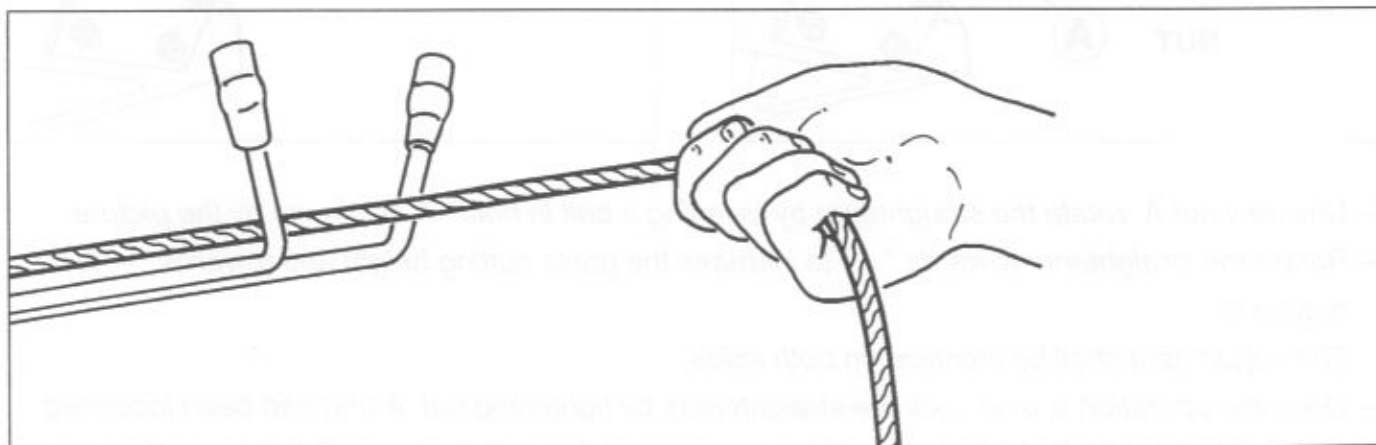
Operating cycle

- *Make sure that :*
- *The drawbar is in its max. opening position*
- *The rear door is well closed*
- *The mowing bar has been lowered*
- *The tow ring of the drawbar is inserted in the tow hook of the tractor*
- *The Cardan joint has been linked to the tractor in the right way*
- *The oil level has been checked*

Cut the grass along a set path slowly.

Tow the machine to the tractor with drawbar in its max. opening position. Along the path the machine is displaced sidewise and does not coincide with the trajectory of the tractor to avoid to smash the grass.

- *Along the path pull the cable forward to start the loading conveyor.*
Pull the cable gently and release it completely.



CAUTION

A SINGLE OPERATOR SHALL CUT THE GRASS AND DRIVE THE TRACTOR. NOBODY SHALL STOP WITHIN 15 METERS' RAY OF ACTION OF THE MACHINE

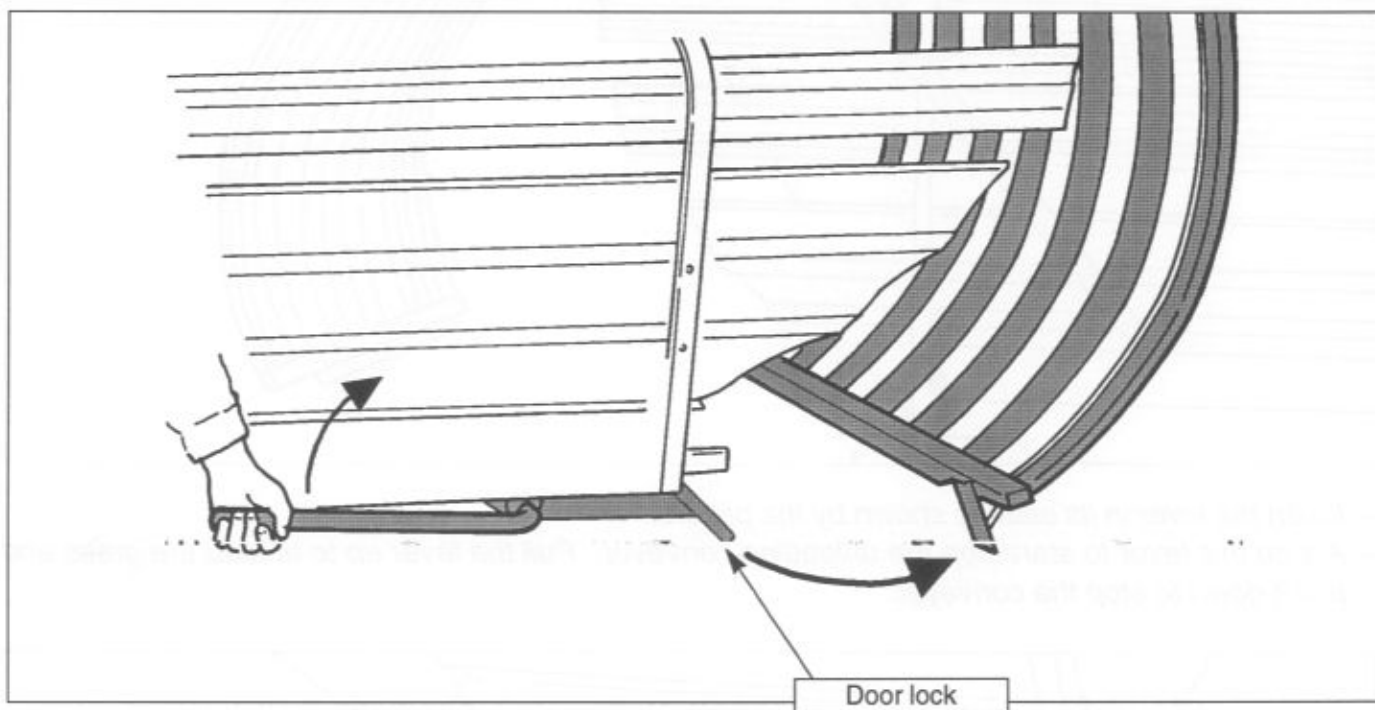
IF, FOR ANY ACCIDENTAL REASON, THE OPERATOR SHALL LEAVE THE TRACTOR ALONG THE CUTTING PATH, HE SHALL FIRST OF ALL STOP THE ENGINE AND THEREFORE THE MACHINE AND THE ROTATION OF THE MOWING BAR DRUMS IN PARTICULAR.



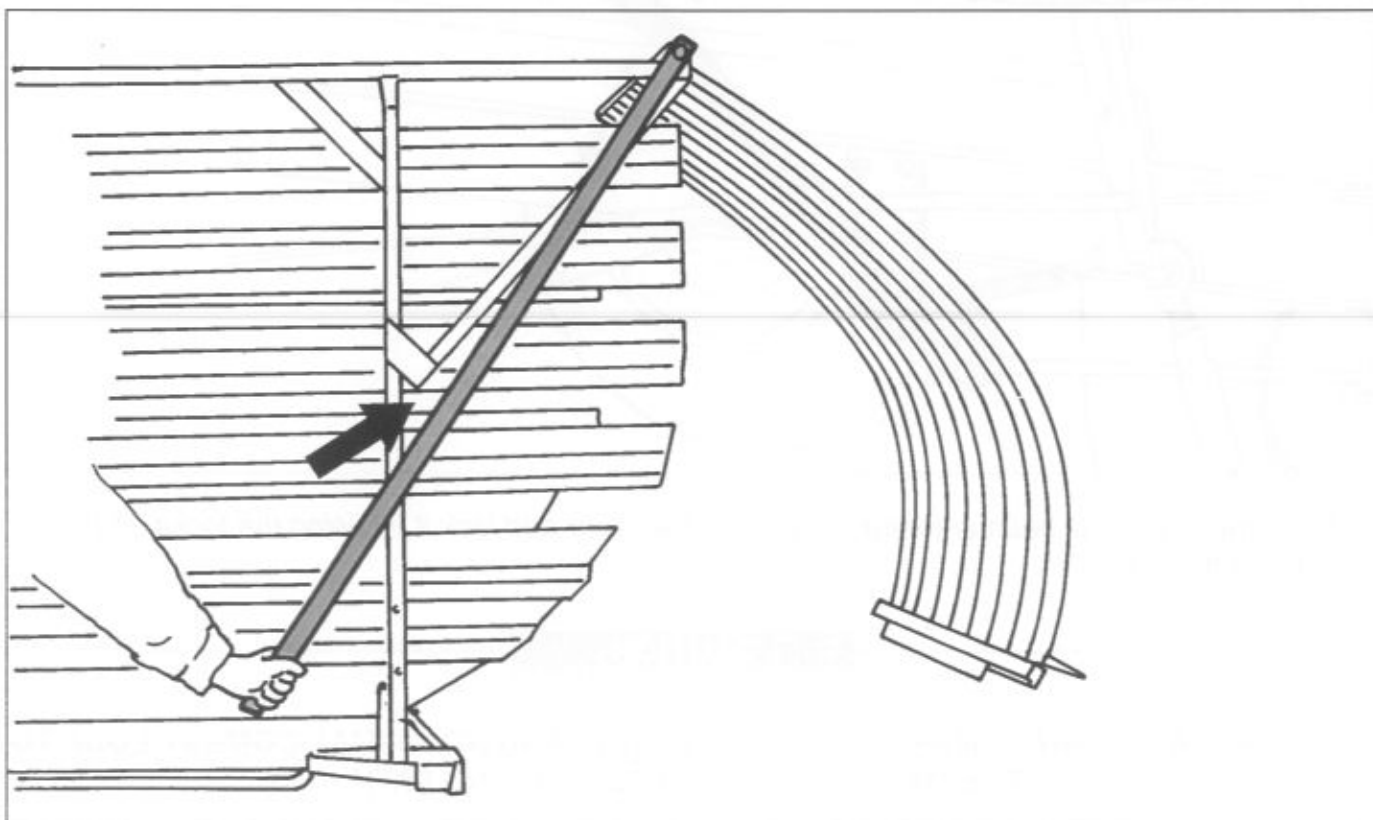
Once the first working cycle is over (usually when the bin is full) the operator shall return to the farm with machine in its transport position and unload it by opening the rear door.

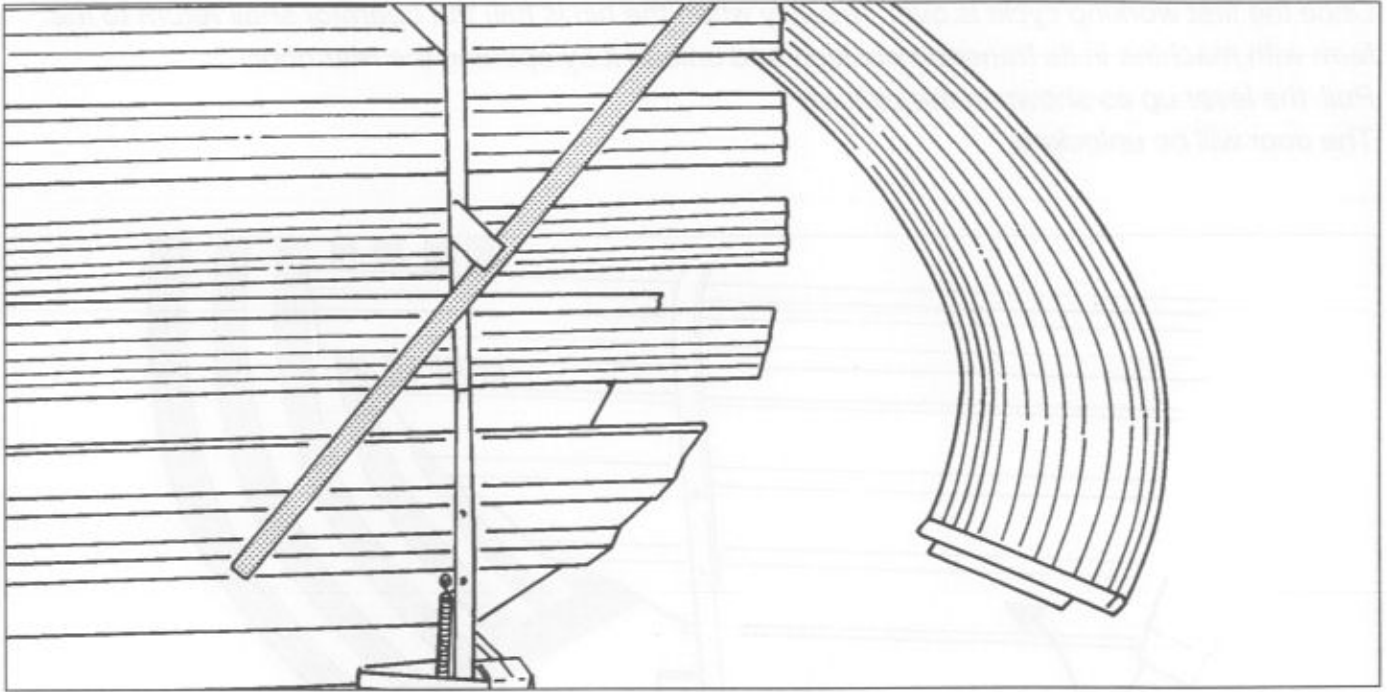
Pull the lever up as shown in the picture.

The door will be unlocked.

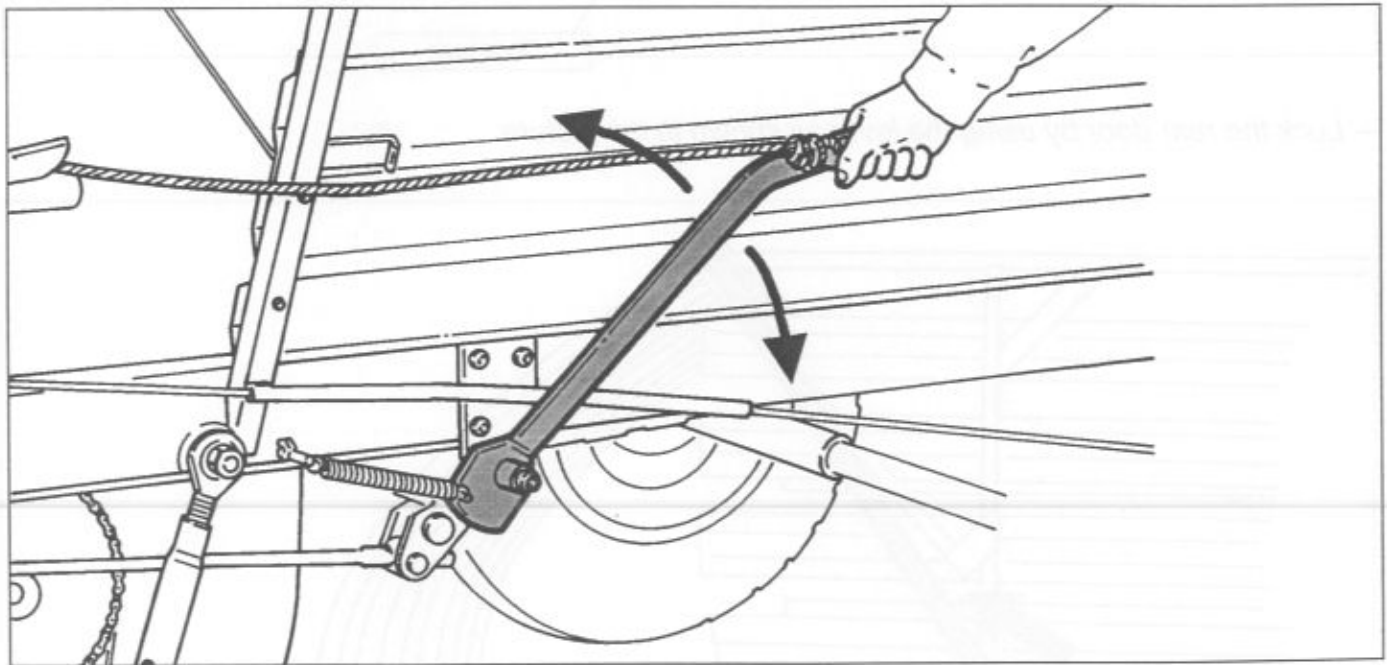


– Lock the rear door by using the lever as shown in the picture





- Insert the lever in its seat as shown by the picture.
- Act on this lever to start/stop the unloading conveyor. Pull the lever up to unload the grass and pull it down to stop the conveyor.



- Once the grass has been unloaded, close the rear door and lock it by using the locks on both sides of the bin.

CAUTION

THE OPERATOR SHALL MAKE SURE THAT NO ONE AND NO ANIMAL COMES CLOSE TO THE MACHINE ALONG THE WORKING PATH.

Maintenance

5



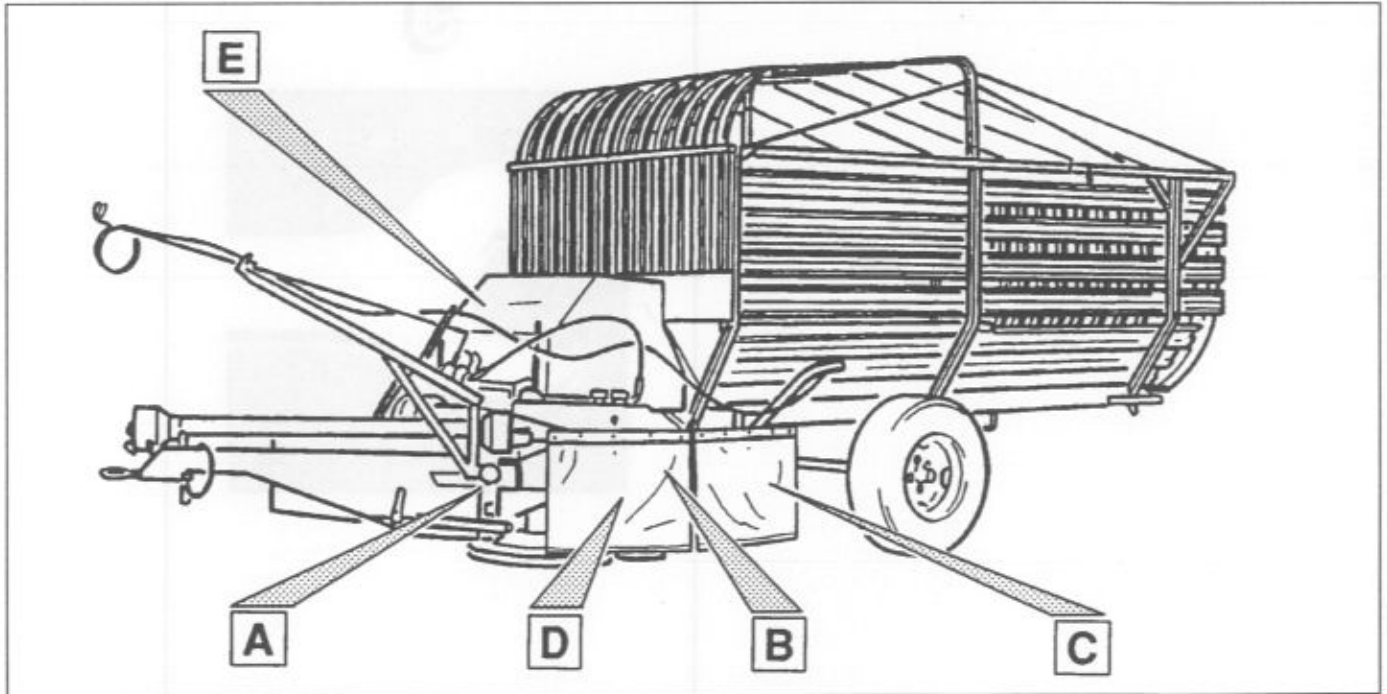
Page 30
Greasing and lubrication
points

Page 35
Adjustment of the chain
tension

Page 38
How to replace the
shredding blades

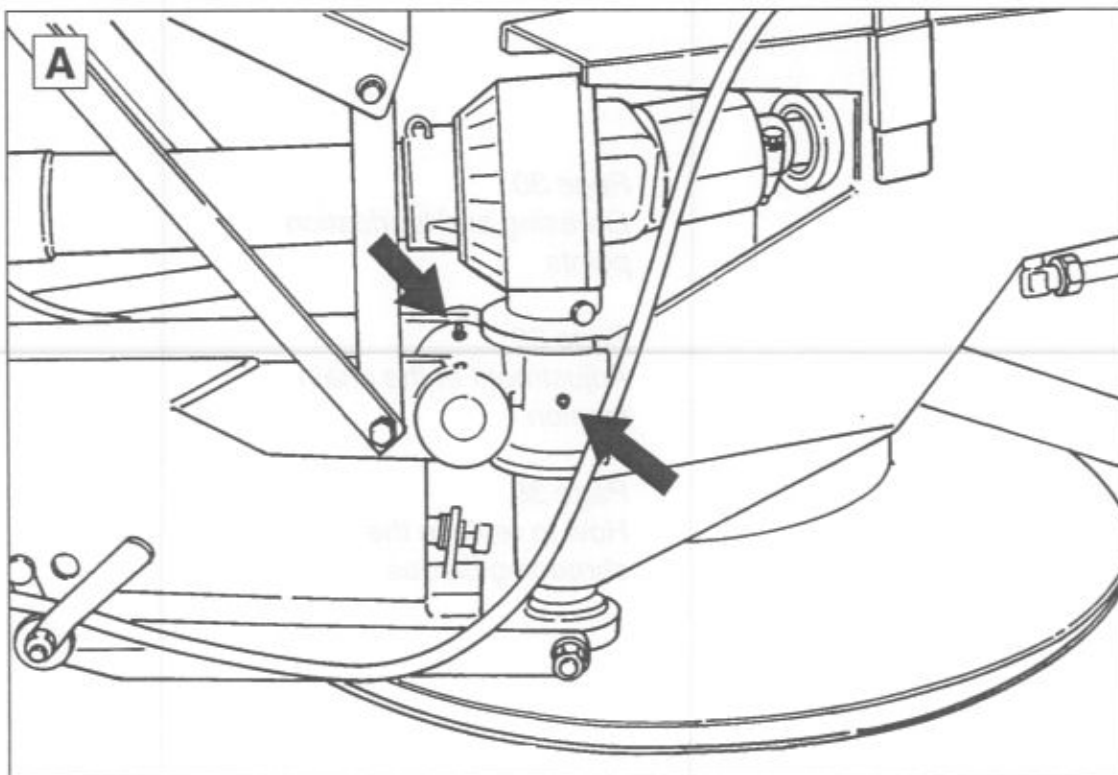


Greasing and lubrication points

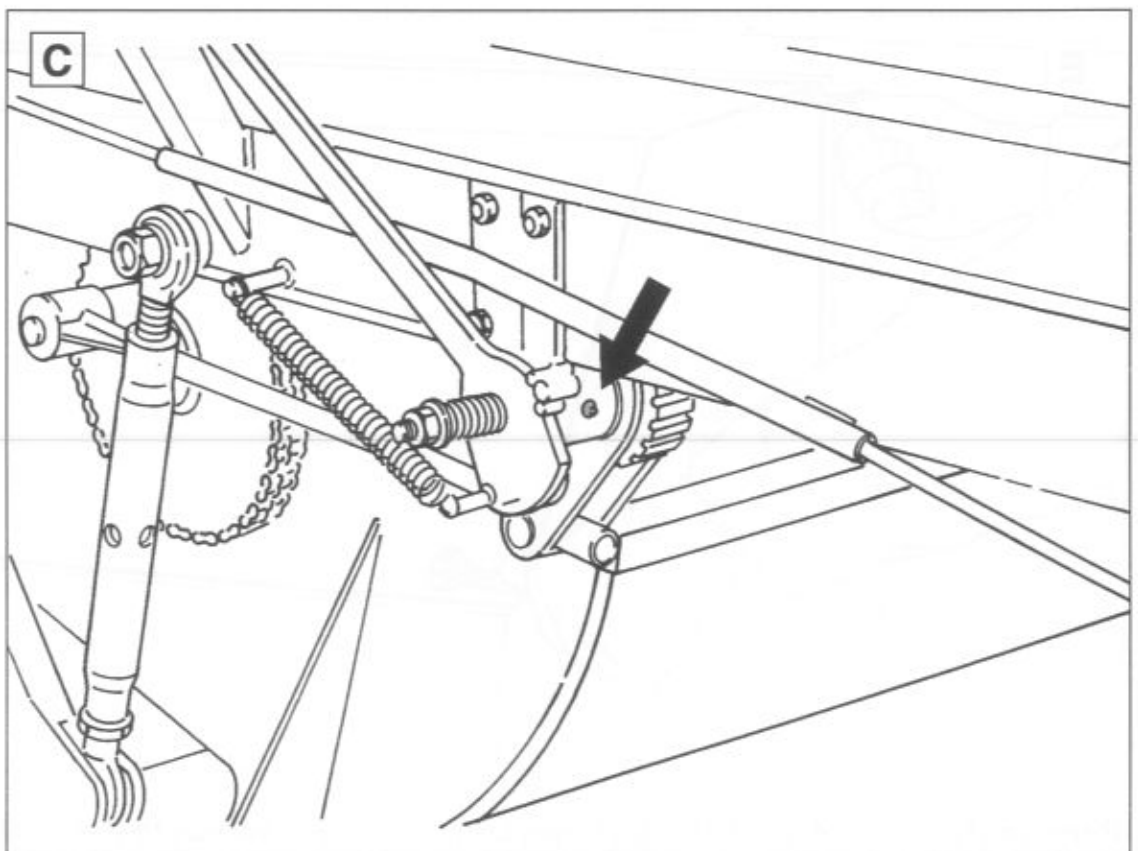
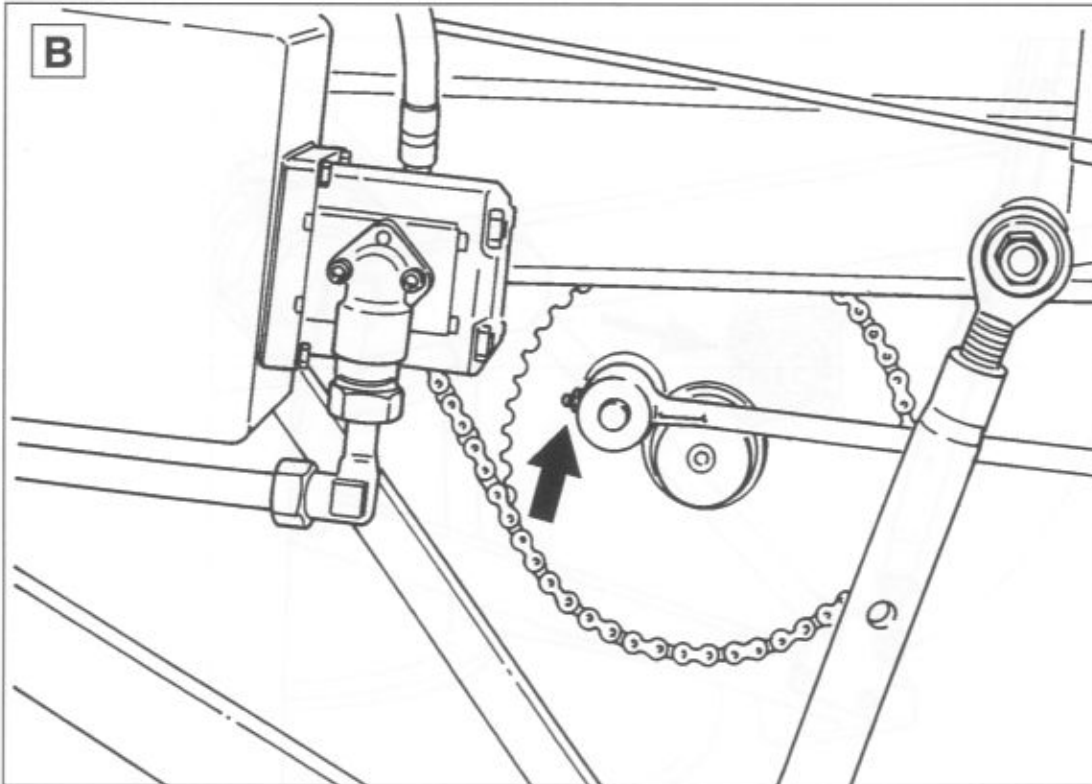


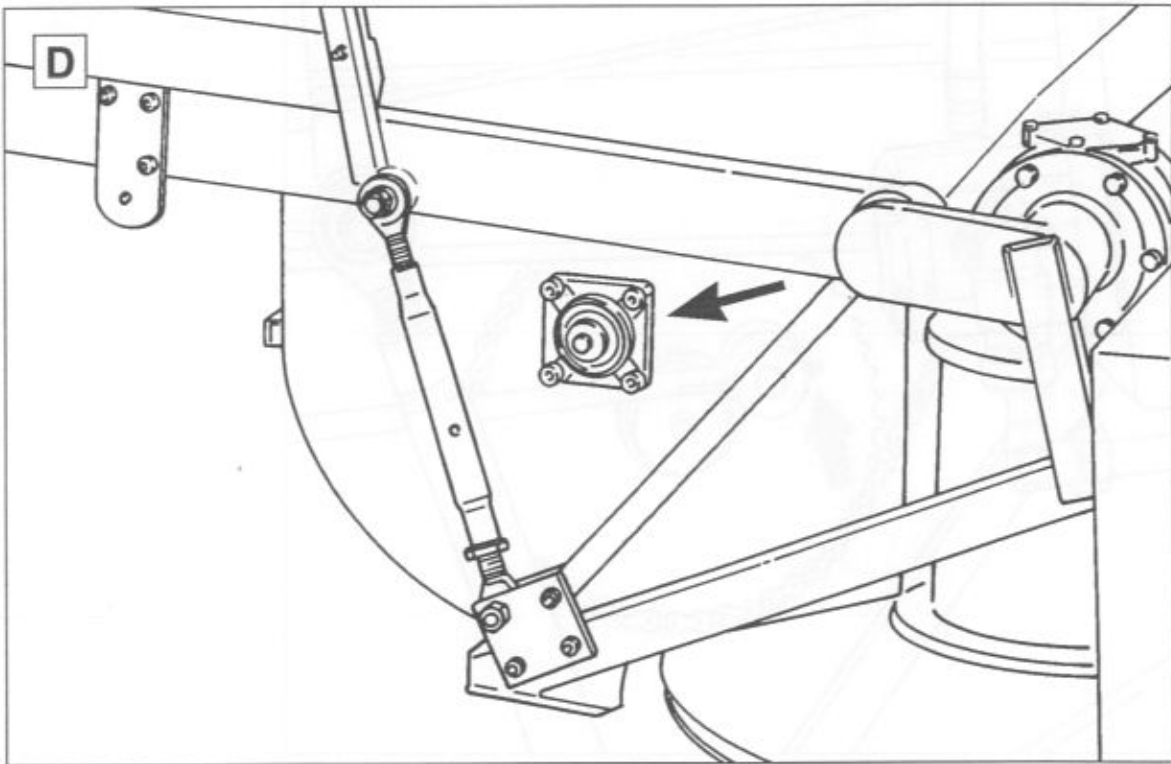
CAUTION

THESE MAINTENANCE OPERATIONS SHALL BE CARRIED OUT WHEN THE MACHINE IS OFF AND DISCONNECTED FROM TRACTOR

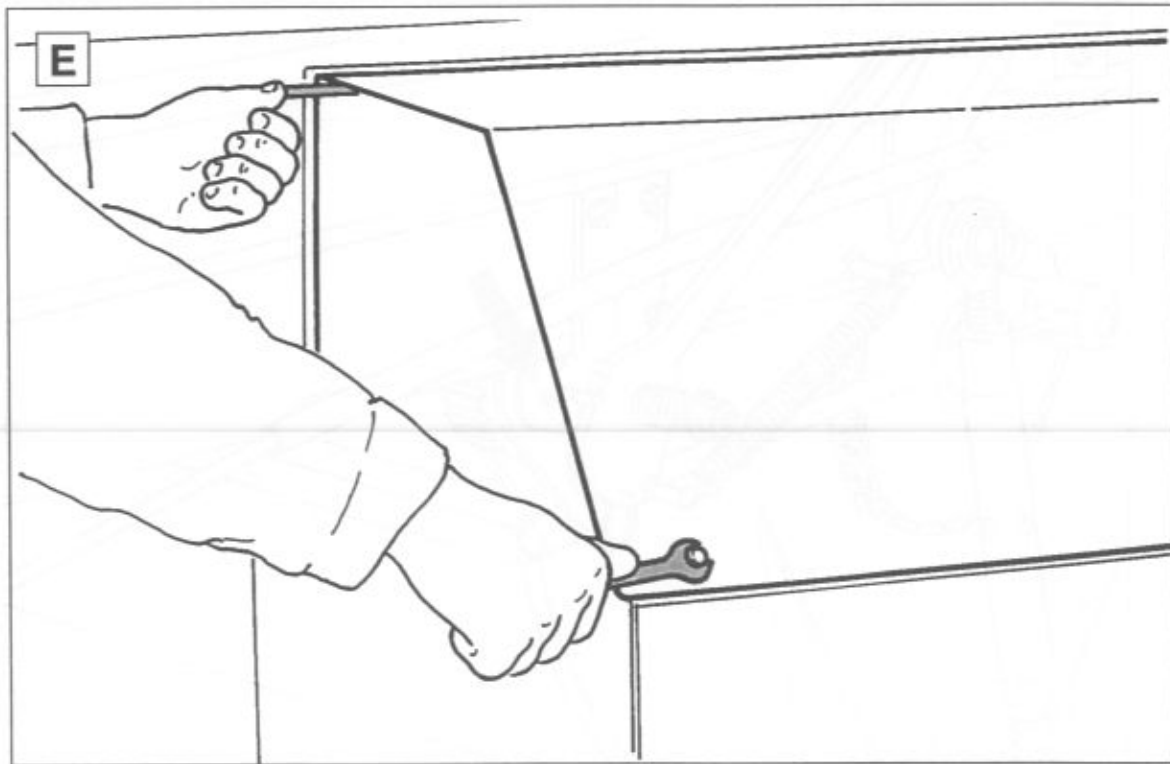


Lubrication of the drawbar rotation

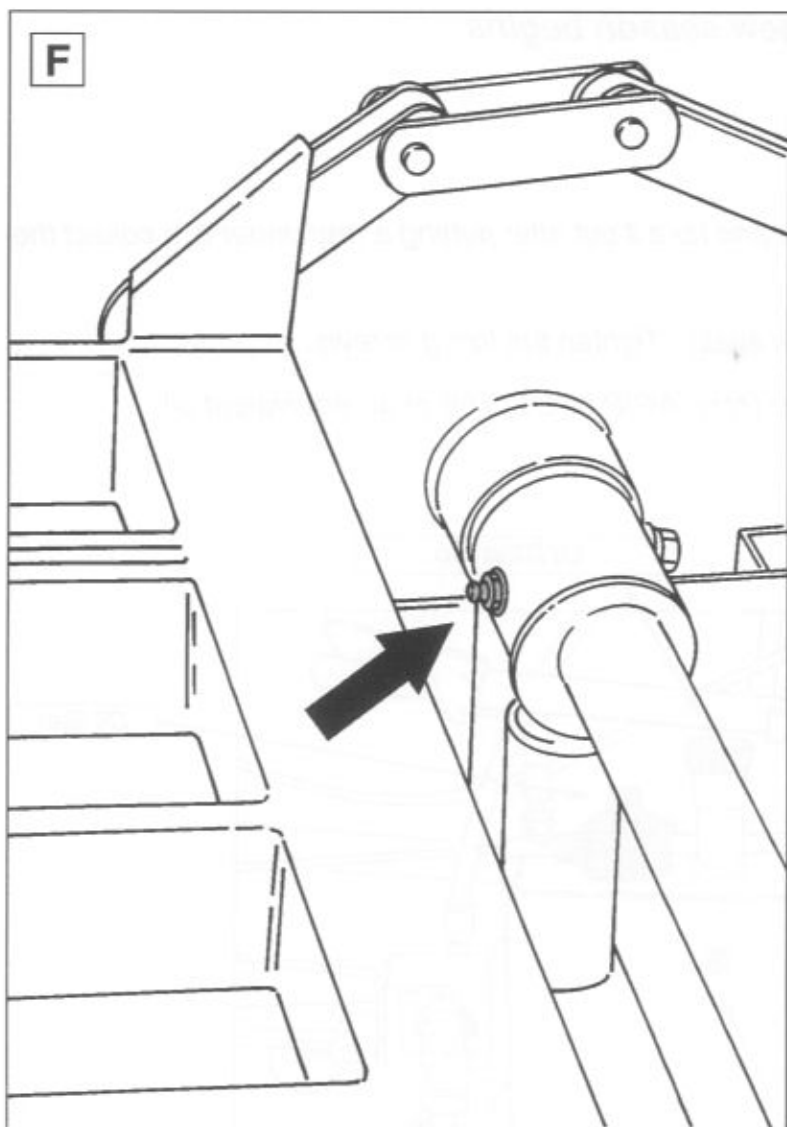




Lubrication of the self-loading conveyor shaft (on both sides).



Remove the cover of the loading conveyor first, to have access to the right and left lubricators of the inside gears.



CAUTION
ONCE THE OPERATION IS OVER
PUT THE COVER BACK ON

Right and left side lubrication

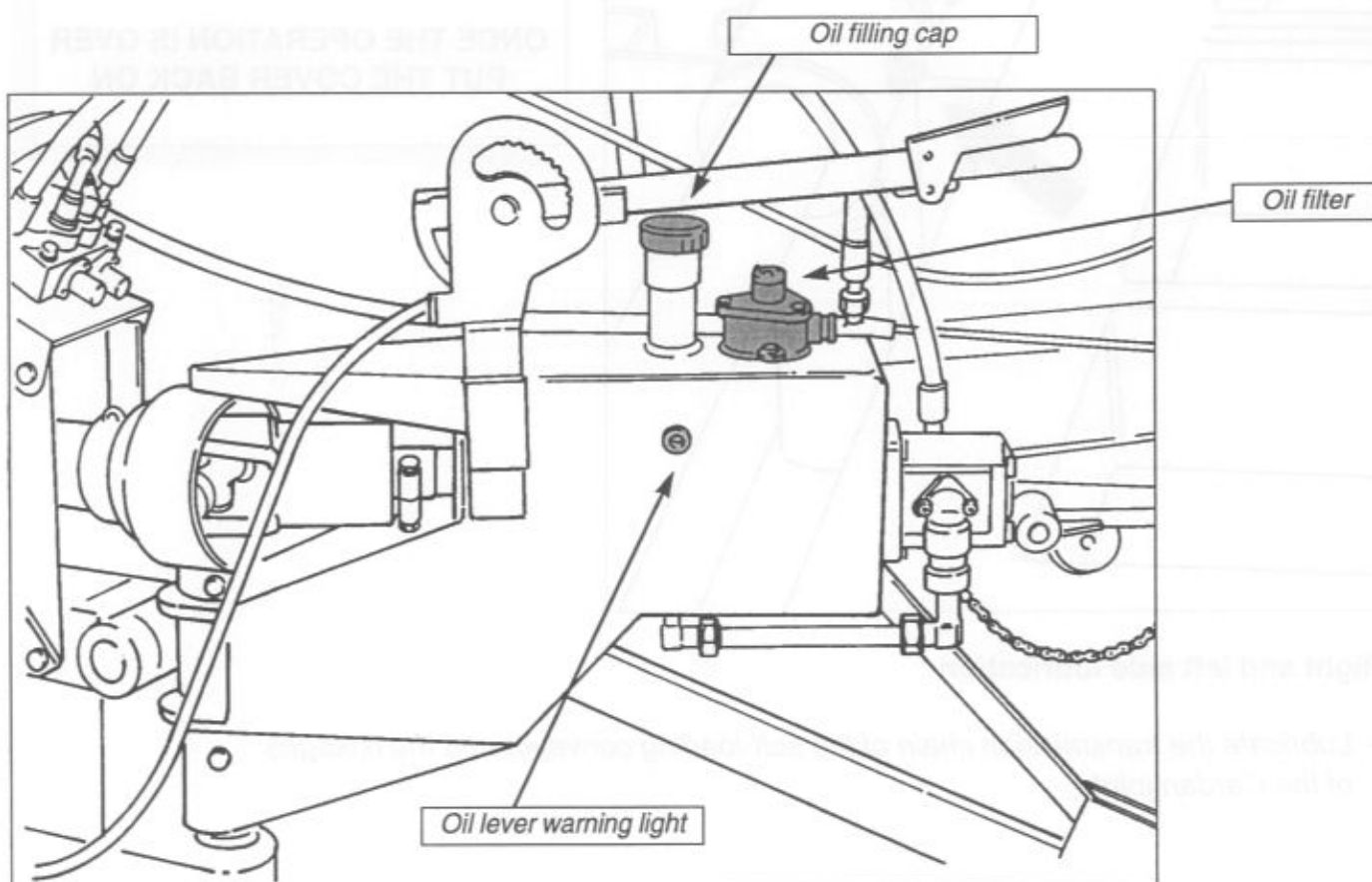
- *Lubricate the transmission chain of the self-loading conveyor and the linkages of the Cardan joints.*



When a new season begins

– Change the oil and clean the tank filter

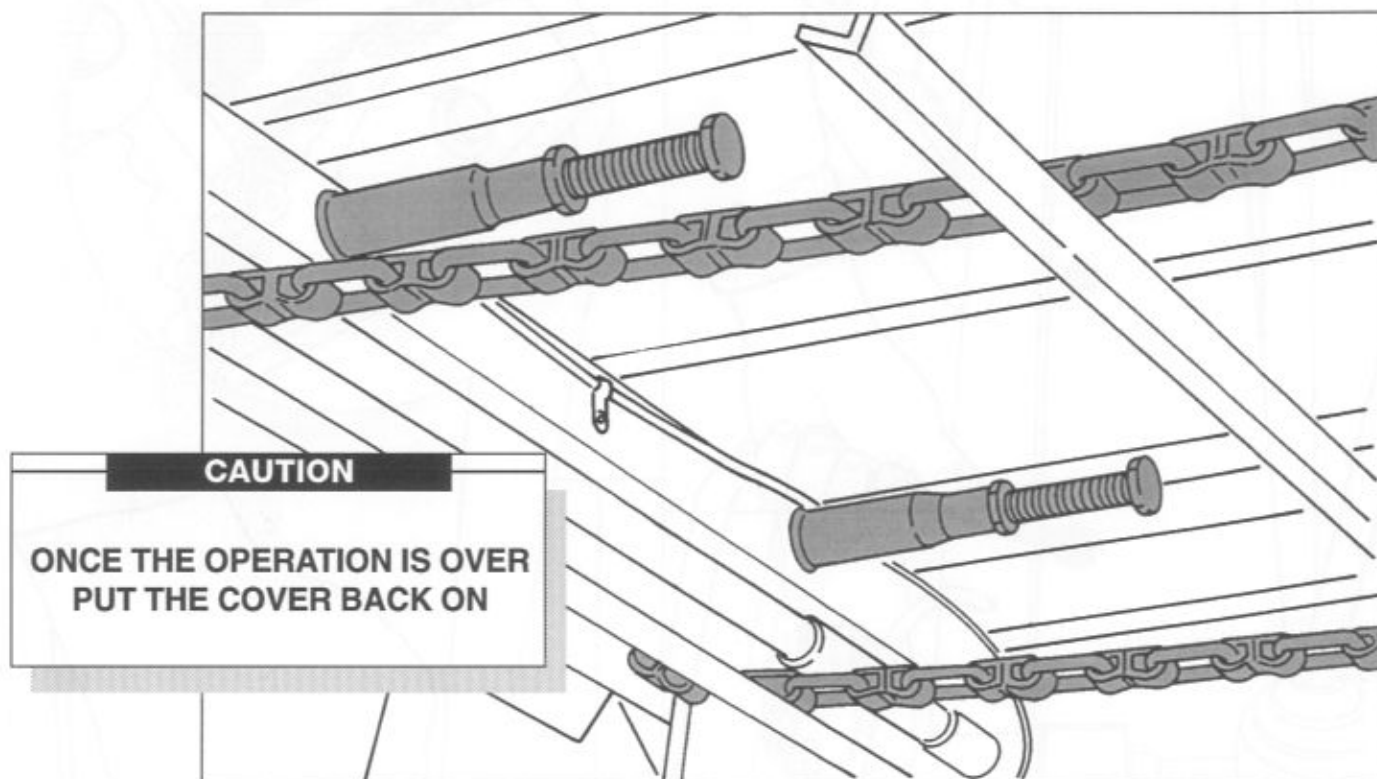
- a) Loosen the four screws fixing the oil filter and take it out after putting a tray under it to collect the exhaust oil.
- b) Clean the filter with petrol and put it back again . Tighten the fixing screws.
- c) Unscrew the cap and fill the tank with 10 liters AGIP oil OSO 68 or an equivalent oil.





Adjusting the tension of the loading and unloading conveyor chains.

- Check periodically and if necessary put the chains of the conveyor under tension by acting on the two bolts located under the bin.
After adjusting them tighten the relevant nuts to fix them in the new position.



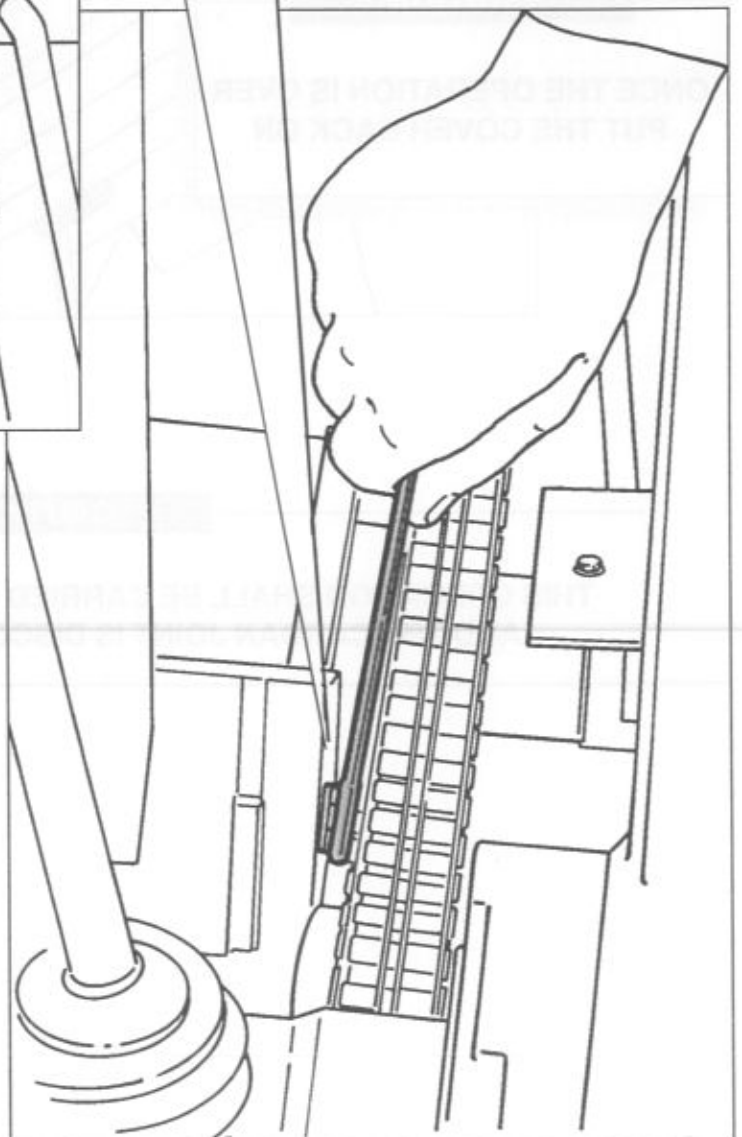
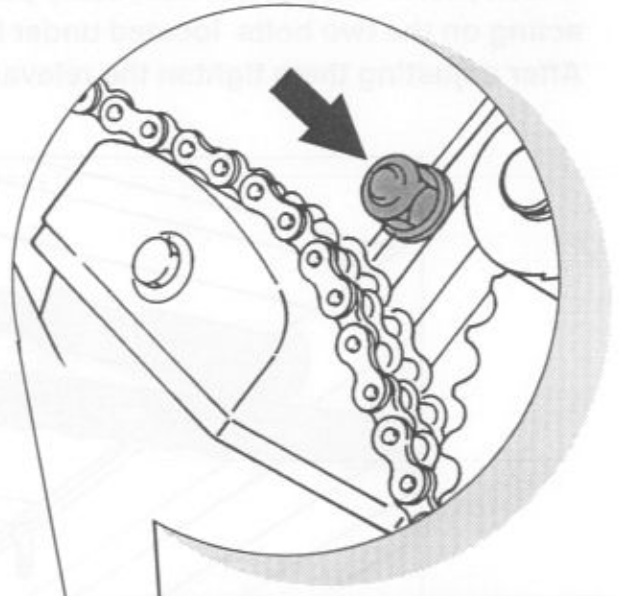
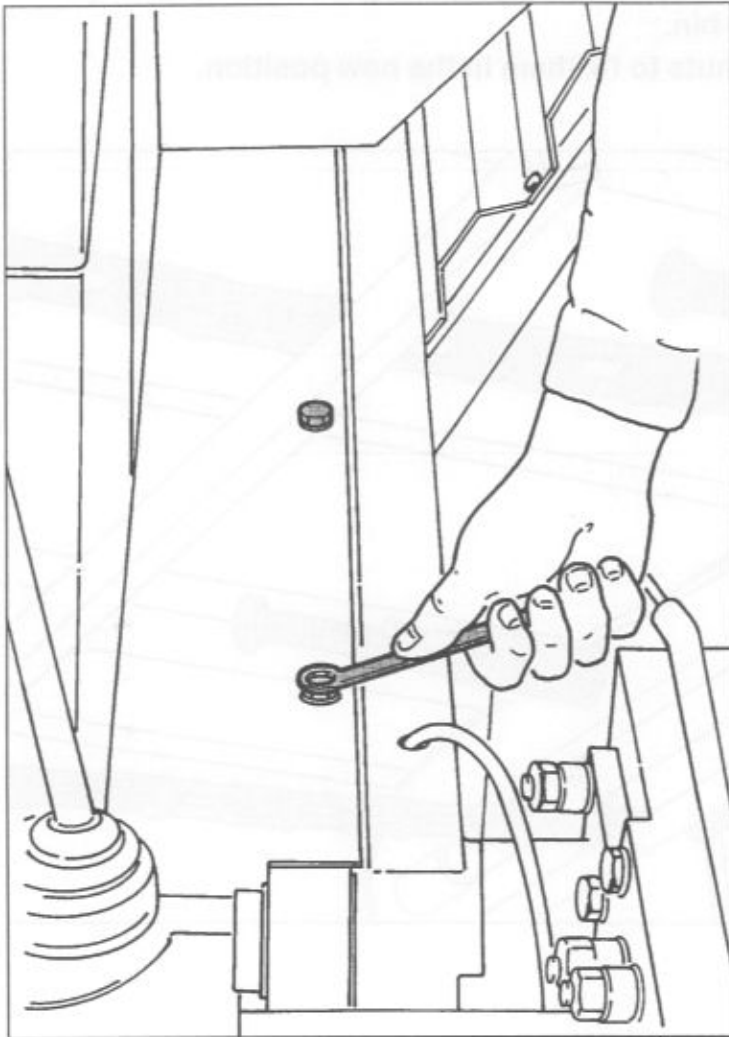
CAUTION

**THIS OPERATION SHALL BE CARRIED OUT WHEN THE MACHINE IS OFF
AND THE CARDAN JOINT IS DISCONNECTED FROM TRACTOR**

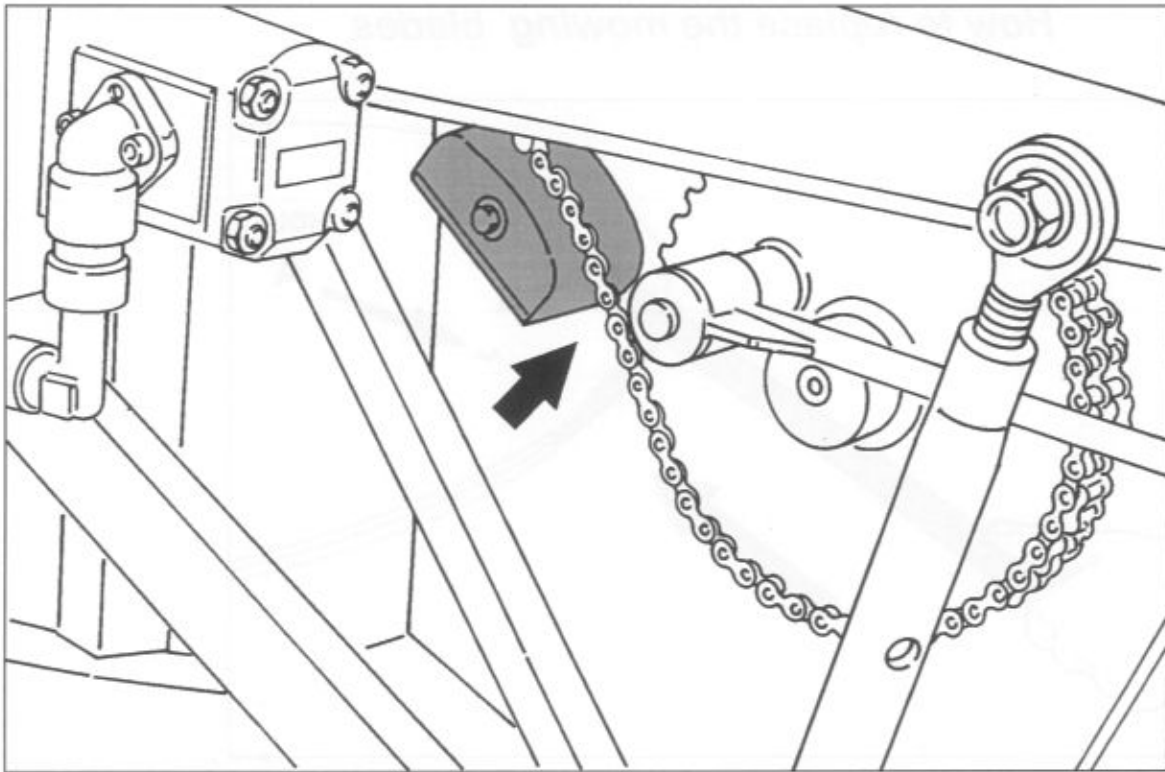


HOW TO ADJUST THE CHAIN TENSION

- Loosen the two screws and remove the top cover.



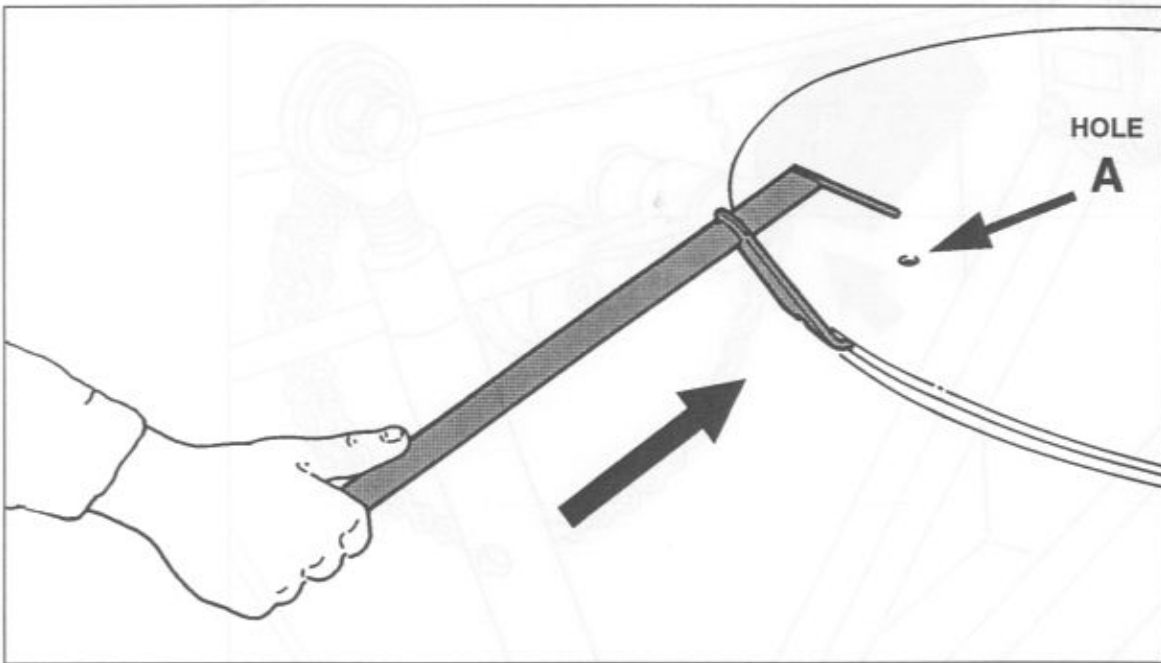
Loosen nut A



- **Lift the straightener and tighten the nut**
Check for any wear and if necessary replace the straightener

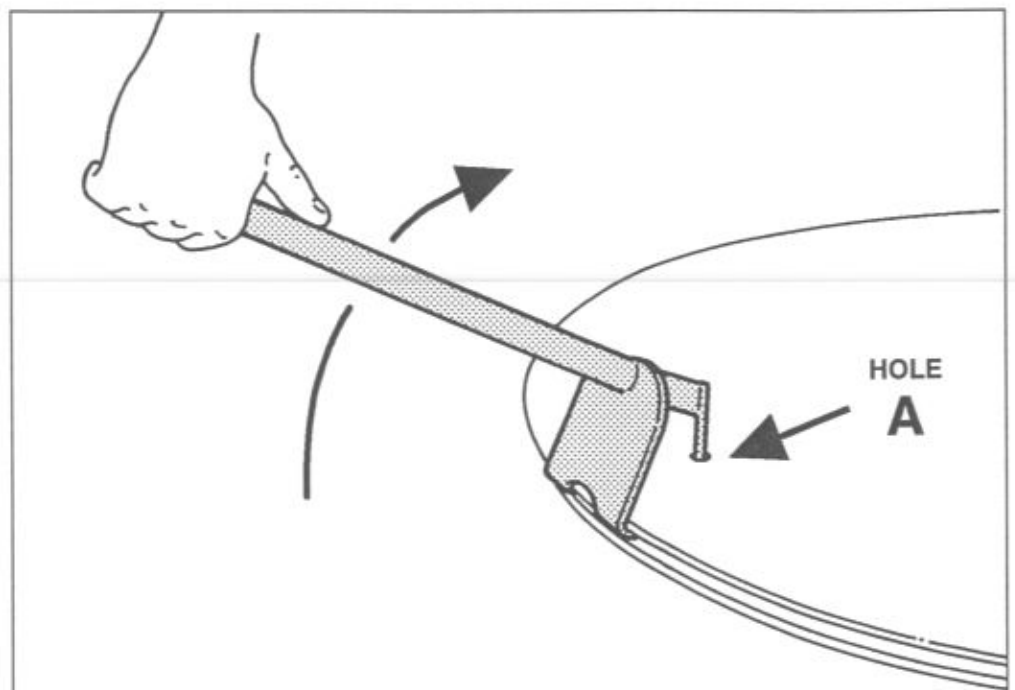


How to replace the mowing blades



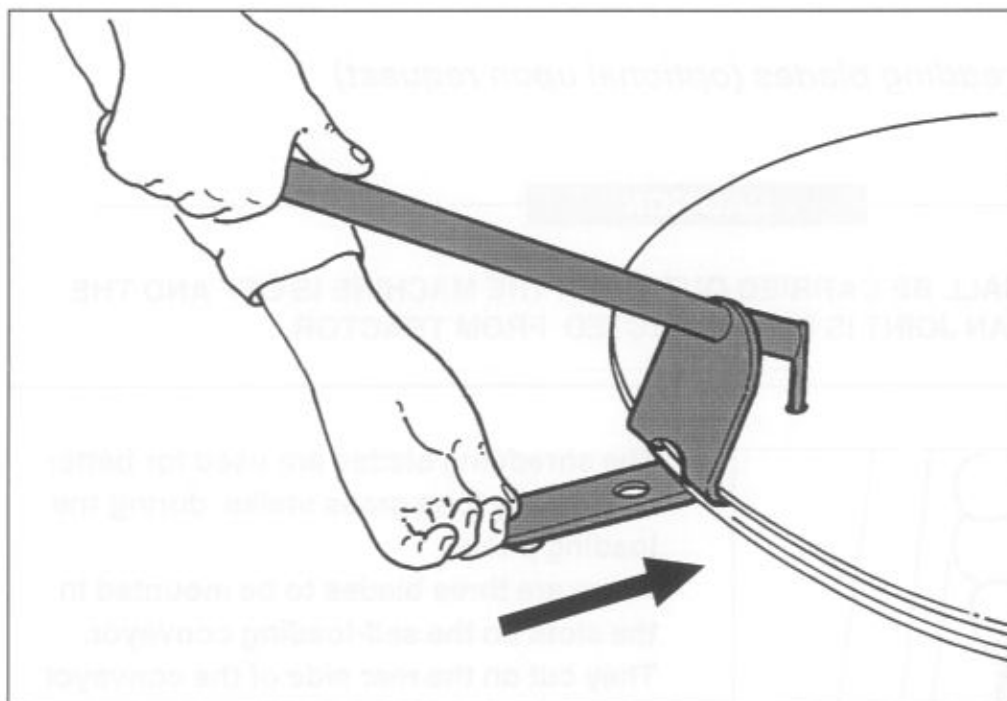
OPERATION 1

- Replace the grass mowing blades as follows:
The machine has 8 blades:
4 on each rotary drum.
- Insert the lever supplied with the machine between the disks with hole A.



OPERATION 2

- Pull the lever up so that the bolt can fit in hole A.



OPERATION 3

Insert the blade as shown by the picture, lower and take out the lever.

CAUTION

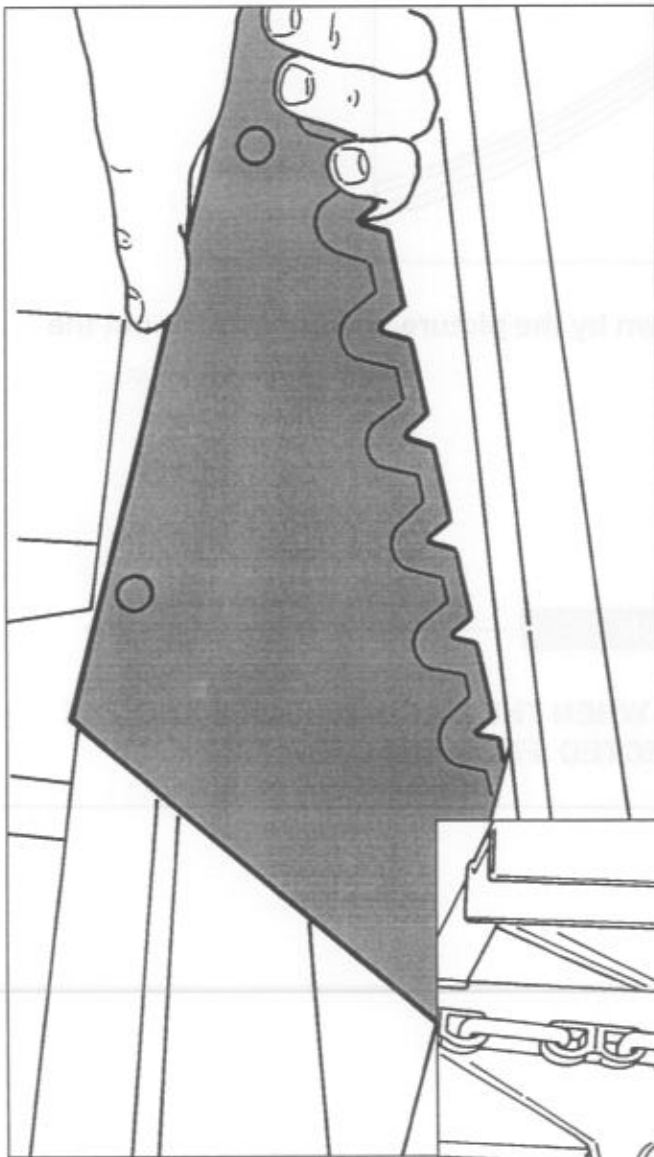
**THIS OPERATION SHALL BE CARRIED OUT WHEN THE MACHINE IS OFF AND THE
CARDAN JOINT IS DISCONNECTED FROM TRACTOR**



How to mount the shredding blades (optional upon request)

CAUTION

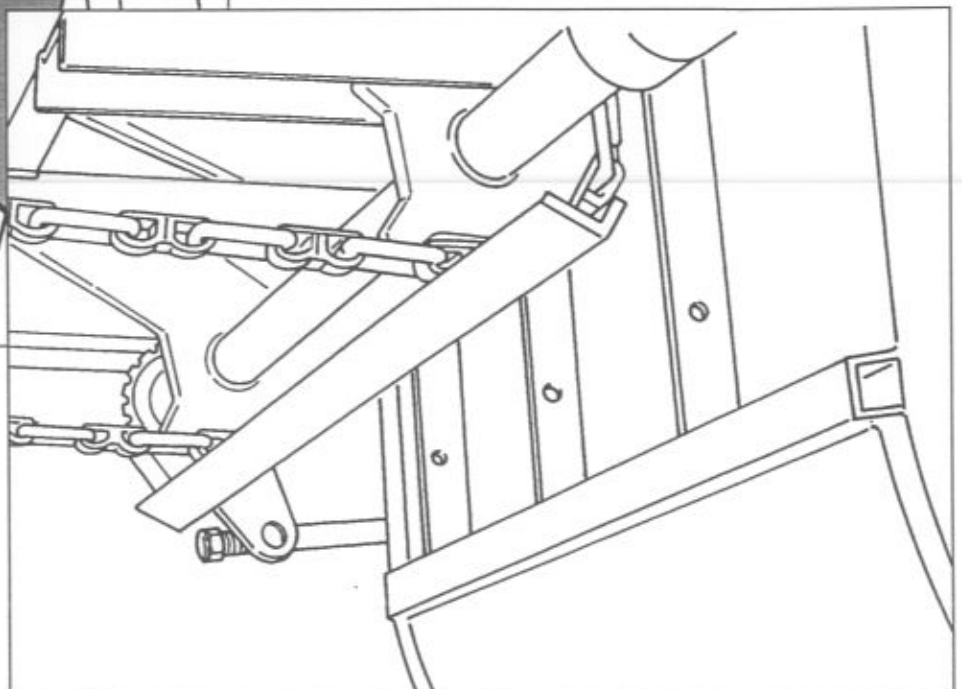
THIS OPERATION SHALL BE CARRIED OUT WHEN THE MACHINE IS OFF AND THE CARDAN JOINT IS DISCONNECTED FROM TRACTOR

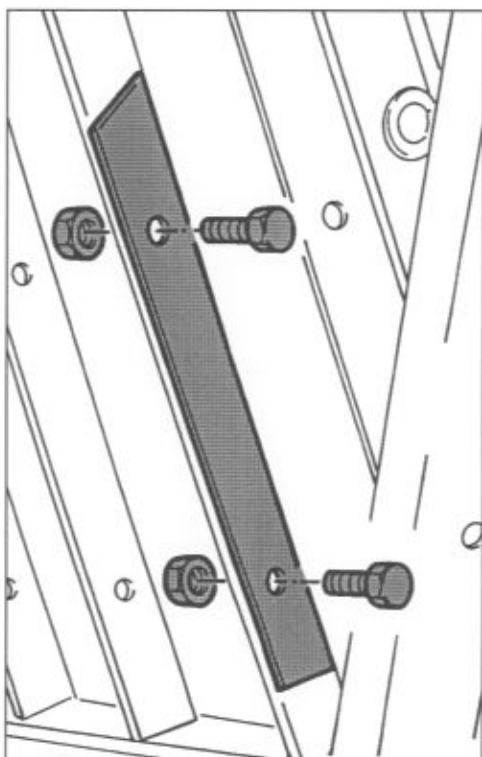


Insert the blades in the slots on the rear side of the self-loading conveyor with the toothed part towards the inside of the conveyor.

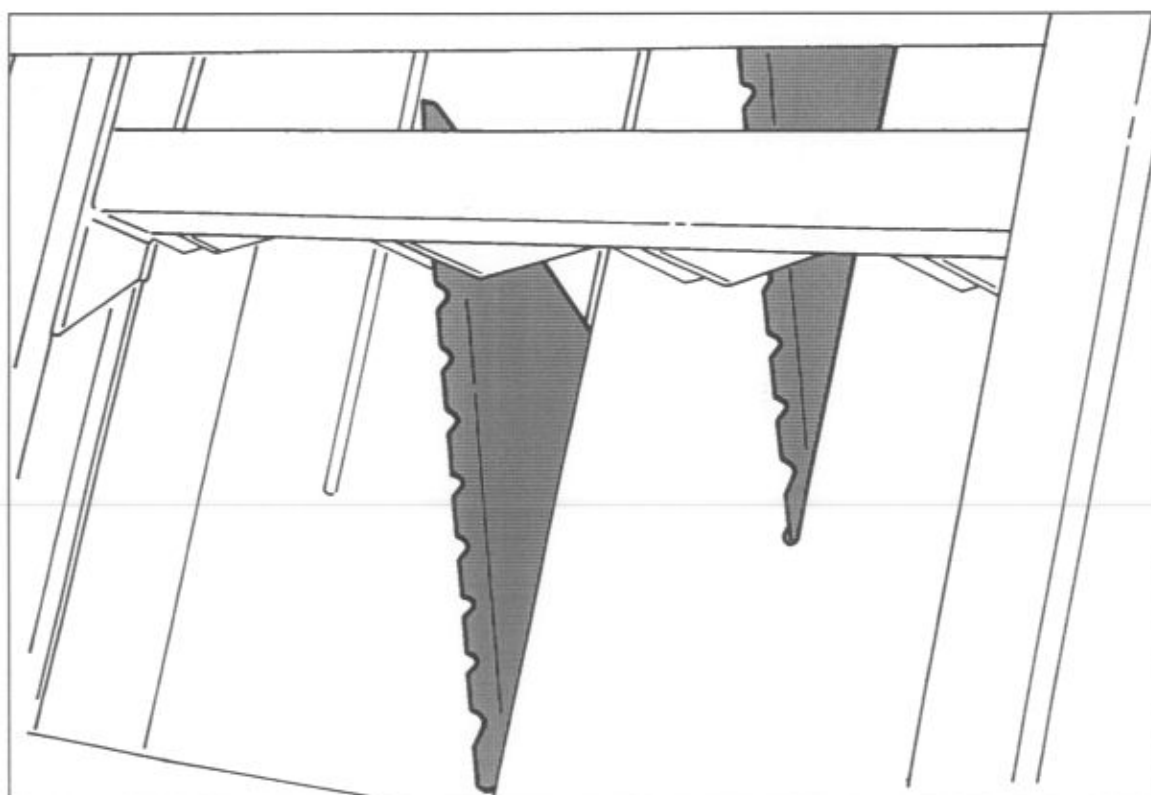
The shredding blades are used for better cutting any long grass stalks during the loading phase.

There are three blades to be mounted in the slots on the self-loading conveyor. They cut on the rear side of the conveyor as described below.





Tighten the shredding blade screws and nuts.



After mounting, the shredding blades will protrude inside the self-loading conveyor and will cut the grass short during the loading phase.

Dealer: