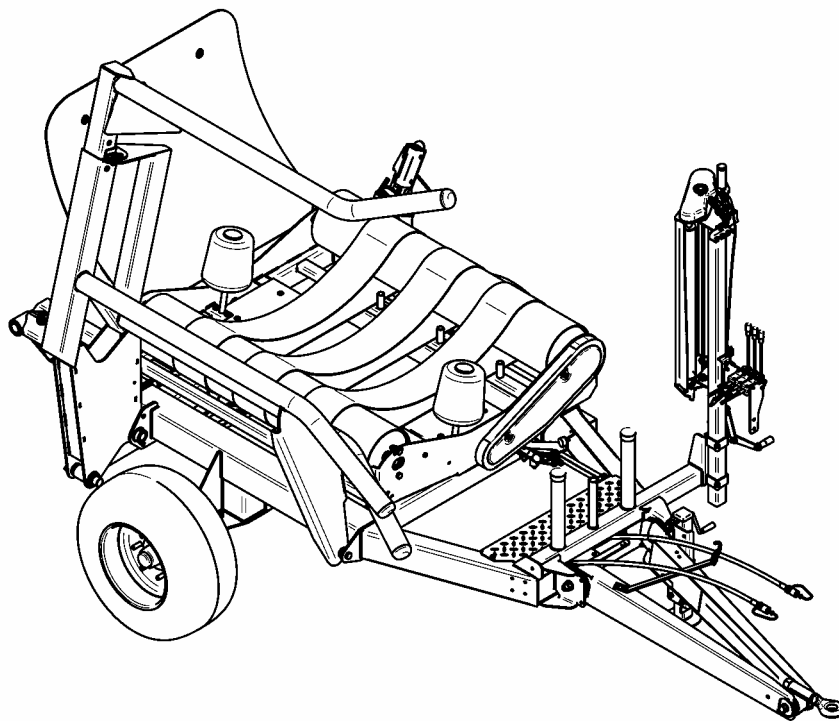




Use & Maintenance manual



Wrapper

5100 S



*Before starting to
use the machine
read the
instructions*

CE

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Details indicated on the machine identification plate:

Machine model

Serial number

Year of manufacture

Machine weight

MASCAR authorised service centre to be contacted for technical assistance

SECTION 1

Description and main features

1.1 INTRODUCTION

This manual gives information, instructions and all other data deemed necessary for the user to gain familiarity with the «5100» Cylindrical Bale Wrapping Machine, its proper operation and routine maintenance. The «5100» Cylindrical Bale Wrapping Machine, hereinafter also referred to as the machine, is manufactured by MASCAR of Grumolo delle Abbadesse (Vicenza) Italy, hereinafter simply referred to as the Manufacturer.

This manual is not a detailed description of the various components and their operation. However, the user will find everything he/she will normally need to know in order to safely operate the machine and to properly look after it.

The regular operation, the lasting efficiency and the economical running of the machine depend on the observance and application of the procedures described herein as well as on a careful and thorough maintenance.

Failure to comply with the instructions given herein, negligent operation, incorrect use of the machine and the performance of unauthorized modifications may result in the loss of any rights under the warranty provided by the Manufacturer.



WARNING

Consequently, the Manufacturer will not be liable for any damages arising from negligence and the non-observance of the instructions herein described.

Should you need any repairs or an overhaul entailing particularly complex operations, please contact either the authorized Service Centres, which have their own technicians, or directly the Manufacturer. The Manufacturer is always at your disposal to ensure a prompt and precise technical service and give any other information required in order to obtain the best performance from the machine.



DANGER

This manual is an integral part of the machine and must be kept with it at all times, even when it is moved to a new location or sold. It must be kept in a safe place known to the authorized personnel. It is said personnel's task to make sure that it is kept safe and intact for future consultation for the entire duration of the machine's service life.

Should it be damaged or lost, please, immediately apply to the Manufacturer for a new copy.

1.1.1 INTENDED USERS OF THE MANUAL

This manual is the fundamental instrument for the authorized personnel dealing with the machine, i.e.

- Personnel in charge of the transport and moving of the machine;
- Personnel in charge of operating the machine;
- Maintenance personnel;
- Personnel in charge of scrapping.

1.2 WARRANTY

The Manufacturer's brand new products are warranted for a period of 12 (twelve) months from the date of purchase. On receiving the machine, please check it to make sure that it is intact and that all parts are accounted for.

Any complaints must be made in writing within 8 (eight) days from receipt of the machine. The user's sole remedy under the warranty shall consist of the repair or replacement free of charge of any parts proving to be defective subsequent to a thorough examination by the Manufacturer's engineering department (and does not include electrical parts or any implements).

Under no circumstances shall the repair or the replacement of parts covered by the warranty extend the warranty period.

However, the purchaser may still have his/her rights recognized, as far as warranty service, described in the supply contract as well, are concerned.

1.2.1 EXCLUSIONS FROM WARRANTY

The warranty becomes void (in addition to those situations described in the supply contract):

- In the event of an incorrect manoeuvre due to the operator.
- In the event that the damage can be attributed to poor maintenance. In the event that the machine is altered, due to repairs carried out by the user without the Manufacturer's permission or subsequent to the fitting of non-original spare parts, and the damage is the result of said alterations.
- In the event that the instructions given in this manual have not been followed.

Neither shall the warranty cover any damages resulting from negligence, carelessness, bad operation or improper use of the machine.



WARNING

The removal of the machine safety devices shall automatically cause the warranty to become void and the Manufacturer will not be liable for it.

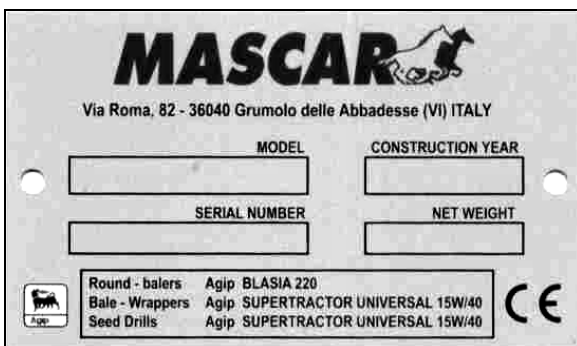
In addition, the warranty shall become void in the event that non-original spare parts are used.

The machine, or parts of it, must be returned carriage free, even when under warranty.

1.3 MARKINGS

Each machine features an identification plate (21 Fig. 1) with the following data:

- **CE marking;**
- **Name and address of the Manufacturer;**
- **Machine model;**
- **Serial number;**
- **Year of construction;**
- **Weight in kg.**



The data featured on the machine's identification plate must be written on page 1 of this manual and must be quoted whenever spare parts are ordered and/or servicing is requested.

This machine comes complete with the following standard-issue documents:

- Machine's user and maintenance manual;
- CE declaration of conformity.

1.4 MACHINE DESCRIPTION AND USE

MASCAR «5100» Cylindrical Bale Wrapping Machine bears the «CE» mark and complies with EC directive 98/37/CE, as stated in the certificate of compliance supplied with each machine.

The «5100» model is towed by a tractor and is essentially made up of a load bearing chassis, onto which a tip-up subframe is mounted. The subframe is fitted with a rotating cradle with two parallel rollers. The rollers have been enveloped by belts, on which have been placed the bales. The machine can wrap cylindrical bales with a width of 120 cm and a diameter, that ranges from 120 to 160 cm in size with a plastic film that is applied by a support and prestretching mechanism.

The bale loading device in the rotating cradle, called "fork", is overhanging and connected to the chassis. Before to load the bale you have to centre the cradle, rotating it in the opposite direction of rotation through a mechanical block system.

The bale loading phase through the fork are operated by an hydraulic system. The rotating cradle has set in action by an hydraulic system, too.

The tip-up subframe fixed between the load bearing chassis and the rotating cradle allows to unload the bale after wrapping. This phase has operated by an hydraulic system, too.

Before to carry out this last operation, as for the loading phase, you have to align the cradle rotating it in the opposite direction of rotation through a mechanical block system.

The plastic film support and pretensioning mechanism is fastened to the chassis. This mechanism houses the support foot necessary to put the machine in the parking position.

The bale loading phase has carried out preparing the machine with lowered fork and aligned cradle (page 25, fig. 23). Then you have to move forward with the tractor till to house completely the bale in the fork, to lift the fork till its roll on the cradle. Now you have to lower completely the fork and to proceed with the wrapping.

**WARNING**

NOTE: Only if the fork is down it is possible to begin the rotation of the cradle for the wrapping phase.

An “optional” device shows that the film rolling up phase is over. Without this device, the operator must visually count the number of wrappings (cradle revolutions) wanted; afterwards, the cradle centring phase is performed and the bale unloaded.

The bale wrapper is intended to be used exclusively to wrap cylindrical bales in the agricultural sector.

A single operator can control all machine bale wrapping functions from the tractor driving seat.

1.5 USE FOR WHICH THE MACHINE IS NOT DESIGNED

**DANGER**

The operator must use the machine in conformity with the instructions herein, bearing in mind the standards in force regarding accident prevention, conditions of use and technical features of the actual machine.

THE MANUFACTURER WILL NOT BE LIABLE FOR ANY INJURIES TO PERSONS OR ANIMALS OR FOR ANY DAMAGES TO PROPERTY ARISING FROM ANY USE NOT PROVIDED FOR IN THIS MANUAL OR DIFFERENT FROM THAT FOR WHICH THE MACHINE HAS BEEN DESIGNED.

1.6 SOUND LEVEL

The sound level (airborne noise) has been measured with the machine running unloaded and it is lower than 70 dB.

The principal source of noise during the work with the machine derives from the stretching film and is extremely variable as regards the kind of film, the stretching level and the ambient temperature.

This noise can exceed the 85dB and it's important to consider its incidence on the work of the operator to have the possibility to determine, what sort of individuals protective devices he has to adopt.

**WARNING**

The values measured reveal that the machine has a high noise level. When operating the machine, the operator must use ear protection, such as appropriate safety earmuffs or ear plugs, to prevent damage to hearing (including long-term effects).

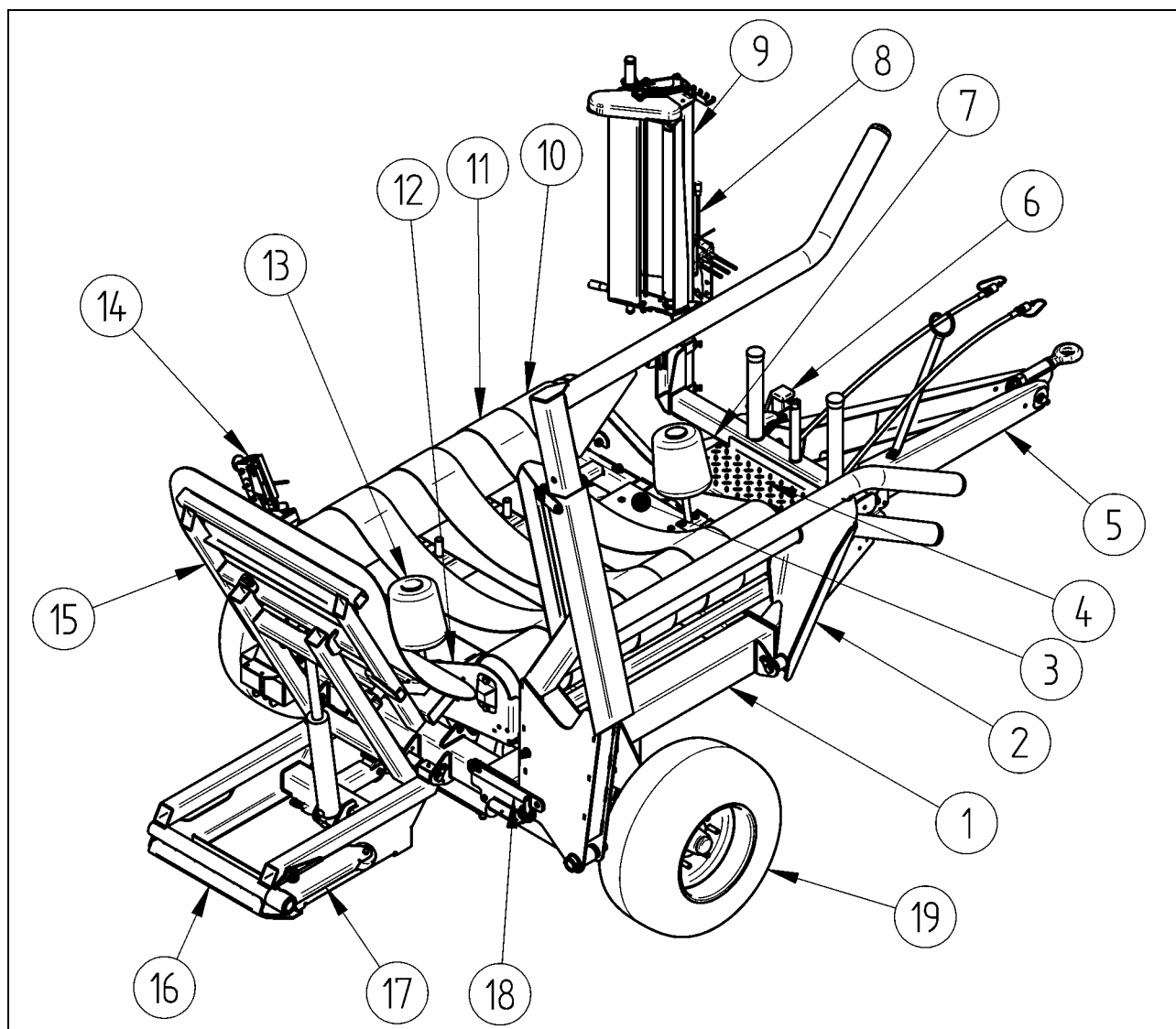


fig.1 – View of the machine with its main component assemblies

- | | |
|--------------------------------|------------------------------------|
| 1) LOAD BEARING CHASSIS | 12) ROTATING CRADLE |
| 2) ADJUSTABLE BALE LOADER FORK | 13) SIDE ROLLERS |
| 3) CLAMP RELOADING UNIT | 14) FILM HOLDING AND CUTTING CLUMP |
| 4) HYDRAULIC DISTRIBUTOR | 15) MAT HOLDER |
| 5) DRAWBAR WITH TOW HOOK | 16) PLATFORM FOOT |
| 6) SUPPORT FOOT | 17) PLATFORM RAFTER |
| 7) IDENTIFICATION PLATE | 18) FORK SAFETY BRACKET |
| 8) CONTROL LEVER UNIT | 19) TYRES |
| 9) PRE STRETCHING UNIT (PSU) | |
| 10) ROLLERS | |
| 11) BELTS FOR BALE ROLLERS | |

1.7 TECHNICAL DATA

MODEL	5100
BALE OUTPUT PER HOUR MAX.	30
MAX SPEED CRADLE ROTATION	30 tours/min
CONTROL NUMBER	3
ELECTRICAL FEEDING	12 V
REEL SUPPORT	2 Standard + 2 Optional

DIMENSIONS AND WEIGHTS:

Length	4.81 m
Width	2.42 m
Carriageway	2.09 m
Max height	2.88 m
Rollers height	1.25 m
Gewicht	1680 kg

TYRES:

Dimensions:	13-55/16
Diameter:	774 mm
Width:	325 mm

LOADING CAPACITY (130 BAR)

Max bale weight:	1300 kg
Bale diameter:	da 1.2 a 1.6 m

Bale width: 1.2 m

HYDRAULIC (OPEN OR CLOSED CENTRE)

Connection:	1 S.E. + free return
Oil capacity:	20 l/min
Minimum pressure:	130 bar
Power absorption:	22 kW

FILM

Reel height:	500-750 mm
Thickness:	0.025-0.035 mm
Stretching:	52% - 61% - 70%
Film layers:	2+2 o 2+2+2
Cutting:	Automatic
Release:	Automatic

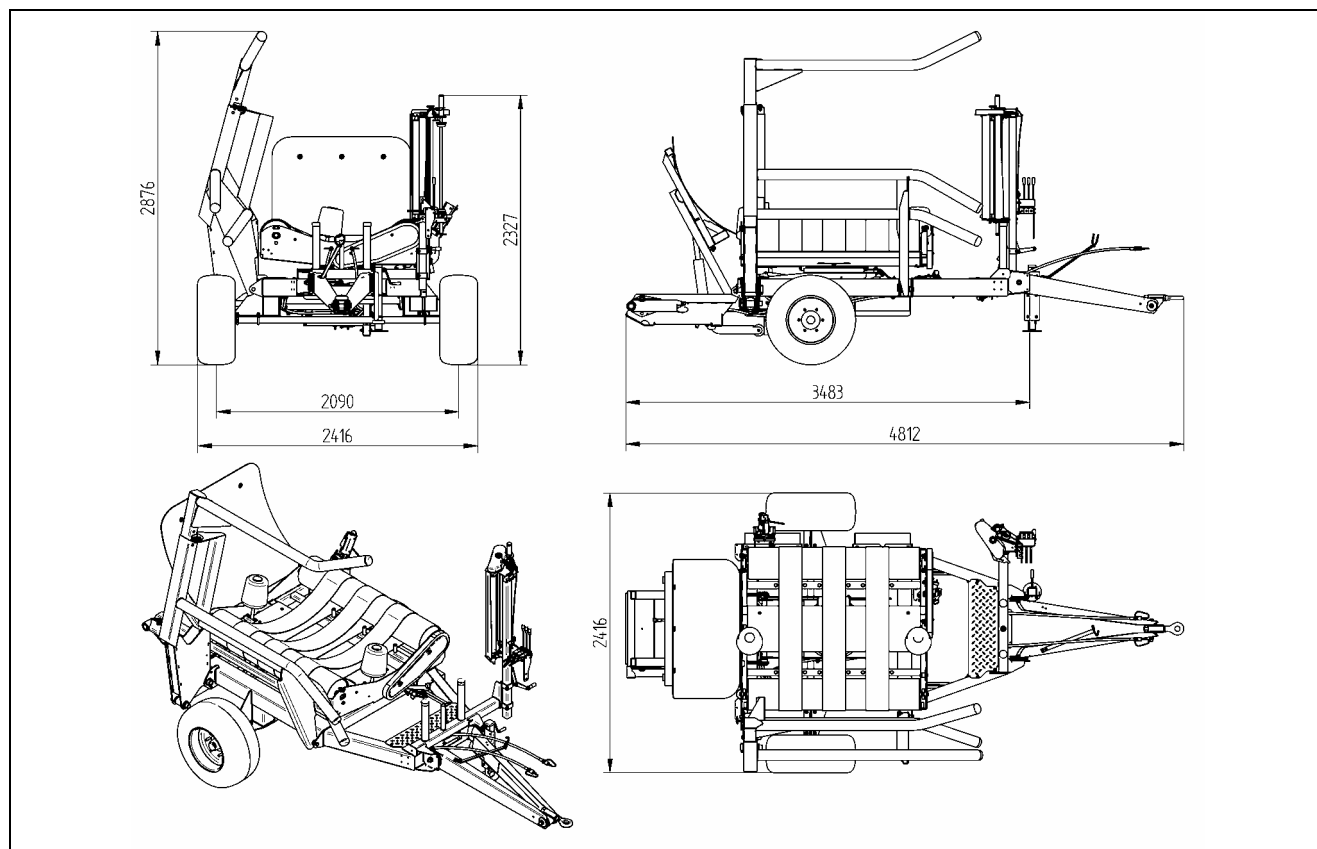


fig.2 – Overall machine dimensions and lifting points

SECTION 2

Safety and accident prevention

2.1 SAFETY

The user will have to instruct his/her personnel on the hazards deriving from accidents, on the devices fitted for the operator's safety and on the general safety requirements provided for by the directives and legislation of the country where the machine is used. The safety of the operator is one of the primary concerns of a manufacturer of machinery. In designing and producing a new machine, the manufacturer tries to foresee all the possible hazards and, of course, adopt appropriate safety measures. Nonetheless, the level of accidents by careless or inexperienced use of various machines is still high. Distraction, thoughtlessness and overconfidence often lead to accidents, as can fatigue and drowsiness. Consequently, this manual, and the safety rules in particular, must be read very carefully.



DANGER

The Manufacturer will not be liable for the non-observance of the safety rules and requirements prescribed by the legislation of the country where the machine is used, and of the instructions herein.



WARNING

Pay attention when you see this symbol in the manual: it indicates a potentially dangerous situation.

THERE ARE THREE POSSIBLE DANGER LEVELS:



DANGER

The word «DANGER» indicates the most hazardous situation and warns the reader that, if the operations described are not properly performed, this will result in serious bodily injury, death or long-term health hazards.



WARNING

The «WARNING» symbol warns the reader that, if the operations described are not properly performed, this will result in serious bodily injury, death or long-term health hazards.



CAUTION

This symbol warns the reader that, if the operations described are not properly performed, the machine may be damaged and/or persons injured.

2.1.1 TERMINOLOGY USED

Below are the definitions of the figures and the specific situations that might directly involve the machine and/or the persons in direct contact with said machine.

- **USER:** The user is the person, or body or company, that has purchased or hired the machine and that intends to use it for the purposes for which it has been designed. The user is responsible for the machine and for training those working on and around the machine.
- **DANGER ZONE:** any zone near and/or around the machine in which an exposed person is subject to a risk to his health or safety.
- **EXPOSED PERSON:** Any person to be found in a danger zone, whether fully or partially.
- **OPERATOR:** In general, description of the people in charge of installing, operating, adjusting, performing routine maintenance, cleaning, performing minor repairs and transporting a machine.
- **SKILLED PERSONNEL:** The term is used to describe people specially trained and qualified to perform any maintenance or repairs calling for specific knowledge of the machine, its operation, the safety devices, the operating procedures, and who are aware of the hazards deriving from the use of the machine and, consequently, able to avoid them.
- **AUTHORIZED SERVICE CENTRE:** The Authorized Service Centre is the structure legally authorized by the Manufacturer and employing skilled personnel qualified to perform all servicing, maintenance and repair works, including complex operations, necessary to keep the machine running efficiently.

2.1.2 GENERAL SAFETY INSTRUCTIONS



WARNING

The Manufacturer will not be liable for any accidents, damages or malfunctioning of the machine due to non-compliance with rules described in « Section 2 – Safety and accident prevention » and to any tampering with the safety devices.

General warnings:

- The user undertakes to allow only skilled and trained personnel to use the bale wrapping machine.
- The user must take all necessary measures to deny unauthorized personnel access to the machine.
- The personnel must comply with the instructions herein without exception, and observe the general safety requirements provided for by the legislation of the country where the machine is used.
- The user undertakes to suitably instruct his/her personnel on the application and observance of the safety rules. To this purpose, the user undertakes to ensure that anybody operating the machine is aware of the operating instructions and safety rules in force.
- The user must inform the Manufacturer in the event that any defects or malfunctioning of the safety systems are detected, and whenever any potentially hazardous situations are encountered.
- The personnel must always use personal safety gear, as prescribed by local legislation, as well as follow the related instructions herein.
- The personnel must observe all the hazard and caution symbols applied to the machine.
- The authorized personnel must not perform on their own initiative any operations or work that do not fall within their specific sphere of competence.
- The personnel must report any problem or hazardous situation that might be encountered to the person concerned.
- Personnel in training must always be supervised by expert personnel.
- «5100» bale wrapping machine has been manufactured in conformity with the current state of technology and will assure safe operation provided that it is properly used. The fitting of parts of other manufacturers or

any modifications may alter the machine's features and hence compromise operating safety. Therefore, the Manufacturer will not be liable for any damages that might be caused as a result of the use of non-original spare parts.

- The machine must be used solely for the purpose for which it has been designed.
- **The machine must not be operated without protections.**



WARNING

The operation of the machine by anyone who has not read and assimilated the instructions herein, as well as by unskilled personnel, or by personnel not in good health or not holding the right driving licence, is strictly forbidden.

- Observe the hazard symbols featured in this manual and applied to the actual machine.
- Before starting up the machine, make sure all the safety devices and the machine itself are perfectly intact.
- Before starting any work, familiarize yourself with the control devices and how they work.
- The area in which the machine is used is to be considered a «**danger zone**», especially for people not trained in the machine use. Before starting up the machine, make sure there are no people, animals or obstacles of any nature around the working area.
- When a person is «**exposed**», i.e. when he/she is standing in a «**danger zone**», the operator must take appropriate measures to immediately stop the machine and, where necessary, make sure that the person is taken away.
- During the operation of the machine, the operator must be seated in the tractor seat so that he/she cannot fall accidentally and so that the whole machine is under his/her control, and that appropriate action can be taken whenever the need arises.
- It is strictly forbidden to park the machine near or under terraces, balconies, haylofts and platforms of any kind that can be reached by people and/or animals.
- When you must to work close to the electric lines it is important that the machine and all its parts keep at safety distance from them. For any possible explanations ask a public competent body, who is in charge for the distribution of the electric energy. The machine is built in prevalence with metal, so in case of contact with electric line or electrical discharge between the line and the

machine, operator can be involved with possible fatal consequences too.

- During machine operation, it is strictly forbidden to let any part of your body get near the moving mechanical parts.
- It is strictly forbidden to carry people or animals on the machine and on the tractor.
- It is strictly forbidden to leave the driver's seat whilst the tractor is running.
- It is strictly forbidden to remove or tamper with the safety devices.
- Always wear suitable clothing. **Never wear loose clothing or clothes with hems which could become tangled in the rotating and moving machine parts.**
- Before starting up the tractor and the equipment itself, make sure all the safety devices for the machine's transport and use are intact.
- It is strictly forbidden to stand between the tractor and the machine with the engine running (Fig. 3), and likewise when the parking brake is not pulled on and its wheels are not blocked with suitably sized chocks.

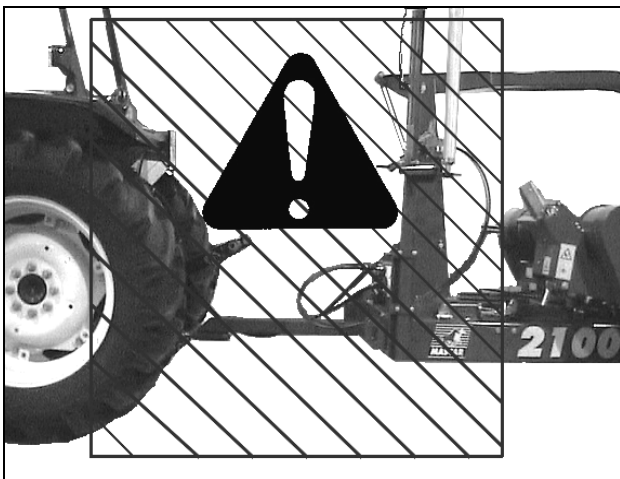


fig. 3 – Danger zone

- Before you leave the tractor unmanned, switch off the engine, apply the parking brake and remove the ignition key from the control panel.
- Before starting, check that there are no persons, and in particular that there are no children or animals near the machine. Also ensure that you have complete all-round and unobstructed visibility.
- All transport and moving operations outside the working area must be carried out with the machine in its transport position.
- Before starting, ensure that the support foot has been removed from under the machine

and that the machine has been correctly installed and set. Also ensure that all components subject to wear or corrosion are in perfect working condition.

- Always keep grease and oil out of the reach of children.
- Always read warnings and instructions given on the containers.
- Avoid skin contact with dangerous substances.
- Always wash thoroughly after using the above mentioned products.
- **Maintenance, setting and preparation for use must only be carried out with the machine on the ground and supported by its support foot, with the tractor turned off and secured in position and with the key removed.**
- When additional equipment is connected to the tractor, this changes the weight distribution over the axes. It is therefore advisable to fit ballast weights onto the front of the tractor in order to balance out the weights over the axes. Check that the tractor handles safely with the weight transferred by machine through the 3 point support connection. In case of doubt, contact the tractor Manufacturer.
- It is very important that you bear in mind that the tractor's road holding, steering and braking capacities can be substantially altered by towed or carried equipment.
- When taking corners with or without the machine loaded onto the tractor, be careful of centrifugal forces acting on points different from the centre of gravity.
- Connect the machine as described to a tractor with a suitable power output and configuration, using the correct connection equipment (tow ring or support), in compliance with legislation.
- Always be particularly careful during machine equipment connection and disconnection.
- Never exceed the maximum load limits per axle or the maximum total vehicle weight limit. Always respect road transport regulations and the highway code.
- Any additional accessories to be transported must also be fitted with suitable signalling and safety devices.

2.1.3 MACHINE CHECKING OPERATIONS



CAUTION

Occasionally check that all nuts and bolts are correctly tightened. If necessary to tight them again.

Use of a torque wrench to set to the following tightening torque settings (in Nm):

Nm	class	
	8.8	10.9
Ø		
M 4	3.0	4.4
M 5	5.9	8.7
M 6	10	15
M 8	25	36
M 10	49	72
M 12	85	125
M 14	135	200
M 16	210	310
M 18	300	430
M 20	425	610

- During any maintenance, cleaning or assembly work etc. carried out with the machine lifted, fit suitable supports to the machine as a precaution.
- All spare parts must comply with the manufacturer's specifications. **Only use original spare parts.**

This user's manual must be read, memorized and kept during all machine's life.

2.2 SAFETY SYMBOLS (PICTOGRAPHS)

This machine has been designed and manufactured by taking all possible measures to ensure the safety of the operator.

However, there are still a number of hazards to be aware of when using the machine; these are risks which are impossible to eliminate given the specific nature of the jobs the machine is used for and certain operating conditions.

These potential hazards are indicated on the machine with adhesive symbols (pictographs), which describe the different hazards in a concise manner.



WARNING

Keep the adhesive symbols clean and replace them immediately if they peel off or are ruined.

With reference to Fig. 4, carefully read and memorize the following:



WARNING

Duplicates of all the symbols stuck on one side of the machine shown in figure 4, are also stuck in exactly the same positions on the other side.

- 1) Cod.10009855: **Before operating**, read the instruction manual thoroughly.
- 2) Cod.10009883: **Before carrying out any cleaning or maintenance operations**, stop the machine and consult the instruction manual.
- 3) Cod.89005000: **Risk of crushing**. Risk of crushing due to the rotation of the cradle.
- 4) Cod.89005001 **Danger**. All machine controls must be installed onto the tractor and all machine operations must be controlled from the tractor.
- 5) Cod.89005002: **Risk of crushing and loss of upper limbs**. Never introduce the hands in the blade cutting area when the film is being attached. Never remove the safety barriers and keep away from moving parts.

- 6) Cod.89005003: **Risk of crushing**. Fit the additional support chocks when the machine is disconnected from the tractor.
- 7) Cod.89005004: **Danger. Do not allow unauthorised persons near the machine or its controls during operation.**
- 8) Cod.89005005: **Danger**. Check the maximum vertical load exerted on the tow ring linking the machine to the tractor.
- 9) Cod.89005006: **Risk of crushing and loss of upper limbs**. Always close machine guards before restarting the machine.
- 10) Cod.89005007: **Risk of crushing and loss of upper limbs**. Always turn the machine off before starting any maintenance work on it.
- 11) Cod.89005008: **Warning**. Use an additional support if the machine support foot is resting on particularly soft ground.
- 12) Cod.89005009: **Risk of crushing**. The bale may fall. The maximum rotation speed of the cradle is 28 rotations per minute. It is compulsory to verify the maximum rotation speed before using the machine. Do not allow any person near the machine when working.
- 13) Cod.89005010: **Risk of crushing**. Insert security locking in the lifting cylinder of the rotating plane (cradle). The cradle descent locking device is connected to the machine itself: insert it as shown in the figure.
IT IS FORBIDDEN TO START ANY MAINTENANCE WORK WITHOUT INSERTING THE LOCKING DEVICE.

SYMBOLS OF INDICATION

- 14) **Lubrication points (Grease).**
- 15) **Greasing points (Oil).**

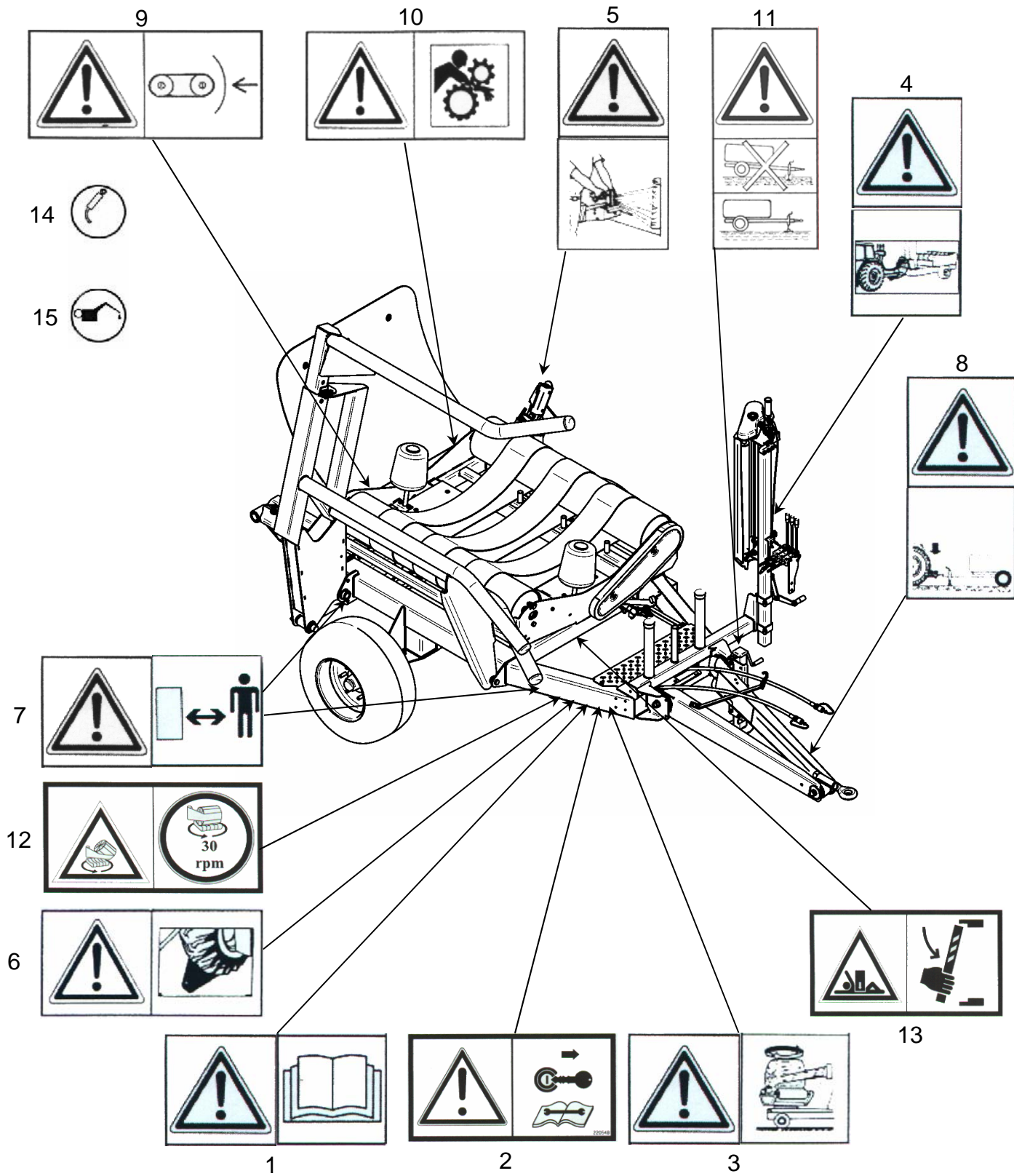


fig. 4 – Safety symbols and their location on the machine.

2.2 CLOTHING



WARNING

- Always wear suitable clothing. Do not wear ties, necklaces or wide or loose clothing, as they could become entangled in the rotating parts. Long hair must be tied up.
- Always wear safety clothing such as cut-resistant gloves and slip-proof and crush-proof shoes during maintenance and repair work.

2.4 ENVIRONMENT AND POLLUTION



WARNING

- Figures about the sound level measured for this machine are given in paragraph "1.6 Sound level". The user must inform all personnel involved about the dangers of high noise levels and ensure that national noise pollution regulations are followed.
As the noise level produced when the machine is operating is higher than the limits set by legislation for use without ear protection, always wear suitable ear protection.
- Respect regulations in effect in the country where the machine is being used regarding the use and disposal of products for cleaning and maintaining the machine. Also follow the instructions given by the manufacturer of these products.
- Special waste must be disposed of through specialised and authorised companies which must supply you with a receipt as proof of proper disposal.
- Dispose of any packaging waste in special differentiated waste collection facilities.
- When dismantling the machine, follow anti-pollution regulations in effect in the country where the machine is being used. Pay particular attention to the disposal of lubricant, electrical and electronic components (batteries and capacitors).
- Once the bales have all been ensiled, do not dispose of the used film as normal waste. It must be disposed of through specialised organisations which will deal of it properly by either incineration, disposal at an authorised dump or, better still, at a recycling facility.
- **Never bury the film or, worse still, burn it in the open air. Plastic produces toxic**

fumes which are harmful to man and the environment when burned.

SECTION 3

Moving and transport

3.1 MOVING AND TRANSPORT

3.1.1 GENERAL WARNINGS



CAUTION

Shouldn't the machine be approved for driving on public roads, follow the traffic laws of the Highway Code in force in the country where the machine is used.



DANGER

The operations for unloading, lifting and moving the machine must be carried out by skilled personnel.

The user and his/her personnel undertake to read beforehand and follow the instructions given herein.

The user undertakes to make sure his/her personnel wear appropriate personal safety gear (gloves, safety boots, hard hat etc.) and are given the correct equipment before commencing operations for the unloading, lifting and moving of the machine.

Avoid many operators working without coordination on the same machine, as this may give rise to hazardous situations.

Check the dimensions and weight of the wrapping machine. Make sure that the hoisting cables are fitted with a bell, that they feature a label containing all the manufacturer's data and that their capacity is clearly readable.

Inspect the cables prior to their use: they must not be damaged, have snapped strands or feature signs of wear.

Do not twist or knot the cables, and follow the operating procedures indicated by the manufacturer.

The transport have to be made by unloaded machine.

Should the machine be taken a long way, it can be loaded on a lorry or freight car.

To this purpose, see paragraph "1.7 Technical data" for weight and dimensions. Dimensions are particularly important in determining the feasibility of transport through tunnels or tight passages. When lifting the machine from the ground onto the level where it is to be loaded, cranes with an appropriate hoisting power can be used by hooking up the machine in the lifting points marked with the hook symbol.



CAUTION

Before starting lifting operations, make sure the machine has been emptied of any possible load.



DANGER

The surface onto which the machine is to be loaded must be perfectly flat to avoid the load shifting about.

Crane loading. Make sure that the crane with counterweight has a hoisting power appropriate for lifting the machine. The hook-up points for the lifting are clearly visible and marked with relevant stickers. Lift the machine with extreme care and transfer it slowly, without sudden movements, onto the lorry or freight car.



DANGER

Lifting and transport operations can be very dangerous if not performed with the utmost care. Keep off the area all personnel not involved in these operations; clear and cordon off the transfer area; make sure the means available are in perfect working order and suitable for the task in hand; do not touch overhead loads and keep a safe distance from them.

During transport, the loads must not be lifted off the ground by more than 20 centimetres. Make sure that the area involved in the operation is clear and that there is a sufficient "escape space", i.e. a free and safe area personnel can rush into, should the load look about to fall.

The surface onto which the machine is to be loaded must be perfectly flat to avoid the load shifting about.

**WARNING**

Once the bale wrapper has been transferred onto the lorry or freight car, make sure it is firmly secured in place.

The wheels must be secured by wedging suitable chocks under them.

Fasten the machine securely to the surface on which it is set, using cables or chains pulled tight and fastened to the hold-down point on the surface and appropriate for the weight of the machine in order to prevent the machine shifting around.

After having transported the machine and before releasing it from all the restraints, make sure its current state and position are not liable to constitute a hazard.

At this point, remove cables and chocks and unload the machine using the same means and procedures used for its loading.

3.2 TRANSPORT ON PUBLIC ROADS

The bale wrapper is a towed agricultural machine (art. 57 of the Italian Highway Code). Current regulations in effect apply when it is transported on public roads. This type of machine may not be transported at more than 40Km/h.

When on public roads, the machine must be unloaded, its loading fork must be up, the safety pin (P) inserted (fig.5, F) and locked through the plug (S).

Before using machine remove the plug (S) and lock the safety bracket (F) in horizontal position as indicated in fig. 6.

**WARNING**

Don't let down the fork by safety bracket on transport position.

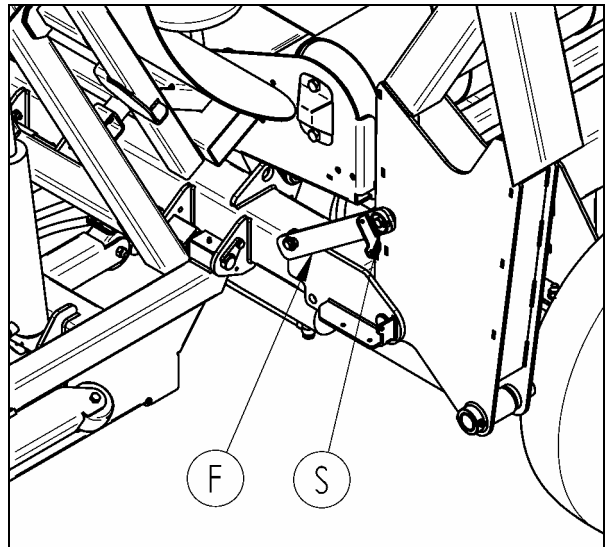


fig.5 – Safety bracket fork - transport

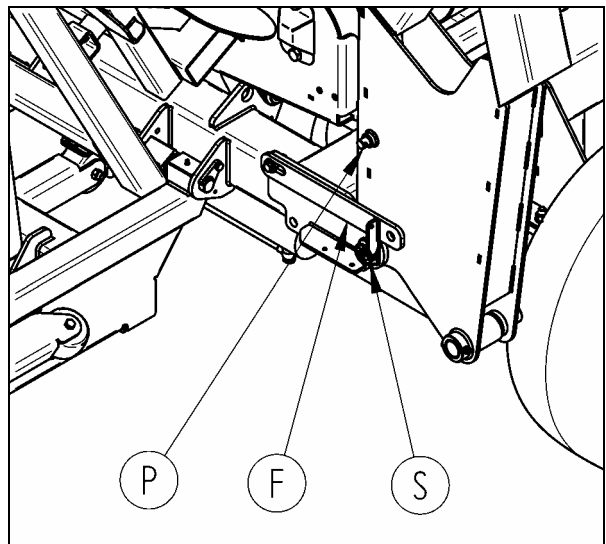


fig.6 – Safety bracket fork - working

SECTION 4

Instructions for use

4.1 BEFORE USE



WARNING

Before starting the machine, ensure that the operator has read, memorised and understood everything in this manual, in particular «Section 2 - Safety and accident prevention».

The operator must ensure that no parts of the machine are missing or damaged, that the machine is in perfect working order, that all lubricant oil levels are correct and that all components subject to wear and corrosion are in sound condition.



DANGER

All settings and preparations for operation must be made with the machine turned off and securely blocked in place.

4.1.1 OPERATING POSITION



DANGER

When the machine is operating, the operator **MUST** always be seated in the tractor's driving seat - only from this position he or she can control the machine correctly.

Before leaving the driving seat, the operator **MUST** stop the machine, apply the parking brake and turn off the tractor.

4.2 CONNECTION WITH A TRACTOR



DANGER

Connecting the machine to the tractor is potentially dangerous.

Be particularly careful and follow instructions hereunder precisely.

4.2.1 CONNECTION TO TRACTOR

To ensure a correct connection between bale wrapper and tractor, the following is necessary:

- position the machine on a level surface.
- With the machine on the ground and the support foot holding it in a horizontal position, move the tractor closer and place the tow ring at the right distance from the ground.

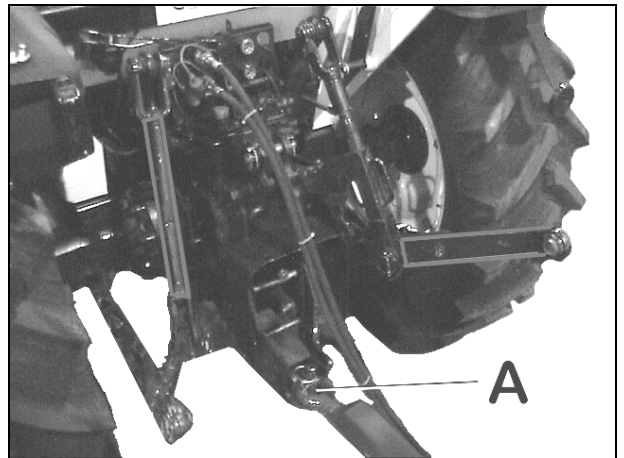


fig.8 – Connection to tractor

- Once the drawbar tow ring has been connected to the tow hook (A Fig.8), release the support foot and return it to its resting position.
- The machine must be horizontal once connected to the tractor

4.3 PREPARATION OF THE MACHINE FOR USE

4.3.1 HYDRAULIC SYSTEM CONNECTIONS

- Connect the machine hoses to the tractor's distributor, that must have an hydraulic distributor fitted with a ½" female quick release connector.
- Connect the hose, with the red plug, with delivery for a single or dual action cylinder, and the hose, with the yellow plug, with a free return.

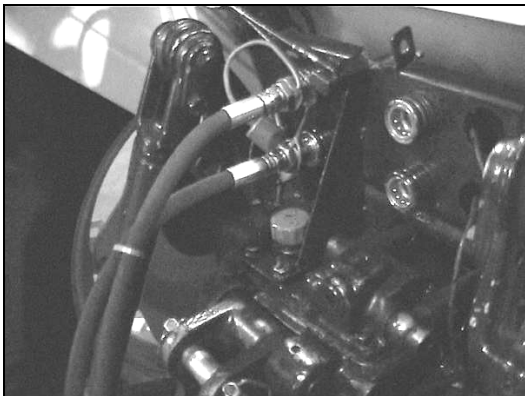


fig.9 – Hydraulic system connection

- The maximum rated supply flow of the dual action distributor is 20 l/min of oil, equivalent to a max speed cradle rotation of 30 tours/min.
- Install the control lever console (Fig. 9) with the in the tractor cabin.

4.3.2 DESCRIPTION OF HYDRAULIC CONTROLS

The hydraulic distributor remote control unit must be installed in the tractor before the beginning of wrapping.

It has three control levers, which execute the movement indicated on the adhesive (fig. 9) and hereinafter described.

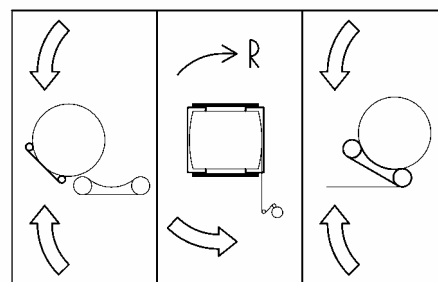
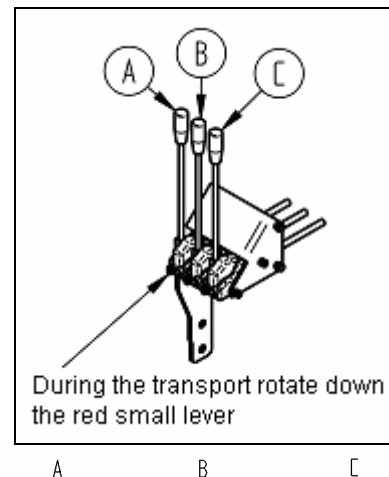


fig. 9 – Control distributor's levers

Lever A: Bale loader fork control.

This lever controls the bale loading fork to load the bale.

Lever B: Control cradle rotation.

This lever allows the cradle rotation to wrap the bale. Besides, with inverse rotation direction, it allows to centre the cradle before to tip it.



WARNING

It's possible to rotate the cradle only by lowered fork.

Lever C: Control tipping cradle.

This lever allows tipping behind wards of the rotating cradle for the loading and unloading setting in action.

Once the bale is laid down on the platform, pushing up the lever the platform lets down till the soil.

4.4 FILM STRETCHER

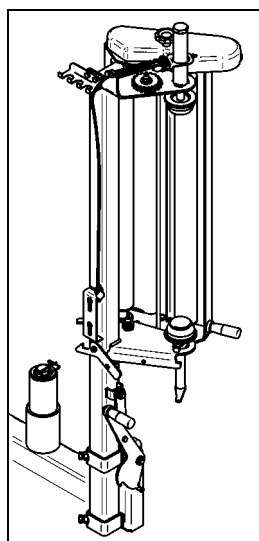


fig. 10 - Stendifilm

The machine is fitted with a filmstretcher system which unravels and tensions the plastic film.

4.4.1 SETTING THE FILMSTRETCHER

For successful ensilage, the bales must be wrapped in the best way possible. This is ensured by the correct overlaying of the film, and also by the film stretcher which pretensions / stretches the plastic film.

This system keeps the film stretching constant and ensures that it is used efficiently.

The film, trailed by cradle rotation, has been wrapped around two rollers, on which can be modified the ratio of the rotation's speeds.

The speed difference states the film stretching ratio and has to be regulated on the grounds of environmental conditions and film quality.

A stretching ratio of 70% is recommended with a good quality film. If low quality film is used, is recommended a stretching ratio of 50%.

If the film is not stretched enough, it does not adhere properly to the bale and excessive film is used, whereas if the film is overstretched, this can compromise its physical and mechanical properties, increasing the risk of ruptures or perforation.

The stretching ratio is stated by substitution of the pinion on the higher side of the film stretcher (fig. 11), in accordance with the schedule on the adhesive (fig.12).

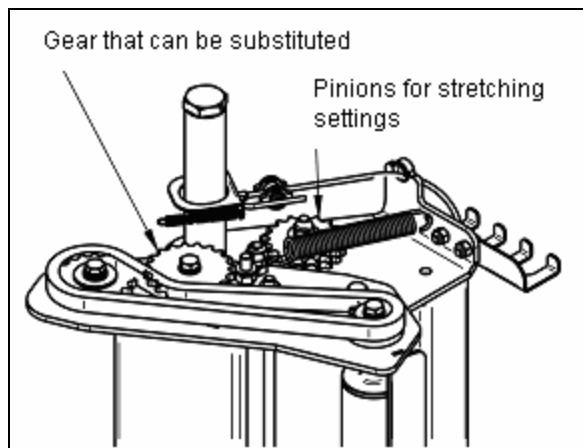


fig. 11 – Stretching setting

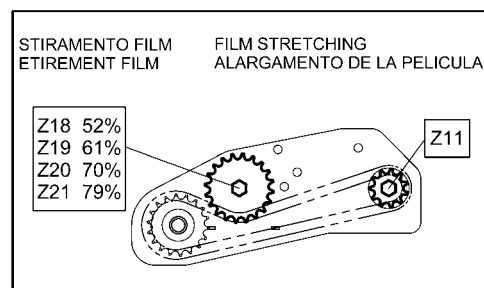


fig. 12 – Stretching ratios

The film stretching level depends on the used film type and on the environmental conditions (temperature and humidity).

So the data indicated on the schedule are approximate, because only an experimental test can state the exact film stretching level.

4.4.2 REEL HEIGHT SETTING

To get an optimal bale wrapping the film has to be stretched passing always through the middle of the bale.

The height of the film reel relative to the bale is set according to the diameter of the bale and the height of the film itself.

The wrapper is provided with a device, which allows the quick setting of the filmstretching on 3 positions.

This operation can be effected as follows (fig. 13):

- 1- Loose the screws for the block (A);
- 2- Lift the lifting lever (B)
- 3- Press the block bar (C)
- 4- Reach needed position lifting and lowering the lever (B)
- 5- Tighten the screws for the block (A)



WARNING

Before to transport or to use the machine must to be sure that the screws for the block are tightened.

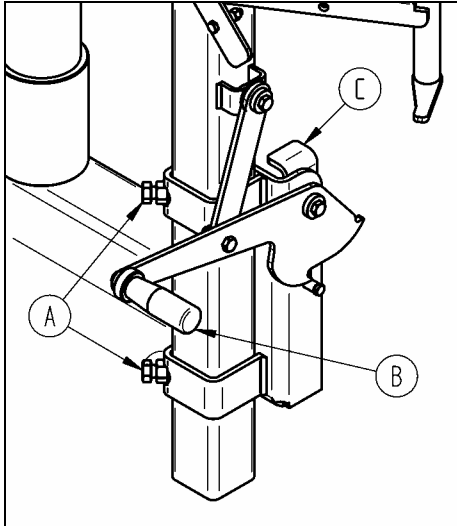


fig. 13 – Filmstretching height setting

4.4.3 REEL INSTALLATION

To install film reel you must to proceed as follows (vedi fig.14):

- 1- Move the rolls away from the support reel pushing the lever (A). At the end of the stroke the rolls will be coupled up on the stop (B).
- 2- Push the upper plug (C) towards the top till hooking release.
- 3- Charge the reel leaning it on the lower plug (D) first, then aligning it with the upper plug (C).
- 4- Pull the rope (E) to couple up the upper plug (C).
- 5- Pass the film around the rolls as indicated on fig. 16.
Note: the operation is more simple if you pass the film around the base of the rolls.
- 6- Release the rolls pushing on the lever (A) first and then pulling the block (B). Let the outer roll to lean on the reel holding the block pulled (B).
- 7- Pull film's end and block it in the pliers.

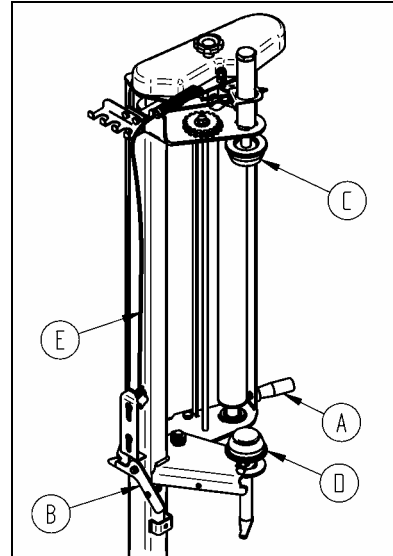


fig. 14 – Reel installation

4.4.4 REEL USE H=500

To use reel with a height of 500 mm you must to lift the lower plug and use adapter (C, fig.15) on the lower part.

o lift the lower plug proceed as follows (fig. 15):

- 1- To loose the screw (A)
- 2- Take the plug shaft (B) in upper position till the lever couple up on its site.
- 3- Block the screw (A)

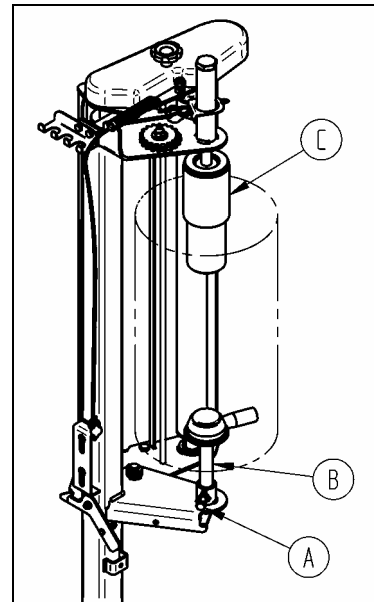


fig. 15 – Height 500mm reel adapter

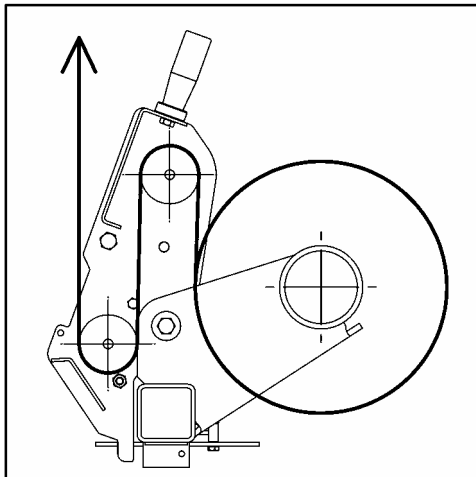


fig.16 – Film passage

Note: The filmstretcher is provided with a rolls block system, which prevent their rotation when the film isn't in tension. The function of this system is to avoid the accidental unwinding of the reel during transport.

**DANGER**

When machine is trailed on road it is obligatory to take the reel away from filmstretcher.

4.5 FILM OVERLAPPING

The bale wrap happens through combination of two movements: first movement along vertical axis rotation, which has given from the cradle, and the other along horizontal axis rotation, which has given from rolls rotation.

The ratio between wrapped surface of the bale for every cradle tour and the stretched film height has called film overlapping level (fig.17).

The overlapping level has determined by gear ratio between cradle and rolls rotation.

The film overlapping has to be of 50%, i.e. the film has to overlap for its half on the previous tour.

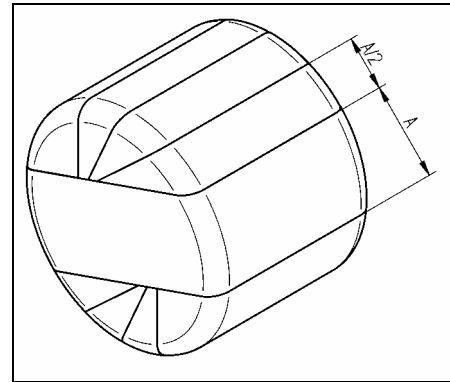


fig.17 – Film overlapping

The wrapped surface of the bale for every cradle tour has to be set up about the used film height:

- with a reel of 750 mm you get a film, that after stretching, has a height of about 600 mm, therefore wrapped surface of the bale for every cradle tour has to be of 300 mm every tour;
- with a reel of 500 mm the stretched film has a height of about 400 mm and the wrapped surface of the bale for every cradle tour has to be of 200 mm every tour.

The statement of wrapped surface of the bale for every cradle has set up by substitution of the pinion in cradle case (fig. 18).

You have to proceed as follows:

- 1- To remove the protective case
- 2- To relax the stretcher (C)
- 3- To replace the pinion (A) with the needed one (B)
- 4- To adjust the chain way: with the pinion Z24 has to pass it over the counter (D), while with pinion Z16 has to pass under it.
- 5- To tighten the chain and fix the pinion (C).
- 6- To reinstall protective case.

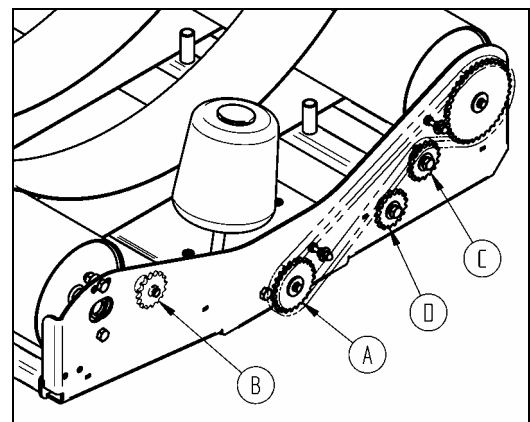


fig.18 – Cradle gear

The suitable pinion Z24 has installed standard with the use of reel with a height of 750 mm. For reels with a height of 500 mm to use the pinion Z16 as indicated in the sticky label (fig.19).



	
Z 16	H=500
Z 24	H=750

Fig.19 – Choose of the pinion



DANGER

It's obligatory to fix protective case before to put in working the machine.

4.5.1 BALE WRAPPING

It's advisable to wrap the bales with a minimum of 2 overlapped lays for at 50% (2+2). To get this type of wrapping the bale has to make whole tour on horizontal axis.

In particular condition it can be necessary to add another lay (2+2+2). In this case the bale has to make one and a half tour.

In the below table have been indicated the necessary cradle tours to wrap bales of different diameters with film from 500 to 750 mm, considering an additionally cradle tour to fix the film.

	Overlapping	2+2		2+2+2	
	Film height (mm)	500	750	500	750
Diameter 120	Cradle tours	20	15	30	21
	Used film (m) (stretching 70%)	57	41	84	61
Diameter 150	Cradle tours	25	18	37	27
	Used film (m) (stretching 70%)	80	57	118	85
Diameter 160	Cradle tours	27	19	39	28
	Used film (m) (stretching 70%)	88	63	130	93

4.6 FILM HOLDER/CUTTING CLAMP

The machine has a film holder/cutting clamp (fig. 20) with automatic functioning.

The principal parts are listed hereinafter:

- A- Rubber plugs to hold the film
- B- Movable cutting devices holder
- C- Cutting device
- D- Protection for cutting device
- E- Cam for release of cutting device
- F- Release lever

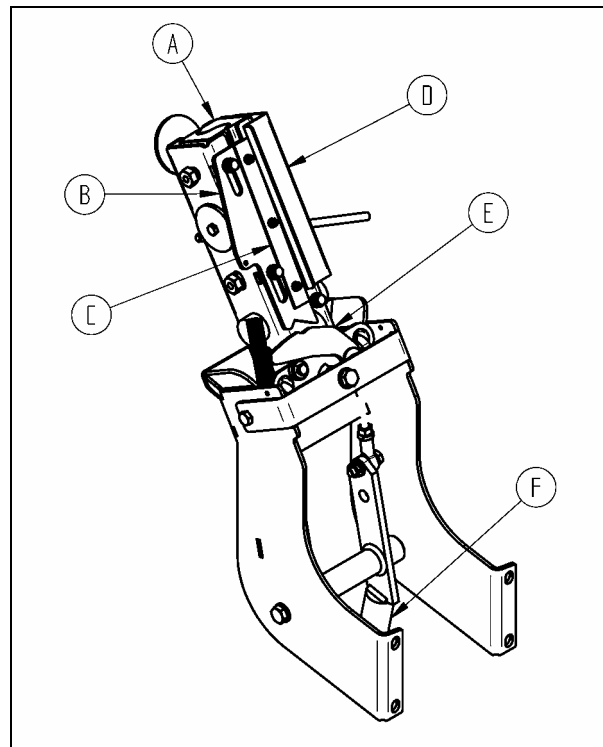


fig. 20 – Film holder/cutting clamp



DANGER

By stopped machine the cutting pliers has to be always in closed position, so that the cutting device is inside the protection.

The functioning of holder/cutting device happens as follows:

- Once wrapped the bale, during lifting of the cradle for unloading, a system with a cam close the pliers; at this phase the sliding blade has wound up by device (E)
- The film has blocked within plugs
- Proceeding with tipping cradle, the knife holder release towards bottom carrying out the cut of the film
- The film has held by cutting pliers for the wrapping of following bale.

- When you begin the new wrapping, after first two cradle tours, an automatic device (rearmament) open the cutting pliers through the lever (F).



DANGER

It is forbidden to open or close manually the cutting pliers, but it is necessary to execute these operations exclusively through wrapper control. To close the cutting pliers you have to tip the cradle.

To open the cutting pliers are necessary before two cradle tours.



DANGER

For the first wrapping it's forbidden to get hold the film with the cutting pliers, but it is necessary to fix it at the bale after its unloading.

4.7 ROLLS DISTANCE SETTING

To adapt the belt section to the bale diameter it is possible to set the rolls distance.

To have the max motion of the belts it's important, that the touch happens along the whole upper side of the belt.

With bales with a small diameter (120 cm) it's possible that touch is concentrated in the centre.

With bales with a big diameter (160 cm), if you see, that the belt don't touch in the centre, it's advisable to increase the rolls distance, so that the belts are more stretched and it is possible to reinstate the touch.

To modify the rolls distance it is necessary to proceed as hereinafter described (fig.21):

- To loosen the screws A and B
- To move bearings supports on inside holes (C) to draw up rolls, or on outside holes (D) to increase their distance.
- To put and to tighten again the fastening screws

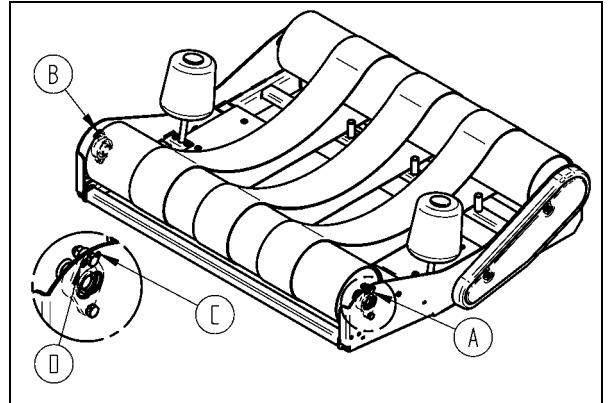


fig. 21 – Setting rolls distance

4.8 GENERAL CHECKS TO BE MADE BEFORE WRAPPING

Before starting a wrapping job, carry out the following checks to ensure that you are working in safe conditions and to ensure satisfactory results:

- To remove safety block for the fork transport (fig. 6, page 17).
- To put the wheel on working position.
- To check that every case and protection are regularly installed.
- To check, that piping of delivery and return of the oil are correctly connected to the distributor of the tractor.
- To check that the working area is free of obstacles and dangerous elements, which may hinder the regular functioning.

4.9 WRAPPING



WARNING

Before starting, check that there are no persons, and in particular that there are no children or animals present close to the machine. Also ensure that you have complete all-round and unobstructed visibility.

The machine is provided with an automatic device for the cradle centring.

To start up it's necessary to go beyond the cradle centring angle by rotating the cradle, and then to reverse the cradle rotation till its stop.

STEP 1: Loading

To advance near the bale.

To lower loading fork (fig.9, lever A) till about 10 cm from the soil.

To check, that the cradle is aligned on working position (as in fig.22), to reverse the rotation of the cradle (fig.9, lever B) till the stop.

To advance with the machine till completely housing of the bale in the fork.

To lift and load the bale (fig.23) through the fork control lever (fig.9, lever A).

To lower the fork till the soil to prepare the machine for the wrapping.

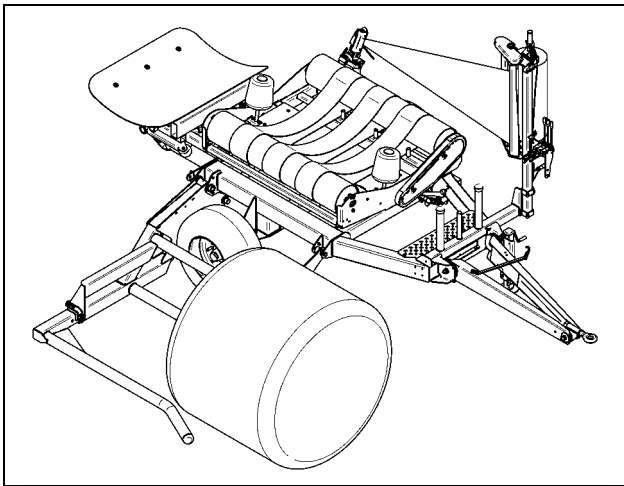


fig. 22 – Preparation

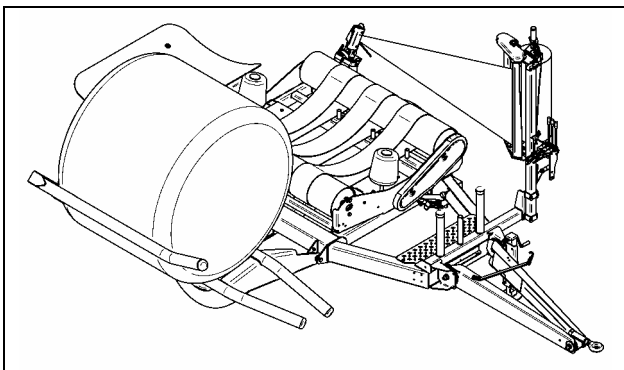


fig. 23 – Loading

STEP 2: Wrapping

To ensure that the fork is lowered not more than 30 cm from the soil and that the rear platform is in horizontal position.



WARNING

Don't set in action the cradle rotation when the fork and the platform are lifted.

Set in action cradle control towards down if the platform is lifted (fig. 9, lever C).

To start slowly the wrapping choking the cradle rotation control (fig.9, lever B) for the first two tours (fig. 24).

During that step the bale, even if it has been loaded light crooked, must to stabilize and to centre itself in the cradle. In the same time the clamp automatic unblock device, open the clamp and so the film is released.

To set in action completely the cradle rotation control and to wrap the bale with the predetermined number of tours (see schedule on page 23).

To set cradle rotation speed changing the turn number of the tractor.

The recommended speed is of 20 tours/min.



DANGER

The cradle speed don't must higher than 30 tours/min. The max. admitted oil capacity is of 20 l/min.

In any case to adjust rotation speed to the bale conditions: by malformed bales to lower cradle rotation speed.

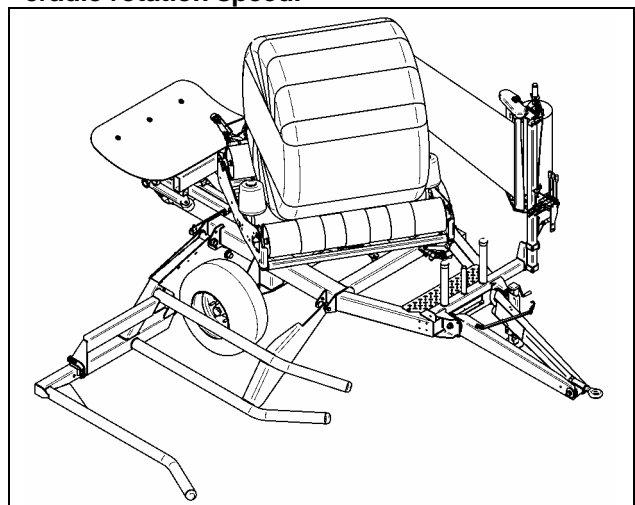


fig. 24 – Wrapping



DANGER

To stop immediately the machine if the bale doesn't stabilize inside the cradle within the two first tours.

An "optional" electronic device MC300, can be used to count the tours necessities for the bale wrap.

The needed number of tour has set up with the computer MC300 and two tours before to reach this readings , the computer utters an acoustic and light signal. At the last tour has uttered a continuous sound, which indicates the end of wrapping.

STEP 3: Unloading

To align the cradle towards unloading direction (fig.25).

To do that to go beyond this position with the rotation and then to set in action the reverse rotation till the stop.

Before starting, check that there are no persons, and in particular that there are no children or animals present close to the machine, which can be in danger during unloading.



DANGER

The dangerous area, which has to be controlled, has to be sufficiently wide to consider the possible rolling of the bale after unloading.

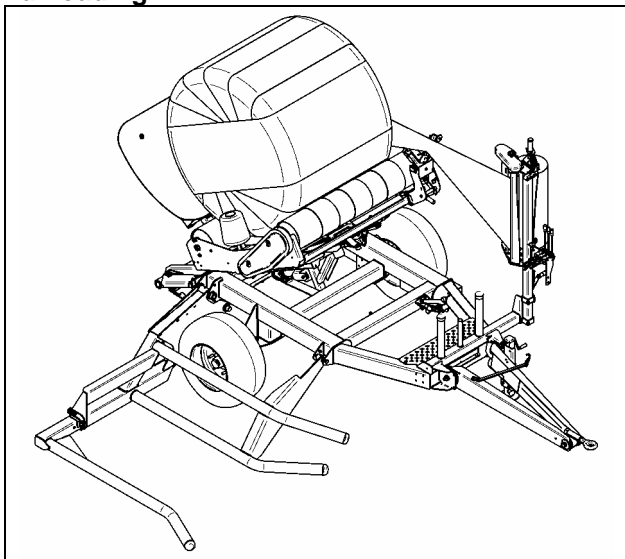


fig. 25 – Cradle lift



WARNING

Do not lift cradle before centring of machine.

Proceed with unloading operation (fig.9, lever C) till the complete lift of the cradle. During this step the cutting pliers closes automatically, with hold and cutting of the film till it lay down the foot.

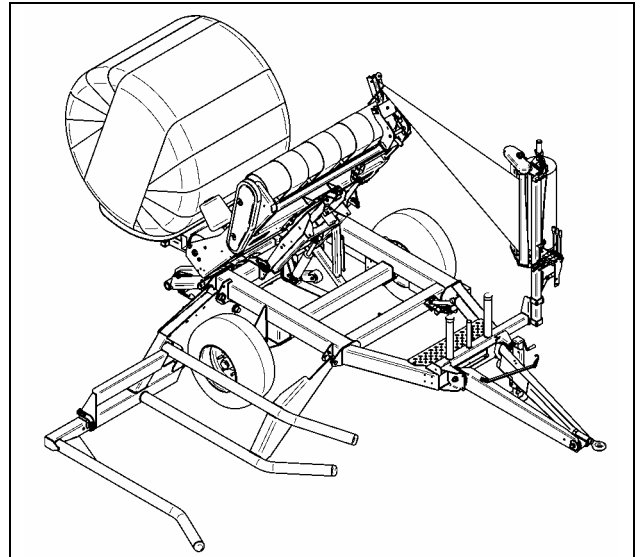


fig. 26 – Unloading

To put the bale on the floor set in action cradle control in the opposite direction (fig.26).

When the bale is on the floor go ahead a bit with the tractor to avoid damages to the unloaded bale and finish the repositioning of the cradle (fig.9, lever C).

To turn the cradle for 90° to reach the loading position (fig. 27). Align the cradle through rotation in the opposite direction.

Now it's possible to lift the fork to move with the wrappers near another bale.



WARNING

Don't set in action the rotation of the cradle when the fork is lifted more than 30 cm from the soil or the cradle it isn't perfectly horizontal.

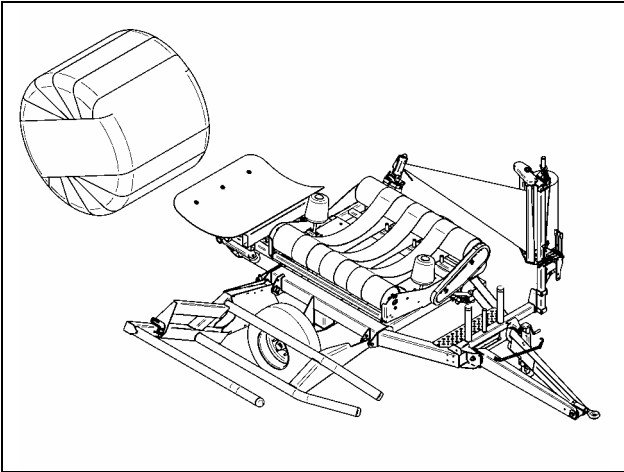


fig. 27 – Re-positioning

In case of doubts about functioning do not hesitate to contact your area concessionaire for explanations; we remember you that a correct functioning is the better guarantee for life of the machine.

4.10 SIDEWAYS TIPPING UP SYSTEM

The rear platform allows to tip up the bale on a side during unloading step.

As on bale sides there are more film layers than on the circumference, this way of unloading gives advantages of more protection in case of working in a uneven and with blades of grass soil.

The modification of unloading way is carried out by change of position of the platform rafter. For the normal unloading it has to be horizontal (fig. 28), but for the tipping up on a side it has to be vertical (fig.29).

To modify the unloading way proceed as follows (fig.29):

- Remove the pin (S)
- Partially unthread the rafter
- Insert the rafter in vertical/horizontal position inserting the pin (P) in the right/left hole
- Insert the pin (S).

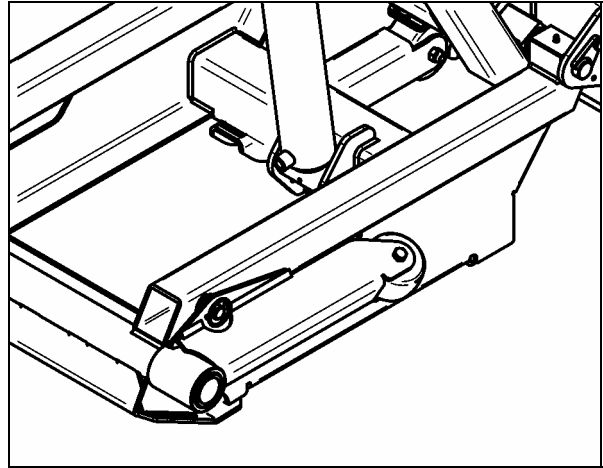


fig. 28 – Normal unloading

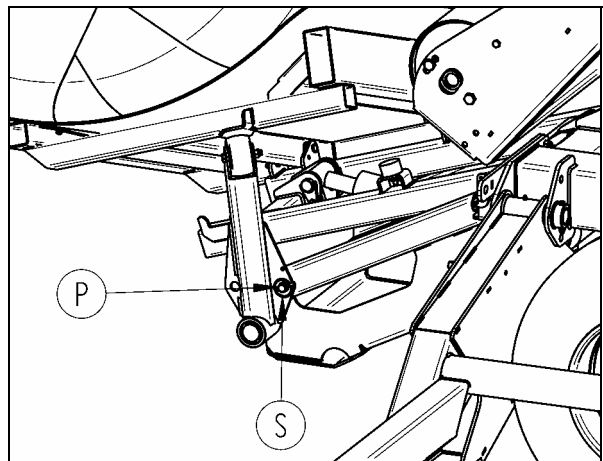


fig. 29 – Tipping up on a side

When the rafter is in vertical position, during the lowering of the platform it leans on the mat that supports the bale and is hinged on the opposite side.

In the last step of the platform lowering has given a sideways inclination of the mat that allows the tipping up of the bale on a side.

Before unloading make sure there are no people, animals or obstacles of any nature around the working area, which can be in danger during unloading.



DANGER

The dangerous area, which has to be controlled, has to be sufficiently wide to consider the possible rolling of the bale after unloading.

4.10 INDICATION FOR THE USE

4.10.1 GENERAL INSTRUCTIONS

If the machine is used correctly, following the correct parameters, it will function efficiently giving constant results over time. This means that the bales wrapped will not be subject to breakage, ensuring proper ensilage.

Ensilage of cylindrical bales of fodder wrapped in plastic film offers a number of advantages over traditional ensilage and storage methods (e.g. bale storage in polyethylene bags, cylindrical bales stacked and covered with nylon sheets, and storage in vertical or horizontal silos). These are a few of the advantages of ensilage of cylindrical bales wrapped in plastic film:

- Relatively low investment of capital needed to buy machinery.
- Limited damage to the ensiled product due to accidental film breakages.
- Complete mechanisation of the production process, requiring very little labour.
- Ensiled product can be used, in small to medium sized farms, without wastage or deterioration.

The following indications are given to ensure these advantages.

4.10.2 FILM'S FEATURES

Use plastic films with suitable characteristics:

- Sufficiently U.V. resistant to ensure that the protective film remains in good condition for the entire storage period – generally between 6 to 12 months.
- Sufficiently resilient mechanically to allow proper stretching.
- Sufficient adhering properties to guarantee excellent sealing.

4.10.3 FILM'S STORAGE

Following these rules when storing the plastic film will help maintain the fundamental properties listed above:

- Store the plastic film vertically in its original packaging, out of direct sunlight, in a clean and dry place not subjected to wide and sudden temperature variations.
- Only use high quality film, with no holes, tears or ragged edges.

- Keep the plastic film at 20° / 30° C for at least 48 hours before use – this improves the film's unrolling and adhering properties.

4.10.4 PREPARATION OF BALES FOR WRAPPING

Following these rules to prepare the bales improves wrapping quality:

- Ensure that foreign objects, which could damage the film during wrapping, do not enter product to be ensiled by rolling the field in spring
- Mow the product when it is at its best quality.
- Keep soil, which can cause mould, out of the product by limiting the use of rakes and by cutting the product at a sufficient height from the ground.
- Condition the product as uniformly and quickly as possible using, for example, mower/conditioners, or rotary presses with cutters (e.g. "MASCAR – TUAREG-CUT")
- Correct proportions of humid and dry material can improve the product if it is to be used for stock-farming animals or dairy animals producing milk for the cheese industry. The proportion of dry material is determined by the drying time.

The shape and consistency of the bales influence the wrapping quality. These factors are also determined by a correct preparation of the rows.

The correct compactness of the bale is another important factor which should not be underestimated. Always try to make cylindrical bales of uniform density which do not contain any soil.

Irregularly shaped or, worse still, deformed bales not only create problems when wrapping but, as they are difficult to rotate in the cradle, require more layers of film.

Bales that are not of the correct compactness and are not of uniform density are not only more difficult to wrap but will give poorer ensilage results.

4.10.5 WHEN IS THE BEST TIME TO WRAP BALES?

As we have already mentioned, the correct proportion of humidity can influence, together with the period in the season when the product is mown, whether an ensiled product is more suited to one particular purpose or another.

To prevent overheating inside the bale, it must be wrapped 2 / 4 after pressing. As well as influencing the mechanical properties of the film (as described earlier), the outside temperature also determines the time limits within which the bale must be wrapped.

Generally speaking, at an outside temperature of 20°C, the bale should be wrapped within 2 hours, at 10°C, the time limit is increased to 4 hours.

4.10.6 TIPS FOR BALE WRAPPING

MASCAR gives the following advice for using the machine.

- Regular maintenance of the machine, and in particular of the film tensioner assembly, and keeping the tensioner rollers clean can substantially influence ensilage quality.
- The correct position of the film tensioner assembly relative to the centre of the bale is important to ensure correct wrapping results.
- As well as depending on the quality (page 20) of film used the film stretching ratios, also depend on the revolutions per minute of the bale in the cradle (we recommend a speed of approximately 20 rpm), the size and shape of the bale and the outside temperature during wrapping.
- To set the cradle rotation speed, use the adjuster knob on the hydraulic distributor as shown in figure.
- With experience and practice you will be able to determine the correct pretension settings. This gives improvements in technical results and cost efficiency.

4.10.7 WRAPPING TIMES

The time necessary to perform wrapping operations varies depending on the following factors:

- Bale dimensions
- Height of plastic film used.
- Number of overlaid layers of film
- Cradle rotation speed.

Loading and unloading times, the time required to transport the machine from one bale to the next in the field and time wastage must also be added to these variables.

SECTION 5

Maintenance

5.1 MAINTENANCE

The following points describe normal maintenance procedures.

Bear in mind that low operating costs and prolonged machine lifetime depend on these instructions being followed.

It is in your own interest to carry out maintenance out carefully as the machine will always be in perfect working order when needed for a job.

The maintenance intervals given in this manual are indicative as they depend on conditions which may vary during normal use, such as the dustiness of the working environment, seasonal factors, etc.

Obviously, the maintenance must be shortened if the machine is subject to heavy duty use.



WARNING

Before starting any job on the machine, ensure that the machine is on a level surface and is secured in position with chocks under the wheels.

All maintenance, setting and preparatory operations must be carried out with the tractor stationary, the parking brake applied, the engine turned off, and the ignition key removed.



CAUTION

The greasing points are indicated on the machine by the "greaser" adhesive (page 14 No. 4). Before injecting grease through the greasers, clean the greaser unions thoroughly to ensure that no mud, dust or foreign objects are mixed with the grease, which could cause a reduction or even a complete loss in lubrication efficiency. Do not inject too much grease into the greasers. Too much grease creates a high pressure which could damage the seals and bearings. Carry out this operation with caution. The machine is provided also with an adhesive, which indicates greasing points (fig.30).

Apply a coat of rust protection to any worn parts.

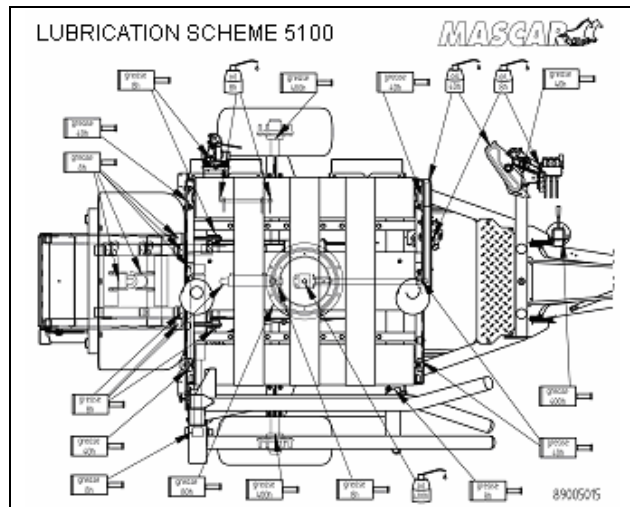


fig. 30 – Lubrication scheme



DANGER

Keep all lubricants, oils, solvents and paints out of the reach of children. Read the warnings and precautions on the containers of liquids used thoroughly.

Wash thoroughly after use.

Dispose of used oils as required by anti-pollution regulations..

Repeat the following checks regularly. These checks must be also be carried out at the beginning of each season:



DANGER

Before to operate on the parts under the cradle, position the safety lock (F) as indicated in fig. 33.

5.1.1 AFTER THE FIRST 10 OPERATING HOURS

After the first 10 operating hours, check:

- Check the overall condition of the machine.
- Tightness of all nuts and bolts (page 13).
- Rotating cradle drive chain lubrication (fig. 34, P).
- Film stretcher assembly drive chain lubrication (fig.35, C).

5.1.2 EVERY 8 OPERATING HOURS

Every 8 operating hours:

- Make a complete operation of greasing to all the points earmarked with the label „greasing” and to all the points submitted to friction (fig. 31 and 32, G).
- To oil pins earmarked with letter O (fig.31 and 32, O).
- Lubricate the pliers (fig. 33) with grease on the points earmarked with letter G and with oil on the points earmarked with letter O.

5.1.3 EVERY 40 OPERATING HOURS

Every 40 operating hours:

- Check the overall condition of the machine.
- To grease bearings of rolls supports on the cradle (fig. 34, N).
- To lubricate gear chain of the cradle (fig. 34, P).
- To lubricate gear chain of film stretcher (fig. 35, C). If the chain isn't tensed, to adjust the tensioner (fig. 35, T).

5.1.4 EVERY 80 OPERATING HOURS

Every 80 operating hours :

- To grease the rotating cradle.

5.1.5 EVERY 400 OPERATING HOURS

Every 400 operating hours :
To change the rotating cradle angular transmission oil, using 0,8 Kg SAE 90 oil (fig. 34, O).

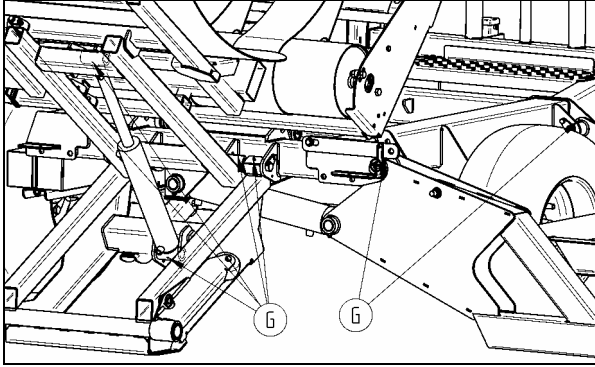


fig. 31 – Lubrication points

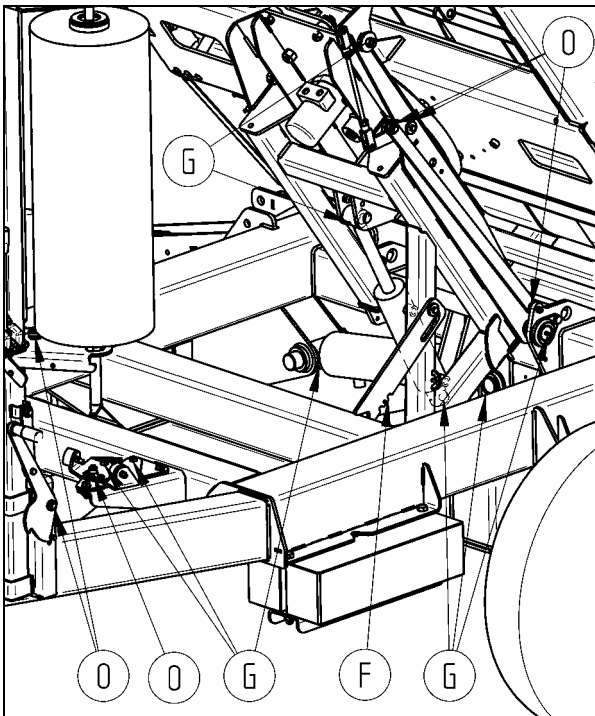


fig. 32 – Lubrication points

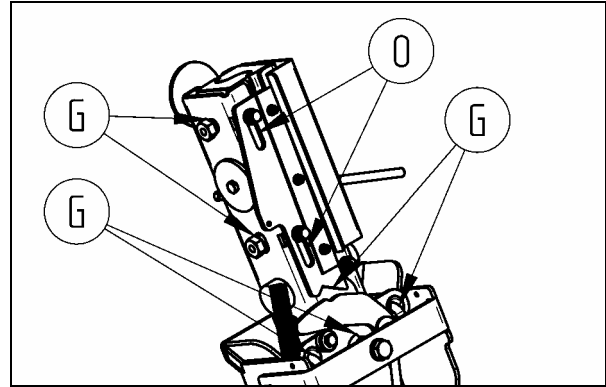


fig. 33 – Lubrication points of the pliers

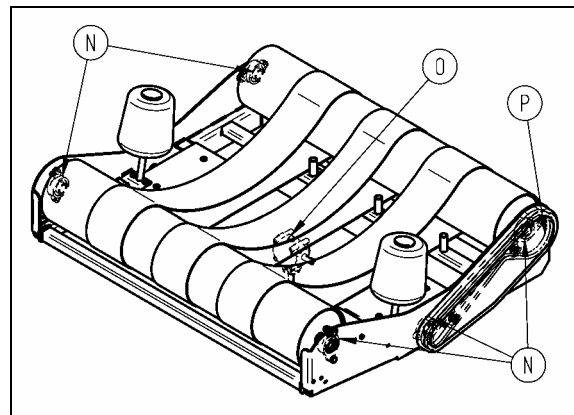


fig. 34 – Lubrication points of the cradle

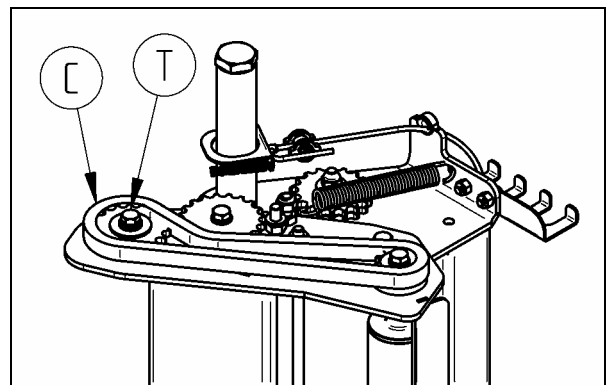


fig. 35 – Lubrication points of PSU

5.2 CHECKS AND ADJUSTMENTS

5.2.1 ROTATING CRADLE DRIVE CHAIN

Check and set the tension of the cradle drive chain as follows:

- Remove the side protective case.
- Lubricate the chain.
- Check chain tension.
- For the possible chain setting, to operate on the tensioner pinion (fig.36, A).

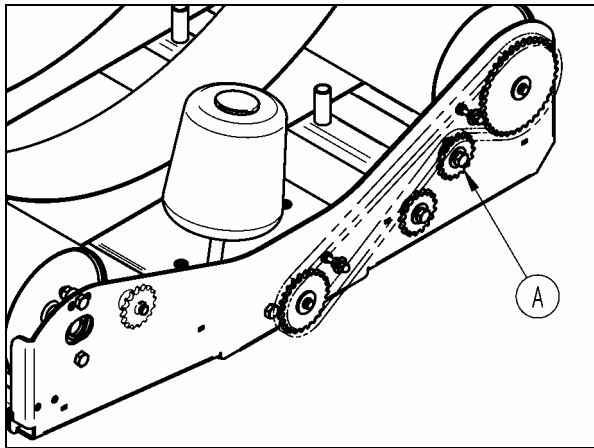


fig. 36 – Tensioning pinion

5.3 HOLDER/CUTTING PLIERS

To ensure that the clamp grips and cuts the film correctly, the sharpness of the film cutter blade must be checked periodically (fig. 37, A). Replace the blade with a new one if it appears too worn.

The moving parts of the clamp must be lubricated constantly.



DANGER

Replacing the clamp blade must be done with the clamp in its open position. Beware - danger of loss of fingers..

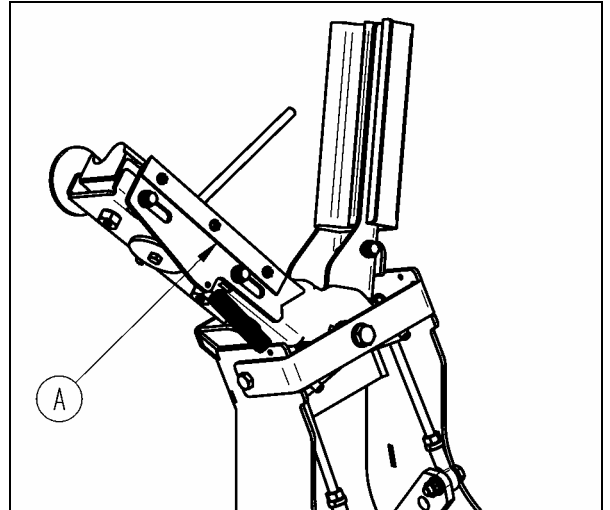


fig. 37 – Holder / cutting pliers

5.4 PRE STRETCHING UNIT (PSU)

To check periodically the surface of the rolls of the PSU.

Possible rests of adhesive of film on the rolls of PSU have to be removed by alcohol.

To check chain tension of rolls gear (fig.35). If it isn't tensed, you have to adjust it by tensioning pinion (fig.35, T).

5.5 PREPARATION FOR STORAGE WHEN MACHINE IS NOT IN USE

At the end of the season, or if the machine is not going to be used for a prolonged period, the following is necessary:

- Wash the machine with water. Do not point the high pressure jet directly at the roller bearings.
- Remove all product residue from the machine.
- Place the machine on a flat, level surface.
- Place chocks under the wheels and ensure that all protective covers are in place.
- Check the machine thoroughly and replace any damaged or worn parts.
- Tighten all nuts and bolts correctly.
- Lubricate all points that require lubrication including the chains.
- Apply a coat of rust protection on all worn areas.
- Put the machine in a safe, dry place.

It is in your own interest to carry out this procedure correctly, as the machine will be in perfect working order when you need to use it again. In case of dismantling of the machine, you have to follow the rules about pollution. In particular you have to drain used up lubricating and the various elements in accordance with their differentiated structure.

5.6 TROUBLESHOOTING

TROUBLE	CAUSE	REMEDY
Film tears during stretching	Stretch ratio too high	Reduce the stretch ratio
	Film tensioner rollers blocked	Check that roller drive works correctly
	Damaged film reel	Check the state of the film
	Rotation speed too high	Reduce the tractor engine rpm
	Irregularly shaped bale	Improve bale shape
	Glue on film tensioner rollers	Clean film tensioner rollers with alcohol
Insufficient film tension	Insufficient stretch ratio	Increase stretch ratio
Bale wrapping is damaged after unloading	Sharp objects in contact with film	Unload the bales on a less rough surface
Excessive noise from chains	Chains too loose on sprockets	Adjust chain tensioners to correct tension
Bale not regularly wrapped over its whole surface	Film tensioner support not aligned with bale centre	Align film tensioner with bale centre
Bale tends to fall out of cradle during rotation	Rotation speed too high	Reduce tractor engine rpm

SECTION 6

Spare parts

6.1 SPARE PARTS

All the wrapping machine's components can be requested from the Manufacturer by specifying:

- **Machine model**
- **Machine's serial number**
- **Year of manufacture**
- **Serial number of the part required (to be found in the spare parts catalogue),** description of the part and relevant quantity.
- **Means of transport.** In the event this piece of information is not specified, the Manufacturer, though going to great lengths to ensure this service is satisfactory, cannot be held responsible for delays in shipment owing to force majeure. The transport expenses are always at the buyer's expense. The goods are transported at the customer's risk and peril, even when sent on a carriage paid basis.

Lastly, remember that the Manufacturer is always on hand to help with enquiries and/or spare parts requests.

SECTION 7

Fittings

7.1 COMPUTER MC 300

The computer indicates to the operator the end of wrapping phase. With the MC 300 you could set the wrapped numbers used for a full and complete dressing.

When there are 2 rounds remaining the computer emits an acoustic and bright signal. Then at the last round it emits the same acoustic and bright signal but this time this unceasing, letting the operator know that the bale has been wrapped fully.



fig. 38 - Computer MC 300

Programming of the MC 300

Key A – Double function: programming confirmation, and number of programmed dressing.

Key B – Multi-purposes: shows total number of bales, reset the counter (has to be pressed for longer than 3 seconds). Reduces the number of dressing during the programming with the A key.

Key C – Multi-purposes: shows partials number of bales, reset the counter of partial bales (pressed for 3 seconds) increase the number of dressing during the programming with A key.

Key F – Power ON/OFF with green LED.

Connector E - Feeding 12V DC.

Connector D - Connection cradle rotating sensor.



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