

AGRICULTURAL MACHINERY
sitrex[®]

Use and maintenance manual



Round baler



*Before starting to
use the machine
read the
instructions*

ACTION 120

CE

INDEX

1	DESCRIPTION AND MAIN FEATURES	5	5.1	Prior to use	23
1.1	Presentation	5	5.1.1	Work position	23
1.1.1	Intended users of the manuals	5	5.2	Hitching to the tractor	23
1.2	Warranty	5	5.3	P.T.O. Shaft	23
1.2.1	Exclusions from warranty	5	5.3.1	Torque limiter with shear bolt	25
1.3	Markings	6	5.4	Adjustment carriageway	25
1.4	Description and use of the machine	6	5.5	Hydraulic connection	25
1.5	Not forecasted use of the machine	6	5.6	Electric system	26
1.6	Sound level	6	5.7	Electric signal of final density of pressing "M50"	26
1.7	Technical data	8	5.8	Electric switch-board "M100" (optional)	27
2	SAFETY AND PREVENTION	10	5.9	Automatic switch-board "M200" (optional)	27
2.1	Safety	10	5.9.1	Installation and linkage	27
2.1.1	Terminology used	10	5.9.2	Control description	27
2.1.2	General safety rules	10	5.9.3	Programming	28
2.1.3	Machine control operations	13	5.9.4	Manual use	28
2.2	Safety signs (pictograms)	14	5.9.5	Semi-automatic use	28
2.3	Indication signals	16	5.9.6	Automatic use	28
3	TRANSPORT AND HANDLING	18	5.10	Twine binding	29
3.1	General warnings	18	5.10.1	Knotting twine	29
3.2	Load by crane	18	5.10.2	Side adjustment of binding	30
3.3	Load by loading ramps	19	5.11	Net binding	30
3.4	Circulation on the road	19	5.11.1	Reset the net wrap binder	30
3.4.1	Tires pressure	20	5.11.2	Number of net turning on the bale	31
3.4.2	Admitted slopes	20	5.12	In working	31
4	HARVESTING INSTRUCTIONS	21	5.13	Adjusting round bale density	32
4.1	General guidelines	21	5.14	Pick-up height adjustment	32
4.2	Advantages with low and wide windrow	21	5.15	Pick-up with adjustable wheels (optional)	32
4.3	Disadvantages with high and narrow windrow	21	5.16	Rake adjustment	33
4.4	Feeding procedure	21	5.17	Machine jamming	33
4.4.1	Feeding with narrow windrow	21	5.18	Stopping the round baler	33
4.4.2	Feeding with wide windrow	21	5.19	Parking	33
4.4.3	Start the feeding	21	5.20	Safety device	33
4.4.4	Bale discharge	21	5.21	Checks and tests	34
5	USE INSTRUCTIONS	23	6	MAINTENANCE	35
			6.1	Maintenance	35
			6.2	Rear door safety block	35

6.3	P.T.O. shaft	35
6.4	After the first 8 hours of use	35
6.5	Every 8 hours of use	36
6.6	Every 24 hours of use	36
6.7	After the first 50 hours of use	36
6.8	Every 50 hours of use	36
6.9	Every 400 hours of use	36
6.10	Lubrication	36
6.11	Extraordinary maintenance	37
6.11.1	Lifting through hydraulic jacks	37
6.12	Storage	38
6.13	Hydraulic diagram	39
6.14	Troubleshooting: cause and possible remedy	40
7	SPARE PARTS	42
7.1	Spare parts	42

Details mentioned in the identification plate:

<i>Machine model</i>
<i>Serial number</i>
<i>Year of production</i>
<i>Machine weight</i>

Authorized SITREX repair center to contact for service in
--

The identification plate is located at the front right side of the machine, near to the drawbar hooking.

In this manual, there are symbols and notes used to highlight requirements of particular interest for the machine and / or operator, their meaning is indicated here below.

DANGERS CAN BE OF 3 LEVELS:



DANGER

The writing «DANGER» indicates the maximum danger and warns that if the described operations are not properly carried out, this can cause serious injury, death or long-term health risks.



WARNING

The signal «WARNING» warns that if the described operations are not properly carried out, this can cause serious injury, death or long-term health risks.



CAUTION

This signal advises that if the described operations are not properly carried out, they can cause damages to the machine and/or to the person.

1 DESCRIPTION AND MAIN FEATURES

1.1 PRESENTATION

This manual contains information and instructions and what deemed necessary for the knowledge, the proper use and the regular maintenance of the baler «ACTION 120», hereinafter also referred to as the machine, is manufactured by SITREX of Trestina (Perugia) Italy, hereinafter referred to more simply as the Manufacturer.

The contents of this manual does not constitute a detailed account of the various components and how they work, the user, however, will find what is normally useful for the safe use and proper preservation of the machine. From the observance and fulfilment of what described in this manual, together with a careful and cautious maintenance, depends the smooth operation, durability and operating economy of the machine. Failure to comply with the instructions given herein, negligent operation, incorrect use of the machine and the performance of unauthorized modifications may cause the loss of any rights of warranty provided by the Manufacturer.



WARNING

Consequently, the Manufacturer declines all responsibility for damages resulting from negligence or failure to observe the instructions herein.

When in need of repairs or overhauling involving complex operations, you must contact the authorized Service Centres having their own skilled personnel, or get in touch with the Manufacturer directly. Remember that the Manufacturer is available to ensure a prompt and precise technical service and any other element required to get the maximum efficiency 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 up to said personnel to make sure it is kept safe and intact for consultation for the entire duration of the machine's service life. Should it be damaged or lost, apply immediately to the Manufacturer for a new copy.

1.1.1 Intended users of the manuals

This manual represents the fundamental instrument for the personnel authorized to perform various operations concerning the machine, i.e.:

- Personnel in charge of the transportation and handling of the machine;
- Personnel in charge to operate with the machine;
- Maintenance personnel;
- Personnel in charge of the demolition.

1.2 WARRANTY

The Manufacturer warrants its brand new products for a period of 12 (twelve) months from the date of the purchase.

Check at the delivery that the machine has not been damaged during transport and that the accessories are integral and complete.

Any complaints must be made in writing within 8 (eight) days from the receipt of the machine. The warranty shall consist in the free of charge repair or replacement of any parts proving to be defective after a careful examination carried out by the Manufacturer's Engineering Department (and does not include the electrical parts or any eventual implement).

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

The purchaser may only enforce its rights concerning the warranty only as far as the warranty service is concerned, also featured in the supply contract.

1.2.1 Exclusions from warranty

Warranty becomes void (in addition to those situations featured in the supply contract):

- In the event of an incorrect operations attributable to the operator.
- In the event, the damage can be attributable to poor maintenance.
- In the event the machine is altered, following 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 the instructions featured in this manual have not been followed.
- Neither shall the warranty cover any damage resulting from negligence, carelessness, bad operation or improper use of the machine.



WARNING

The removal of the safety devices supplied with the machine shall automatically cause the

warranty to become void and relieve the Manufacturer of any responsibility. In addition, the warranty shall become void in the event 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, featuring the following data:

- Name and address of the Manufacturer;
- EU. AP.: European road homologation number (if is present);
- Category: Machine category;
- VIN: frame serial number;
- LADEN MASS: Mass on the axes;
- A-0: Mass on the towing eye;
- A-1: Mass on the first axle;
- A-2: Mass on the second axle (if is present);
- DESIGNATION: Type of machine;
- TYPE/VARIANT: Machine model;
- MODEL YEAR: Model year;
- CONSTRUCTION YEAR: Construction year of the machine;
- «CE» marking;



Identification plate

Data showed on the machine identification plate have to be quoted at page 4 of this manual and they have to be always mentioned for eventual requests for spare parts or need of assistance. The machine is standards equipped with:

- Machine use and maintenance manual
- Declaration of «CE» conformity

1.4 DESCRIPTION AND USE OF THE MACHINE

«ACTION 120» Round Baler manufactured by SITREX is a machine bearing the CE marking in conformity with the provisions of the directive 98/37/EC, as described in the declaration of

conformity each round baler comes with mechanisms for picking up the agricultural products and for pressing them into cylindrical bales. The round baler is mounted on an axis with rubber wheels and is equipped with an adjustable height drawbar for hooking to the tractor.

The motive power required for the machine's operation is transmitted from the tractor by means of the power-takeoff shaft (bearing CE marking) and the connection of the round baler's electrical system to the tractor's 12V power socket.

To connect the electrical system, the power cable must be connected to the tractor on the 12V socket, and the light cable to the seven-pin plug. The hydraulic system of the baler is controlled by the tractor hydraulic distributor: the machine is connected to two quick couplings by flexy tubes. The outputs control the opening cylinder of the tailgate and lift the pick-up (pick-up) respectively. The round baler is a machine designed solely for use in farming, for the picking up of hay, straw, maize stubble and green forage and their pressing into cylindrical-shaped bales.

A single operator seated in the tractor seat can perform the various operations required to Pick-up and bale the product lying in windrows.

1.5 NOT FORECASTED USE OF THE MACHINE

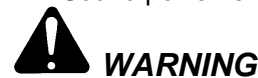


DANGER
The operator should use the machine as indicated in this manual, keeping in mind the rules of accident, use conditions and technical characteristics of the machine. Any other not forecasted use of the machine excludes the manufacturer from every kind of responsibility to persons, animals and things.

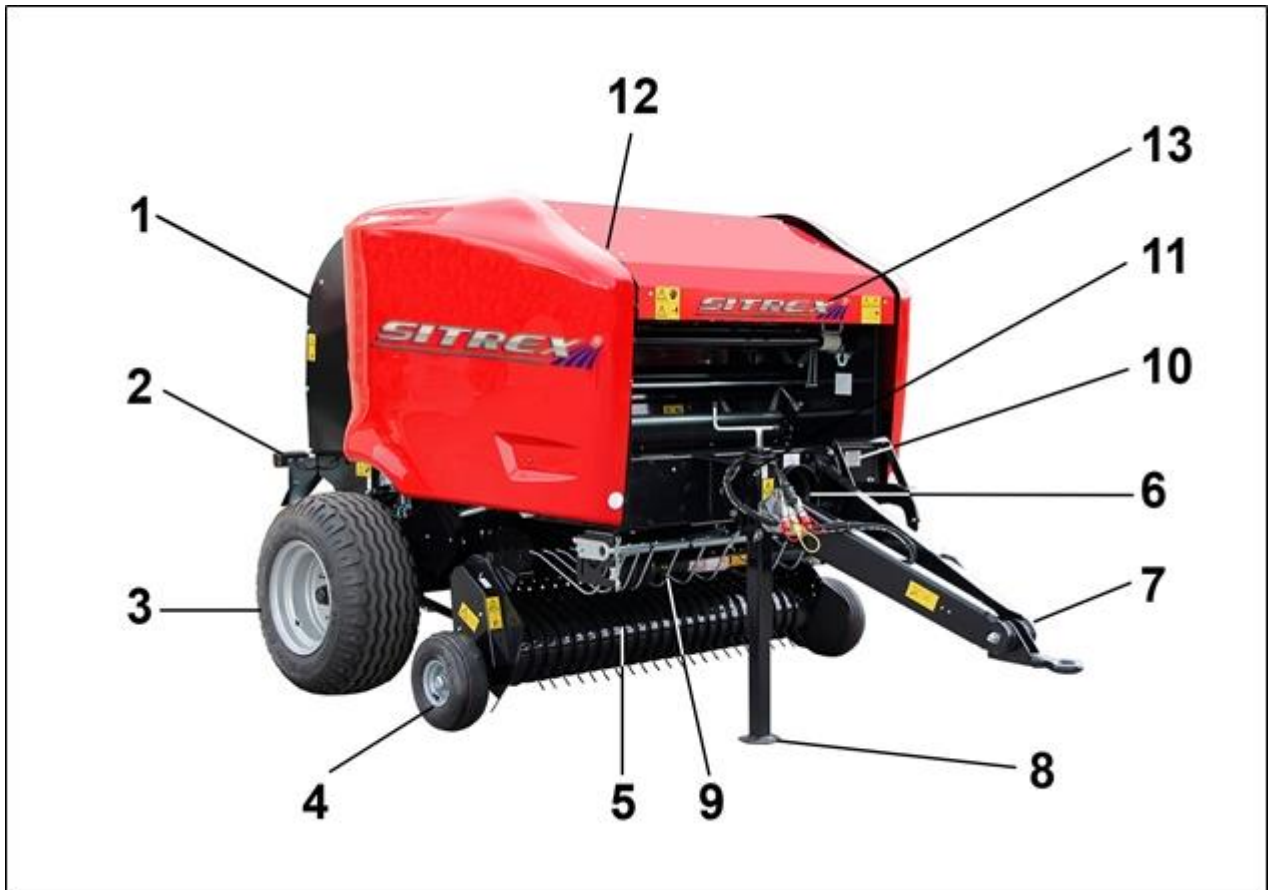
1.6 SOUND LEVEL

The sound level (airborne noise) has been measured with the machine running unlade, giving the following results:

- Sound pressure level LpAm (A).....82 dB
- Sound power level LwA (A).....102 dB



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).



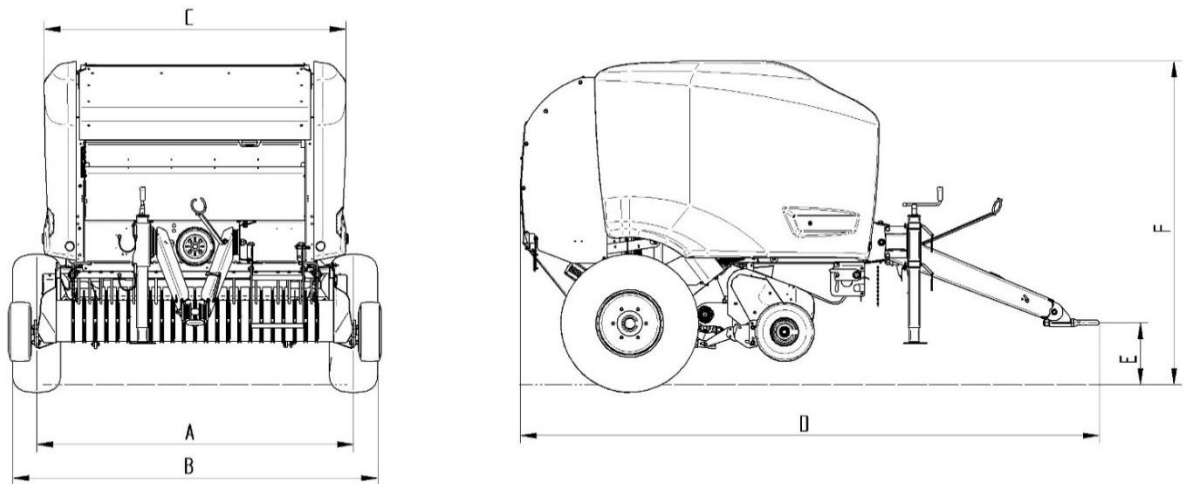
Pic.1 – Overall view of the machine with its main assemblies

1. Rear door for unloading of bales
2. Rear lights
3. Wheels
4. Wheels pick-up
5. Pick-up
6. P.T.O. shaft with protection cup
7. Towing link/draw bar with adjustable height
8. Parking jack
9. Rake
10. Identification plate
11. Flexible pipes oil-dynamic installation
12. Adjusting lever bales density
13. Front cover plate

1.7 TECHNICAL DATA

MODEL	ACTION 120		ACTION 120L
Chamber type	Fixed		
Bale width (cm)	120		
Bale diameter (cm)	120		
Bale rotation	Bars		
Bars number	34		
Minimum Power required kW (CV)	30(40)		
Pick-up collection width (cm)	170	200	
Tines rows/Tines for pick-up row	4/19	4/23	
Regulation of bale density	Mechanic 3 positions		
Electrical system	12 Volt		
Tractor hydraulic system required	2 distributor single effect		
Tires (standard)	10.0/75-15.3		11.5/80-15.3
Tires (optional)	11.5/80-15.3	15.0/55-17	15.0/55-17
Nr RPM at the P.T.O. (RPM/min)	540		
P.T.O. shaft	Shearing bolt 1050 Nm		
Weight on towing eye (kg)	340		
Dimensions free towing eye* (mm)	Ø 35 - Ø 100		
Empty weight (full optional) (kg)	2020 kg (2120 kg)		2070 kg (2170 kg)

(*) Available with towing eye Ø40 – Ø100 fix and with towing eye Ø45 – Ø105 (homologated France).



Pic. 2 – Overall dimensions of the machine

DIMENSIONS (cm)

B	Narrow	Medium	Large
Tires	A = 189	A = 197	A = 205
10.0/75-15.3	217	225	233
11.5/80-15.3	219	227	235
15.0/55-17	-	236	244

PICK-UP OVERALL DIMENSIONS (cm)

Pick-up width	Fixed wheels	Adjustable wheels	
		With wheels	Without wheels
pick-up 170	199	209	182
pick-up 200	232	243	216

C = 188 cm D = 360 cm E = 35-100 cm F = 201 cm

2 SAFETY AND PREVENTION

2.1 SAFETY

The user is responsible for making sure the personnel is instructed on the hazards rising from accidents, and on the devices fitted for the operator's safety and the general safety requirements prescribed 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. In designing and producing a new machine, the manufacturer tries to foresee all the possible hazards and, of course, adopt appropriate safety measures. Nevertheless, the level of accidents caused 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 declines all responsibility 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.

2.1.1 Terminology used

Here below you'll find the definitions of the figures and specific situations that might directly involve the machine and/or persons in direct contact with the machine.

- **USER:** The user is the person, or corporation or company, that has purchased or hired the machine and that intends to use it for the purposes for which it was designed. The user is responsible for the machine and for training personnel working on and around the machine.
- **HAZARD ZONE:** Any area inside and/or near the machine in which the health and safety of any exposed person is at risk.
- **EXPOSED PERSON:** Any person to be found in a hazard zone, whether fully or partially.
- **OPERATOR:** Description of the people, in a general sense, 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 repair needing for specific knowledge of the machine, its operation, the safety devices, the operating procedures, and who are aware of the hazards rising from the use of the machine and, consequently, are able to avoid them.

- **AUTHORIZED SERVICE CENTRE:** The Authorized Service Centre is the structure legally authorized by the Manufacturer employing skilled personnel qualified to perform all servicing, maintenance and repair work, including complex operations, to keep the machine working efficiently.

2.1.2 General safety rules



WARNING

Failure to comply with the rules described in Section 2 – Safety and accident prevention – and any tampering with the safety devices, shall relieve the Manufacturer from any responsibility in the event of accidents, damage of malfunctioning of the machine.

General Warnings:

- The user undertakes to give the round baler to skilled and trained personnel only.
- The user is obliged to take all necessary measures to deny to unauthorized personnel the access to the machine.
- The personnel must comply with the instructions herein without exception, and observe the general safety requirements prescribed 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 personnel must use personal safety equipment, as prescribed by local legislation, at all times, as well as follow the relevant instructions herein.
- The personnel must observe all the hazard and caution signs applied on the machine.
- The authorized personnel must not perform any operations or work that do not fall within its specific sphere of competence.
- The personnel is obliged to report any problem or hazardous situation that might occur to the person concerned.
- Personnel in training must always be supervised by expert personnel.

- Prima di iniziare il lavoro, familiarizzare con i dispositivi di comando e le loro funzioni.
- Before starting work, practice with the controls and their functions.

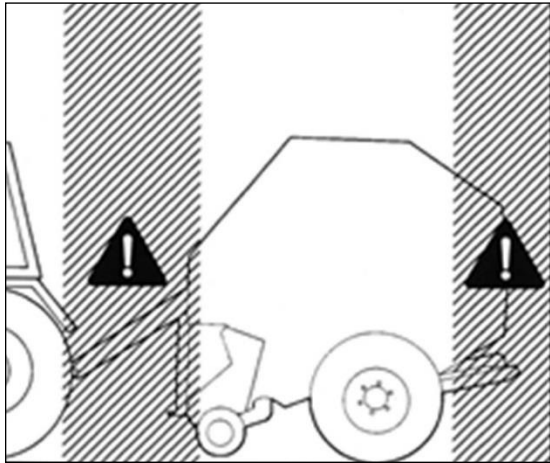


WARNING

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 license, is strictly forbidden.

- The area in which the machine is used is to be considered a **hazard** 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 work area.
 - When a person is «**exposed**», that is when standing in a «hazardous area», the operator must take immediate measures, stop the machine and eventually make sure the person is moved away.
 - During the operation of the machine, the operator must seat in the tractor so that he cannot fall accidentally and so that the whole machine is under his control, and that appropriate action can be taken whenever the need arises.
 - Before starting the equipment, verify no person, children or domestic animals are around the machine and make sure to have a perfect vision around the machine.
 - It is strictly forbidden to leave the driver's seat while the tractor is running.
 - Use suitable clothing. Avoid absolutely wearing baggy or fluttery clothing as they might get caught up in the rotating parts.
 - Before leaving the tractor it is compulsory to stop the engine, enter the parking brake, remove the key from the command panel.
 - It is strictly forbidden to carry people or animals on the machine and on the tractor.
 - 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 work near electricity pylons is unavoidable, it is advisable to ensure that all parts of the machine are kept at a minimum safety distance from them. Contact the competent electricity board if you have any enquiries. The machine is mainly made from metal and consequently any contact with a power line or a discharge may occur between the line and the machine, the operator might be involved, even with lethal consequences
- It is strictly forbidden to work or get in contact with the machine while the tractor engine is on, before getting close to the machine or to the P.T.O shaft, stop the P.T.O, stop the tractor, enter the parking brake and remove the key from the command panel.
 - During the machine operation, it is strictly forbidden to let any part of your body get near the moving mechanical parts.
 - During the machine's operation, the unloading device, when activated, represents a crushing hazard.
 - The round baler «ACTION 120», has been manufactured in conformity with the current techniques and guarantees a safe working if used in the proper way. The assembly of pieces of other brands or any modifications can vary the characteristics of the machine and therefore compromise the security of the operations. The Manufacturer consequently declines any responsibility for all damages caused by not original parts used in the machine.
 - Machine must be utilized exclusively for the purpose it was intended to.
 - User must inform the manufacturer in case of defects or malfunctions of the safety system, as well as of any supposed danger.
 - Machine doesn't have to work with the protections removed.
 - It is strictly forbidden to remove or tamper with the safety devices (including carter).
 - In case carter is removed for maintenance operations, make sure of its correct repositioning before reusing the machine.
 - Before operating the machine, check the perfect integrity of its safety systems for transport and use; in case of malfunctions or damages to the safety systems, proceed with relative repair before operating the machine.
 - Pay attention to the dangerous signs indicated in this manual or on the machine itself.
 - The round baler can be controlled only by the suitable P.T.O. shaft (marked CE) complete with all necessary safety systems and protections secured with the proper chains.
 - Pay attention to the P.T.O. shaft when rotating. Duly read also the use manual supplied with it.
 - Pay duly attention to the correct assembly of the P.T.O. shaft on the tractor P.T.O..
 - Never install the P.T.O. without having connected the drawbar to the tractor.
 - Don't leave the lever operating the P.T.O. when the tractor is off.
 - Before starting the P.T.O., make sure the RPM of the tractor P.T.O. correspond to the RPM forecasted for the round baler.

- Never exceed the prescribed RPM at the power takeoff.
- Always disengage the power takeoff when the cardan shaft forms a too wide with the P.T.O. (for shaft type) and when it is not in use.
- Do not perform any work on the hydraulic system without first relieving the pressure.
- **The Hydraulic system of the round baler contains tanks that can remain under pressure even after detachment from the tractor, the maintenance on the hydraulic system can be operated only by skilled personnel.**
- It is strictly forbidden to stand in between the tractor and the equipment (pic.3) with the engine on, and without having activated the packing brake and having inserted, under the wheels, a clamping block of suitable dimensions.



Pic. 3 – Hazard zones

- **In case of jamming of the collection and harvesting group, it is strictly forbidden to operate on the machine with the P.T.O. and the tractor on. Stop the engine, pull on the packing brake and take off the key from the command panel.**
- Moving out from the working area, must be carried on with the equipment in position of transport.
- Before starting the machine, verify the standing foot is left up and that the machine has been mounted and set properly; also verify that all the parts subjected to usury and deterioration are efficient.
- Always keep oils and greases out of reach of children.
- Always carefully read advice and precautions indicated on all containers.
- Avoid contact with skin of dangerous substances.
- After using the above substances, wash hands carefully.
- All maintenance, regulations and work starting operations, must be done compulsory with the machine leaned on the ground by the standing foot, tractor turned off, well stopped and key off the dashboard.
- Should the machine be used on public roads, follow the traffic laws in force in the country where the machine is used.
- It's very important to bear in mind that the road grip, direction and brake capacity, can be influenced, also remarkably, by the presence of hold or towered equipment.
- On the curves, pay attention to the centrifugal force exercised in a different position, by the center of gravity, with or without towered equipment.
- Hook the equipment, as foreseen, to a tractor having a suitable power and configuration, by the proper device (drawbar), as per the local regulations of the country the machine is used in.
- Pay maximum attention during the hook and unhook phases of the machine.
- Respect the maximum foreseen weight on the axis, the total moving weight, transport rules and traffic laws of the country where operating.
- Eventual transport accessories must be provided with suitable signs and protections.
- Regularly verify the integrity of the machine and protection devices.
- Respect the conformity of suggested oils indicated on the identification plates and on this manual.
- During repair and maintenance operations, it's compulsory to use protections clothing such as: protection glasses, cut resistant gloves, sturdy and anti-crushing shoes.
- Duly operate the maintenance as indicated in this manual: skilled personnel will have to take care to substitute damaged and worn parts.
- In case of use of the round baler together with other machines (i.e.: bale wrappers or carts for hay bales), make sure of the dimensions and/or weight of the bales that can fit these machines before proceeding with the work.

2.1.3 Machine control operations



CAUTION

Periodically check the locking of screws and nuts and if it is necessary to fix them. For this operation it's suggested to use a dynamometric key respecting the following couple values of docking (twisting moment expressed in Nm):

Bolt	Class 8.8	Class 10.9
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
M 24	700	990

For setting, maintenance, clearing, assembling, etc. with the machine lifted up, keep as a precaution adequate support equipment.

Spare parts must correspond to the specifications defined by the Manufacturer.

Use original spare parts only.

The operating instructions provided in this manual must be read and learned by heart, and the manual itself kept safe for the entire service life of the machine.

2.2 SAFETY SIGNS (PICTOGRAMS)

The machine has been designed and manufactured in compliance with every possible safety standard to assure the safety of the operator.

Nonetheless, there are still a number of residual hazards involved in the use of the machine, i.e. those hazards that it has not been possible to eliminate completely due to the specific nature of the work the machine is designed for and certain operating conditions.

These potential hazards are marked on the machine with stickers (pictograms) that provide a summary indication of the various unsafe and hazardous situations.



WARNING

Keep stickers clean and replace them immediately should they start peeling off or be damaged; immediately request new ones from your dealer or directly from the manufacturer at the end of the manual.



WARNING

In case of replacement of a component with a sticker on it, this one must be replaced and affixed to the new component.



WARNING

All the safety signs positioned on one side of the round baler and illustrated hereunder have to be applied in exactly the same position on the other side as well.

1)



Before starting to work, carefully read the operating instructions.

2)



Before starting cleaning and maintenance operations, stop the machine, remove the key from the control panel and read the operating instructions.

3)



Danger. While the machine is working, no one, beside the operator, can get close to the machine and the machine controls

4)



Crushing Hazard. Do not get close to the area between the tractor and the round baler. Before entering this area, turn off the engine, activate the parking brake of the tractor and get sure of the round baler stability.

5)



Crushing hazard/cutting of upper limbs. Do not remove protections and do not get close to the moving parts.

6)



Entanglement hazard. It is strictly forbidden to get close to the rotating parts (in particular to the P.T.O. shaft).

7)



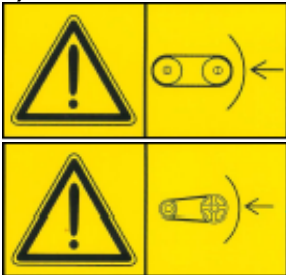
High noise level. Protect hearing with suitable earmuffs or ear plugs.

8)



Crushing hazard for sudden movements. When the round baler is disconnected from the tractor, activate the parking brake or use the appropriate wedges to be placed under the wheels.

9)



Entanglement hazard and cutting of upper limbs. Do not get close to the rotating parts with the round baler moving or with the tractor in motion. It is compulsory to turn off the engine and the control unit during the maintenance on the machine.

10)



Crushing hazard. Do not get close to the machine and do not stand under the area of discharge of the bale while the rear door is open or without having activate before the suitable safety devices.

11)



Crushing hazard. Do not get close to the machine while it is working and in particular do not stand in between any barrier and the back of the round baler.

12)



Crushing hazard. Do not stand in the operating area of the round baler, especially while the bale is being ejected from the rear of the round baler.

13)



Crushing hazard and cutting of upper limbs. Do not get close to the rotating parts while the round baler is moving or the tractor is in motion. It is compulsory to turn off the engine and the control unit during the maintenance on the machine.

14)



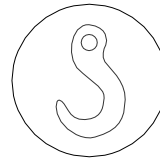
Warning. Use an additional support if the supporting jack of the machine stands on a very soft ground.

15)



Crushing hazard and cutting of upper limbs.

Do not get close to the rotating parts while the round baler is moving or the tractor is in motion. It is compulsory to turn off the engine and the control unit during the maintenance on the machine.



Hook-up points for lifting

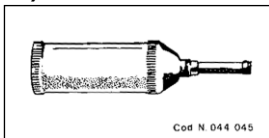
16)



Warning! Do not get close to the feeding parts while the round baler is moving or the tractor is in motion. It is compulsory to turn off the engine and the control unit during the maintenance on the machine.

2.3 INDICATION SIGNALS

17)



Greasing points.

18)



RPM at P.T.O.

19)

3 TRANSPORT AND HANDLING

3.1 GENERAL WARNINGS



DANGER

The operations of unloading, lifting and handling of the machine must be carried out by skilled personnel only.

The user and the personnel engage themselves to previously read and follow all instructions indicated.

The user undertakes to ensure its staff is equipped with all suitable personal protections (gloves, protective shoes, helmet, etc.) and with the proper tools before proceeding to the operations of unloading, lifting and handling of the machine.

Avoid that more operators work at the same time on the same machine without a coordinator, in order to avoid hazardous situations.

Transport must be carried out with the machine unloaded.

In case of transport of the machine for long distance, the machine can be loaded on lorries or on railways wagons.

To this purpose check «1.7 Technical data» for weight and dimensions. These data can be useful to check the possibility to pass tunnels and narrow passages.



DANGER

Operations of lifting and transport can be very dangerous if not carried on with extreme caution: keep away unauthorized personnel; clear and delimit the area of transfer; verify the integrity and suitability of available means; don't touch hanging loads and keep away for safety.



CAUTION

Before proceeding with the lifting operations, make sure the machine is totally empty of any content.



DANGER

The surface on which the machine has to be loaded, must be perfectly levelled in order to avoid eventual load movements.



WARNING

Once moved the machine on the lorry or on the wagon, make sure it is well blocked and steady.

Tires must be blocked using suitable blocks.

Firmly secure the machine to the surface where it's laid by ropes or chains well tied up to the hooking points on the surface and suitable for the machine in order to block the movement.

After the transport and before unbind the machine from all its bindings, verify that the status and the position of the same are not dangerous.

Unbind ropes, take away the blocks and proceed with unloading with the same means and procedures used to load the machine.

In case of transport on the road, by polling, it's necessary that the machine is homologated for circulation under the rules in force in the country in which the machine circulates.



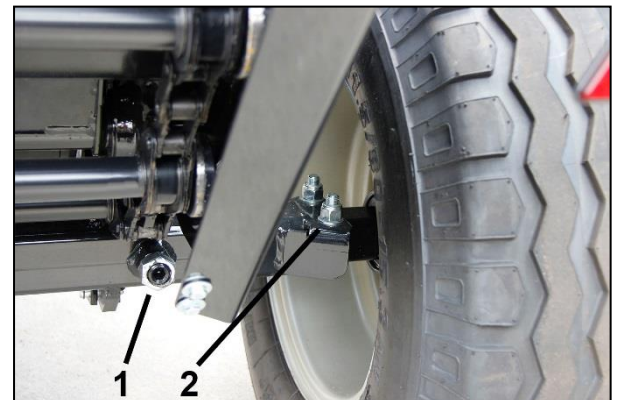
CAUTION

In case the machine is not homologated for circulation on public roads, it is necessary to follow the regulations of the Highway Code in force in the country where the machine circulates.



DANGER

Before starting to work control that the axle is in correct position and the screws (1) and (2) Pic. 5 are locked.



Pic. 5 – Axle

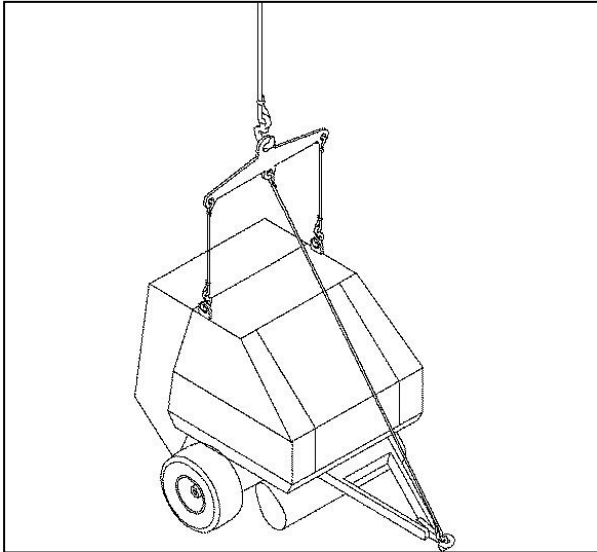
3.2 LOAD BY CRANE

Make sure the lifting ropes are equipped with bluebells, have their stickers showing all manufacturer data and the load capacity clearly readable.

Duly inspect the ropes before using them: they have to show no damages, broken wires, or signs of usury.

Don't twist or tie ropes and follow the manufacturer use instructions.

In order to lift the machine from the ground floor to the loading level, use a crane having suitable capacity, hooking the machine to the proper lifting points indicated (Pic. 6).

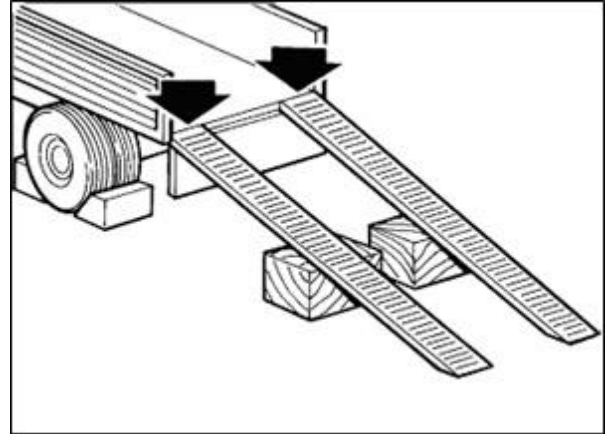


Pic. 6 – Lifting points

The hooking points for lifting are indicated with specific stickers. Lift the machine with extreme caution and slowly transfer it, without sudden movements, on the lorry or on the railways wagon. In case the machine is loaded without wheels, support and fix the axis of the round baler on the supports set on the truck bed. Supports must bear the weight of the machine and be firmly fixed to the truck bed and to the round baler axis. During transport, loads can't be lifted more than 20 cm from the ground. Make sure the area of operations is clear and that there is sufficient "escape space", that is a free and safety area in which to quickly move in case of fall of the load.

3.3 LOAD BY LOADING RAMPS

Connect the machine to a tractor, tow it on ramps and transfer it on the lorry or on the wagon steering very carefully in order to avoid sudden movements. Make sure the ramps can bear the machine weight, in order to avoid dangerous flexures, and that they are set properly depending on the wheels axis of the round baler. Make sure they are clean from oil, grease or ice in order to avoid eventual slipping. Proceed slowly on the ramps, keep the machine at the center of the flatbed. During rise and descent, avoid to correct the direction. Eventually try again.



Pic. 7 – Loading ramp

3.4 CIRCULATION ON THE ROAD

The round baler is considered an agricultural towed machine.



WARNING

For the circulation on the road the machine must be homologated according to the rules in force in the country where circulating.

The circulation on the road must be compulsory with unloaded machine, that is without bales or other material inside.

The machine must be firmly hooked to the tractor drawbar homologated by the country in which it operates.

The tractor has to have a trailer mass equal or bigger than the one of the round baler.

The tractor hooking system has to be able to connect to the drawbar of the machine and to bear the vertical load on the drawbar.

Dimensions and load of the drawbar are indicated at paragraph 1.7.

It's very important to bear in mind that the road grip and the direction and braking capacity, can be affected, even remarkably, by the presence of carried or towed equipment.

On the curves, pay attention to the centrifugal force exerted on a different position, to the center of gravity, with or without towed equipment.

The standing foot must be lift from the ground in a position completely lift up, hooked by the proper pivot and assured with the safety pin.

The machine lights system has to be connected to the tractor by the 7 poles outlet.

The pick-up must be completely raised and the hydraulic tap must close to the quick coupling. The round baler does not have absolutely be used as a mean of transport.



DANGER

The un-correct set of the tires on the wheels rims and a pressure higher than the one allowed by the tires manufacturers, can cause dangerous accidents.

Check the pressure comply with the one showed in this manual and not pass over the 40 km/h road speed.

! WARNING

It is absolutely forbidden to start any function of the round baler during transport on the road. Before taking the road, turn off the P.T.O. and switch off the terminal.

3.4.1 Tires pressure

The round baler ACTION 120 can be equipped with different type of tires. Here below tire pressure mounted from the manufacturer. For all the other types of tires please refer to the manufacturer instructions.

TIRE PRESSURE [BAR]		
Max speed 40 km/h		
Size	Load index	Pressure [bar]
10.0/75-15.3	8PR	3 - 3.2
11.5/80-15.3	8PR	2.7 - 3.4
15.0/55-17	10PR	2.5 - 2.7
400/60-15.5	10PR (136A8)	2.4 - 2.6
19.0/45-17	10PR (138A8)	2.2 - 3
480/45-17	146 A8	2.2 - 3

! WARNING

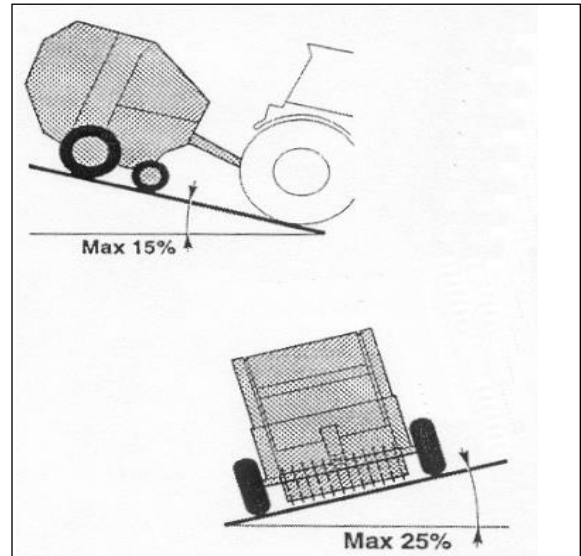
It's important to periodically check the right tire pressure in order to avoid accidents.

3.4.2 Admitted slopes

The round baler stability is influenced by the ground conditions and by the type of towing tractor. The presence of the bale inside the chamber might suddenly modify in a dangerous way the tractor and the baler motion.

It is consequently important that the operator well know the ground on which he's working and pay attention to the condition in which he'll have to work.

Pic. 8 shows the admitted slopes for the use of the round baler, both frontal as well as side way.



Pic. 8 – Admitted slopes

! WARNING

Pay lot of attention when operating with lateral slope in order to avoid the risk that the round baler overturn because of the holes, ditches or other ground irregularities, especially when the door is open.

4 HARVESTING INSTRUCTIONS

4.1 GENERAL GUIDELINES

Baler working conditions continuously changes according to product and soil characteristics.

The good function of the baler depends from the kind of windrow prepared.

Before starting harvesting, be sure the percentage of humidity inside the product is the right one in order to avoid useless loss.

For pressing bales of uniform density and for their optimal conservation, the best results are with a percentage of humidity of about 20% with hay and about 40% ÷ 55% with silage.

If the windrow is low and wide the bale results perfect.

The best results are with windrows 1.10 mt width and 0.30÷0.40 m height, both to avoid lost of product and to let a good bale forming.

4.2 ADVANTAGES WITH LOW AND WIDE WINDROW

- Faster harvesting;
- Low power absorption;
- Higher bales weight;
- Reduced loss of product;
- External impermeability;
- Good conservation;
- Good bale shape even after storage;
- Easy to drive the tractor because it avoids zigzagging on the windrow;

4.3 DISADVANTAGES WITH HIGH AND NARROW WINDROW

- Low harvesting speed;
- Low compression;
- Higher power absorption;
- Low bales weight;
- Loss of product;
- Water penetration inside the bale;
- Mediocre storage;
- Possible deformation after storage;
- Difficult driving to keep a serpentine trajectory.

4.4 FEEDING PROCEDURE

4.4.1 Feeding with narrow windrow

In case of narrow windrow it's necessary to feed the round baler sideways, not centrally, in order to obtain a bale of cylindrical shape and not of "barrel" shape. In order to obtain this, the operator must ride alternatively 7÷12 mt on the right side

and move on the left side for the same distance. Feeding must grant a uniform distribution of the product on the whole chamber length.

4.4.2 Feeding with wide windrow

In case of windrows having such a width to occupy the whole extension of the pick-up, it is necessary to proceed keeping a straight way until both augers are occupied by the entering material.

Instead, if the windrow has such a width not to effect the sideways auger, then it is necessary to proceed to move right and left sideways.

4.4.3 Start the feeding

Keep the P.T.O. at 540 RPM.

If windrow is correctly prepared you can go at about 5-8 Km/h according to windrow dimensions and soil conditions.

With short and fragile materials is better to work with low tractor speed starting from the right and than left side of the windrow. The harvested product will fill consequently the centre of the baler.

It's necessary to observe the Pick-up and to adapt consequently the speed according to the kind of windrow to avoid anticipating or delaying the pick-up action on the windrow itself.

The product must enter constantly.

Slightly change, if necessary, the rake adjustment. A skilful and expert operator can make correctly the adjustments important for the best performances for harvesting the product.



WARNING

In case the machine floods, is absolutely forbidden to get the pick-up free with the P.T.O. running.

Be sure that the Pick-up teeth are not touching the ground causing a transmission overloading and an early wearing of internal components.

4.4.4 Bale discharge

Once the collection of the product and the twine or net binding is complete, open the tailgate completely with the P.T.O. inserted and so the bale will be unloaded.



WARNING

Be sure that nobody is near the machine and unload the bale on flat soil.

The bale ejector is to push away from the machine the bale to let close the rear door.



WARNING

Don't use bale ejector with hilly grounds.

5 USE INSTRUCTIONS

5.1 PRIOR TO USE



WARNING

Before putting the round baler into operation, the user must make sure the operator in charge of the machine has read, committed to memory and understood every part of this manual, "Section 2 – Safety and prevention" in particular.

The operator must make sure the machine is intact and in a good state of repair, that the lubricating oils are at the right level and that all the parts subject to wear and deterioration are in proper working order.



DANGER

Any adjustments and setup work must always be performed with the round baler shut off and secured.

5.1.1 Work position



DANGER

When the machine is working, the operator **MUST** be seated in the driver's seat since all necessary action is only possible from this position. Before getting down from the driver's seat, the operator **MUST** stop the round baler, pull on the parking brake and shut off the tractor's engine.

5.2 HITCHING TO THE TRACTOR



DANGER

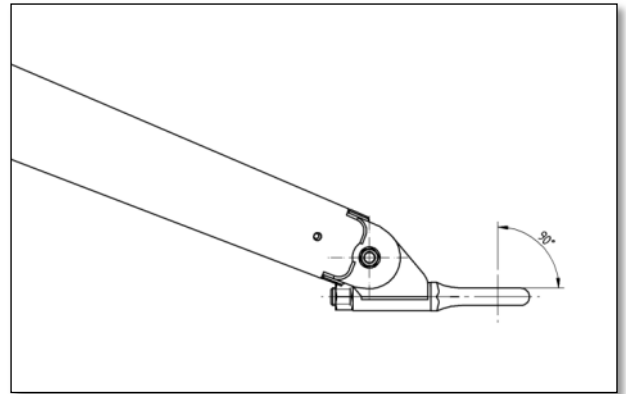
Hitching the round baler to the tractor is a **potentially hazardous operation**.

Take extreme care and perform the whole operation according to the instructions given below.

In order to correctly hitch the round baler to the tractor, proceed as follows:

- Make sure the power of the tractor used is sufficient to tow the round baler (see 1.7 – Technical data – Minimum Power required)
- Make sure no objects have been set down on the baler and that no people and/or animals are in the immediate vicinity of the baler's range, and that the power takeoff is disengaged.

- Make sure the round baler is in a stable, horizontal position (and a little bit behind of 2÷3 degrees) and that the tractor's towing hitch is positioned at the same height as the towing eye of the drawbar which can be adjusted by means of the joints. If necessary, lower or raise the towing eye using the parking jack.
- Next, start the tractor up and carefully back it up to the round baler, lining the towing hitch up with the drawbar towing eye. Once they have been successfully engaged, insert the hitch pin in the towing eye.
- Pull on the parking brake and shut off the tractor's engine.
- Connect the power-takeoff shaft complete with shields to the tractor's power takeoff, making sure it is firmly secured in place.



Pic. 9 – Towing link's position



DANGER

Please make sure that the towing link is mounted as shown on Pic. 9, otherwise it can become very dangerous.

5.3 P.T.O. SHAFT



DANGER

The power-takeoff shaft applied to a tractor is a mechanical part that, when in operation, constitutes a potential source of bodily harm to anyone working nearby.

Consequently, great care must be taken when performing any operations involving said mechanical part.

Read the instruction manual supplied with the power-takeoff shaft carefully. If you are not sure it is working properly, should it come without shields, or should it appear worn or broken,

replace it with a new shaft that must bear the CE marking.

The P.T.O. shaft is fitted with a torque limiter, which has the purpose of preserving the machine from peaks during operation; use the torque limiter on the round baler side.

Do not modify or otherwise adapt the P.T.O. shaft. Should this prove necessary, call in the Manufacturer's Service Centre.

To remove the P.T.O. shaft in use and set a new one it is necessary:

- Make sure of the weight of the P.T.O. shaft transmission and in case get suitable lifting and transport devices;
- Stop the tractor and the P.T.O. shaft and remove the ignition keys of the tractor;
- Unhook the chain from the tractor side;
- Pull out the P.T.O. shaft from the tractor side and hold it with suitable support;
- Unhook the chain from the machine side;
- Unscrew the tightening nut of the P.T.O. shaft from the machine side and remove the tightening pin;
- Pull out the P.T.O. shaft from the machine side.

To install a new P.T.O. shaft, proceed as follows:

- Clean and grease the P.T.O. shaft both from the machine and the tractor side in order to facilitate the installation of the P.T.O. shaft;
- Insert the P.T.O. shaft on the machine side;
- Insert the tightening pin and screw the related nut;
- Hook the chain from the machine side;
- Insert the plug of the P.T.O. shaft into the P.T.O. of the tractor;
- The device has to hook (see use instructions of the P.T.O. shaft);
- Hook the chain from the tractor side.

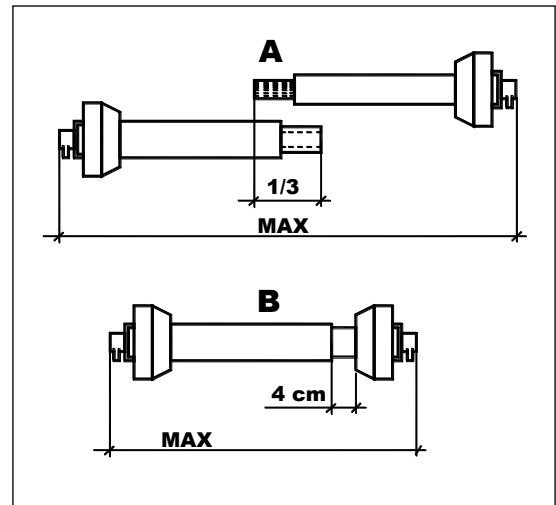
Since the P.T.O. shaft is an organ which rotates at high speed, in the testing phase it is subjected to balancing and any later intervention can cause imbalances that may affect the functionality of the machine itself as well as the integrity of the P.T.O. shaft.

Do not use the P.T.O. shaft as a support or footboard.

The angle working of the cardan shaft must be the minimum possible (max $10 \div 15^\circ$), this favours a longer life both of the shaft and the round baler.

The angle between the tractor drive and the telescopic parts of the P.T.O. shaft in working conditions, at 540 RPM, must not exceed the 16° limit for the standard and 70° for the "wide angle" shaft. If this limit cannot be respected during the manoeuvring phase, stop the P.T.O.

When the P.T.O. shaft is stretched at most, in every working condition, the telescopic pipes must overlap for at least $1/3$ of their length (A, Pic. 10).



Pic. 10 – P.T.O. shaft

When fully inserted, the minimum clearance must be 4 cm (B, Pic. 10). If this is not possible, each half of the P.T.O. shaft has to be shortened to the same length.

The shortening of the P.T.O. shaft has to be done by a skilled workshop only.

In order to shorten the P.T.O. shaft, it is necessary to:

- Uncouple the two parts of the P.T.O. shaft;
- Keep the two parts of the P.T.O. shaft one beside each other simulating the moving position;
- Make a mark on the pipes of internal and external protection to indicate the length (X) where the pipe has to be cut;
- Remove the protection pipes of each half of the P.T.O. shaft;
- Shorten the protection pipe of the length (X);
- Set the cut piece next to the pipe of internal protection;
- Shorten the inside protection pipe of the same length (X);
- Shorten the transmission pipes to the necessary length. Even when the transmission is not under rotation, the telescopic pipes have to keep a suitable overlapping to avoid blockages;
- Perpendicularly cut the inside and outside profiles at the same length (X) – the parts of cut pipes can be used as samples;
- Deburr and clean the cut profiles;
- Lubricate the internal and external profiles;
- If the outside profile of the P.T.O. shaft is equipped with lubricators, the holes to enter to the lubricators have to be made once again;

- Make sure the P.T.O. shaft is suitable to transmit the power required by the round baler (see technical data on the instructions manual for the P.T.O. shaft). In case of doubt, contact the Service Center of the manufacturer;
- Before starting to work, verify that all protections are in a perfect status and that there are the suitable security chains. Fix these chains one to the machine and the other to the tractor, to avoid that the protections rotate with the P.T.O. shaft;
- It is compulsory to keep efficient the P.T.O. shaft and the machine protections, do not use P.T.O. shafts with ruined protections or worse missing.

5.3.1 Torque limiter with shear bolt

The P.T.O. shaft has to have a torque limiter which operates by interrupting the power transmission when a torque peak occurs, over the set value.

To reset the transmission, it is necessary to replace the sheared screw with one of the same diameter, class and length. Lubricate the grease nipple at least once per season and after each period of inactivity.



DANGER

If it's necessary to replace the torque limiter, replace it with one of the same or equal dimensions and calibration. Do not use different limiters and do not tamper with the limiter to avoid big damages to the machine or/and to the operator.

Shear bolt for ACTION 120:

- Standard cardan shaft: Partially threaded screw M6 X 40, class 10.9, ISO 4014
- Homokinetic cardan shaft: Partially threaded screw M6 X 40, class 8.8, ISO 4014



CAUTION

Before inserting the P.T.O., make sure that the rotation speed corresponds to the one required by the machine (540 R/ min).

5.4 ADJUSTMENT CARRIAGEWAY

For working on mountain, hill and in presence of high slopes, for obtaining a wider carriageway, unscrew the screws of U-bolt (2, Pic. 5), and screw (1, Pic. 5), remove the hub in the position need and tighten the screws..



DANGER

Pay more attention in this operation control that the hub of axle is well blocked.

In the event that changing the track, or replacing the tires installed, the total width of the machine is changed it is obligatory to reposition the front reflectors, increasing the width of the appropriate brackets.

The front reflectors bracket allows positioning in two configurations. Find the appropriate configuration is in the table below.

MACHINE WIDTH	POSITION / REFLECTORS WIDTH
from 2150 till 2440	Pos. 1 / L = 2080
from 2440 till 2550	Pos. 2 / L = 2270

To reposition the reflectors, remove the screws that hold their bracket and fix it in the outer or inner holes.

5.5 HYDRAULIC CONNECTION



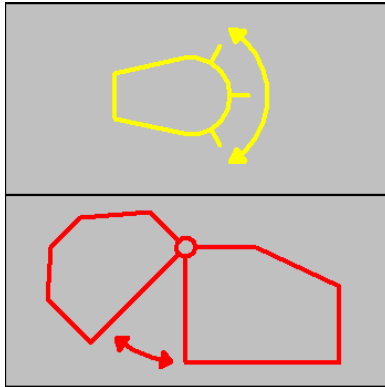
Pic. 11 – Connections

The "ACTION 120" round baler can be connected to tractors equipped with a hydraulic system with two single-acting couplings. The hydraulic opening system of the tailgate is equipped with a fixed choke valve to prevent the tailgate from lowering quickly.

The colors of the rubber cap in correspondence with the quick couplings indicate the connected user in particular:

- Yellow cap: Pick-up
- Red cap: rear tailgate

The hydraulic utilities are also identified by the following sticker placed in front of the machine



The main components of the machine's hydraulic system are:

- A - Rear door opening cylinders;
- B - Pick-up lifting cylinder;
- C - Transmission clutch cylinder.

! DANGER

It is strictly forbidden to tamper with the above-mentioned throttle valve, under any circumstances. When in doubt, contact the Manufacturer's Service Centre.

! DANGER

The specified maximum pressure of 210 bar of the hydraulic oil must never be exceeded. A value higher of the hydraulic oil can damage the machine.

The hydraulic system is filled with AGIP SUPER TRACTOR UNIVERSAL 15W40 oil.

The lever of the tractor's hydraulic system distributor must be secured in the "open" position (hydraulic oil circulating).

The flexible pipes of pick-up lifting, opening rear door and tension harm must be tied using female plugging of 1/2" installed on tractor. On the pick-up flexpipe is installed a tap of blocking that must be:

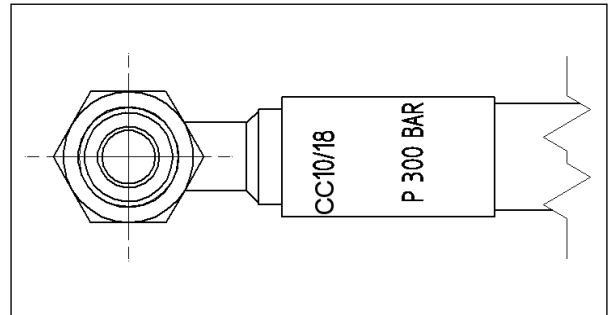
- OPENED: with the baler in working
- CLOSED: with the pick-up lifted in transport position or in transport case.

! WARNING

Before to do operation under the pick-up lifted, close the tap and avoid the lowering with a proper support.

The hydraulic flexpipe are marked with the indications of:

- Manufacturer code
- Date of production
- Maximum operating pressure



! WARNING

Replace the hydraulic pipes if they appear damaged, or every 5 years of operation

5.6 ELECTRIC SYSTEM

The round baler is equipped with a lighting system. The tractor must therefore be equipped with a 7-pin socket in which to insert the plug of the round baler lights. It is also necessary to install a 12V socket on the tractor (connected to the battery and supplied with the control unit), for powering the control unit.

! WARNING

Periodically it is necessary to control the lights and if it necessary replace them.

5.7 ELECTRIC SIGNAL OF FINAL DENSITY OF PRESSING "M50"

Using the bracket fit the warning unit on the tractor within the driver's field of view and connect it with the relevant socket on the round baler by means of the cable. The second cable must be connected to the tractor's power supply (12 V).

As soon as the round bale has reached the desired pressing density (see "Adjusting the round bale density"), a buzzer sounds and the red light comes on. The bale is therefore ready to be bound.

As soon as the light comes on/warning sounds, it is advisable to start binding (Pic. 12A):

- 1- STOP LIGHT FULL CHAMBER
- 2- FEEDING LIGHT SWITCH BOARD

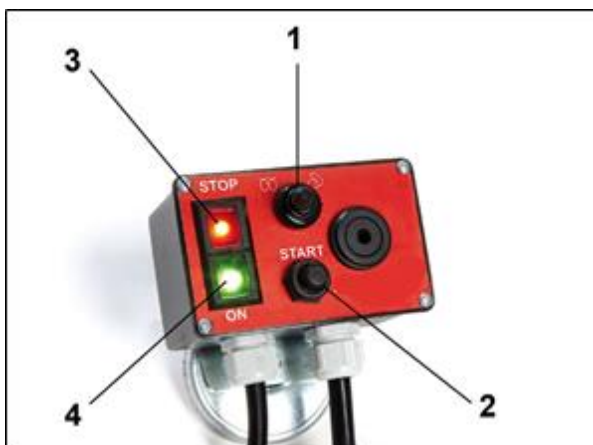


Pic. 12A – Electric signal M50

5.8 ELECTRIC SWITCH-BOARD "M100" (OPTIONAL)

The whole cycle for binding is managed by an electric switch-board with the following functions (Pic. 12B):

- 1- BUTTON FOR SELECTING TWINE OR NET
- 2- BUTTON STARTING BINDER
- 3- STOP LIGHT FULL CHAMBER
- 4- FEEDING LIGHT SWITCH BOARD



Pic. 12B – Electric switch-board M100

5.9 AUTOMATIC SWITCH-BOARD "M200" (OPTIONAL)

5.9.1 Installation and linkage

The control device has to be installed inside the tractor and has to be fed by cable. That cable has to be protected by a 20A fuse, which will be directly connected with the tractor battery (code nr. 53006910).

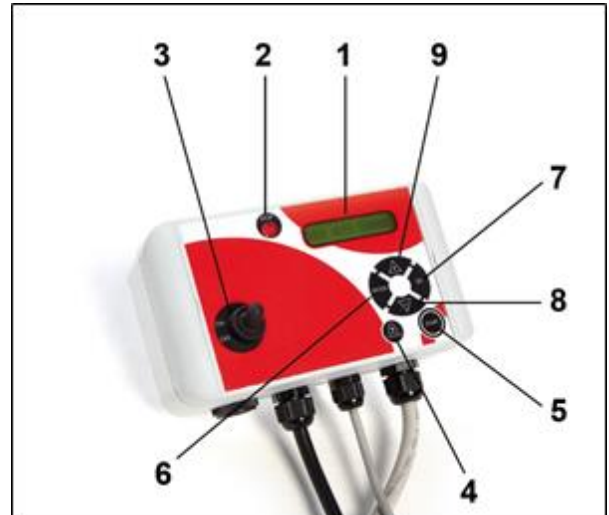
Both the delivery connectors have to be connected with baler.



WARNING

If the control device will be fed with inverted polarity, it won't be possible to switch it on and display will keep switched off.

5.9.2 Control description



Pic. 12C – Automatic switch-board M200

The switch-board "M200" has the following functions (Pic. 12C):

- 1- MULTIFUNCTION DISPLAY
On the left-hand side it display selected binder:
0000 = twine
???? = net
On the centre it display working procedure:
MAN = Manual
S-AT = Semi-automatic
AUTO = Automatic
On the right-hand side it display bales counter (total or partial)
- 2- LED STOP
- 3- SWITCH ON/OFF
- 4- COUNTER KEY
It alternate the total counter display with the display of 4 partial counters (A, B, C, D).
To set at zero the displayed partial counter press the key for 4 seconds.
- 5- START KEY
- 6- MODE KEY
It select working procedure.
During the navigation in MENU give the possibility to move on the left.

7- SET KEY

It select working procedure.
Press it for 3 seconds to enter in MENU.
During the navigation in MENU give the possibility to move on the right.

8- KEY “-“

It select binding type.
During the navigation in MENU give the possibility to move down.

9- KEY “+“

It select binding type.
During the navigation in MENU give the possibility to move up.

5.9.3 Programming

Carry out programming operations in order to modify the buzzer volume or select the type of binder on the baler.

Press SET key for 3 seconds to enter in MENU.
Once in MENU it is possible to modify the statement using MODE, SET, “-“, “+“ keys.
Hereafter it has been reproduced MENU map:

MENU	BUZZER	1
		2
		3
		4
	WRAP	TWINE
		NET
		BOTH

Buzzer volume can be settled between following values: 1 (minimum) and 4 (maximum).

Use entry WRAP to settle binder type on the baler:
TWINE: there is only twine binding
NET: there is only net binding
BOTH: the baler have both twine and net binding.

5.9.4 Manual use

- 1) Switch on control device (C)
If display doesn't switch on verify feeding polarity and fuse entireness.
- 2) With MODE or SET keys select MAN working procedure.
- 3) With “-“ and “+“ keys select binding type (twine or net).
- 4) With COUNTER key select partial counter type (carry out eventually zero setting).
- 5) Verify STOP LED.
It has switched on when rear door hooks aren't closed or guillotine of net binding hasn't been armed.

In this case try to control rear door closing or, eventually, open completely rear door and shut it again.

When STOP LED switches off, the baler is ready to begin product collection.

- 6) Collection's begin.
- 7) When the chamber gets to the settled pressure, the buzzer starts to utter its sound and STOP LED switches on.
Press START key and keep it pressed till twine or net won't have caught (in this case can be seen a rise of the rotation speed of twine pulley or of net roll).
- 8) Binding end has signalled by the buzzer with 3 sounds, each of which lasts 1 second, and by STOP LED, which starts to flash.
- 9) Open the rear door to discharge bale.
During this operation the partial counter, displayed together with the total one, has raised.

5.9.5 Semi-automatic use

Follow the same procedure described in manual working with the following differences:

- Point 2): Select SAT working.
Point 7): When the chamber gets to the settled pressure, the buzzer starts to utter its sound and STOP LED switches on.

Press shortly START key.
Buzzer will utter the last sound, that will last 1 second, and control device will keep feeding of binder motor for 10 seconds. Usually this time is sufficient to guarantee the entry of twines or net inside of pick-up. In case this won't be it is possible to press again START key.

It is possible anytime to interrupt the motor's feeding selecting manual procedure with SET or MODE keys.

5.9.6 Automatic use

Follow the same procedure described in manual working with the following differences:

- Point 2): Select AUTO working.
Point 7): When pick-up gets to the settled pressure, the buzzer utters 1 second and STOP LED switches on.

Control device will keep feeding of binder motor for 10 seconds. Usually this time is sufficient to guarantee the entry of twines or net inside of pick-up. In case this won't be it is possible to press again START key.

Pressing START key it is possible to start binding before the pick-up gets to the settled pressure. It is possible anytime to interrupt the motor's feeding selecting manual procedure with SET or MODE keys.

5.10 TWINE BINDING



Pic. 13 Twine holder

In order to prepare the machine for twin twine binding proceed as follows:

- Lift the bonnet propping it open with the relevant support.
- Place the twine beams in the proper compartments in the box and join them together (Pic. 14), feeding the twine through the fixed grommets.
- Pass the twine through the drive-twine ring and, after the adjustable brake (Pic. 14). Screw the brake screw (Pic. 14). The twine of wrapping must be always tight for warranting a regular cutting of twine by the knives.



Pic. 14 – Twine brake

- Wrap only one twine around the pulley (4 fig 14) for one tour, while the second twine directly on the proper rings driving-twine (Pic. 15) sliding them between the small wheels

(Pic. 15), from this last one the twines must be stick out for around 15 cm.

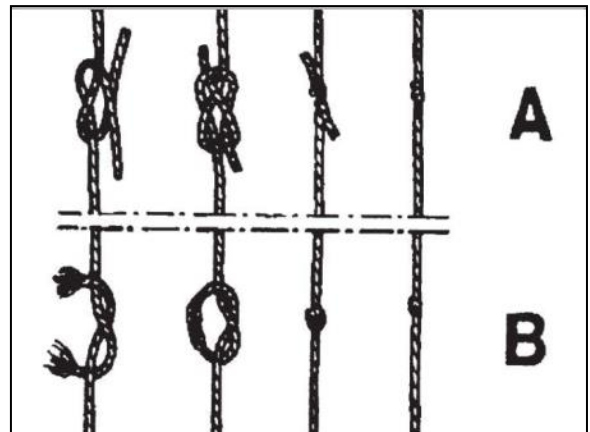


Pic. 15 – Twine binding

The pulley is equipped of 3 grooves. According to the groove increase or decrease the twine around the cylindrical bale.

Pulley diameter	Wrapping passage
Big	Narrow
Medium	Medium
Reduced	Large

Pay attention that the twine not wrapped on the pulley is the first cut by knife respect the other one if is not in this way invert the twines.



Pic. 16 – Knots

5.10.1 Knotting twine

In order to help the twine run smoothly along the routing, it must be knotted as indicated:

- A - Knot for twine from synthetic fibres
SYNTHETIC 500/700 m/kg.
- B - Knot for vegetal SISAL twine
SISAL (vegetal) 200/400 m/kg.

5.10.2 Side adjustment of binding

The binding distance at the end of the bale can be adjusted using two adjustable twine-guide screws located to the rear of the binder on the right and left (Pic. 17).



Pic. 17 – Side adjustment

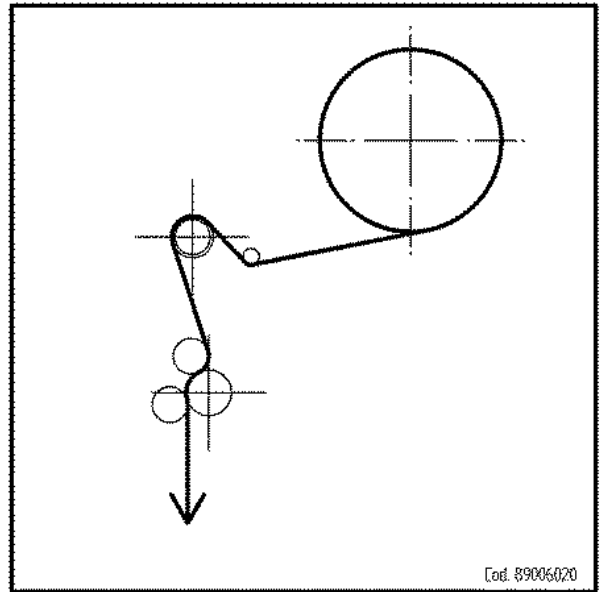
5.11 NET BINDING

In order to prepare the machine for binding with net wrap, proceed as follows:

- Insert the roll of netting in the relevant container and arrange it so that it unravels as illustrated in Pic. 18.
- Next, feed the end of the netting between the rubber roller (Pic. 19) and metal roller by approx. 15 cm, past the linking rod (Pic. 19).



Pic. 18 – Net insertion



Pic. 19 – Net passage

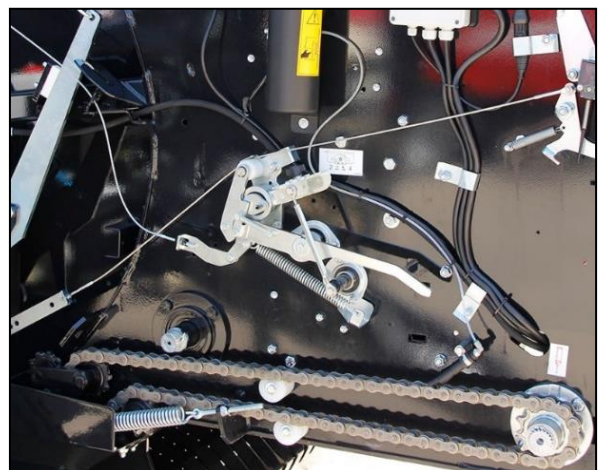


DANGER

For avoiding the accidental click of knife, during this operation keep opened the rear door of baler. It is absolutely avoid put the hands between the knives and counter-knives.

- Control the correct insertion of net.
- Cut the excess portion of net. For recharging the net holder it is necessary to open the front door of the baler. During the working phase the recharging of knife is automatic every time you open the rear door for unloading the bale.

5.11.1 Reset the net wrap binder

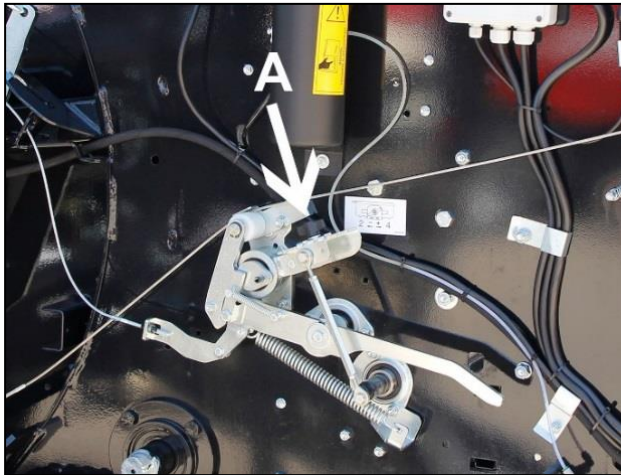


Pic. 20 – Knife resetting

The knife of the netting binder is reset by means of the steel cable (Pic. 20) when the unloading

gate is opened. If this does not happen, turn the adjustment nut accordingly.

5.11.2 Number of net turning on the bale



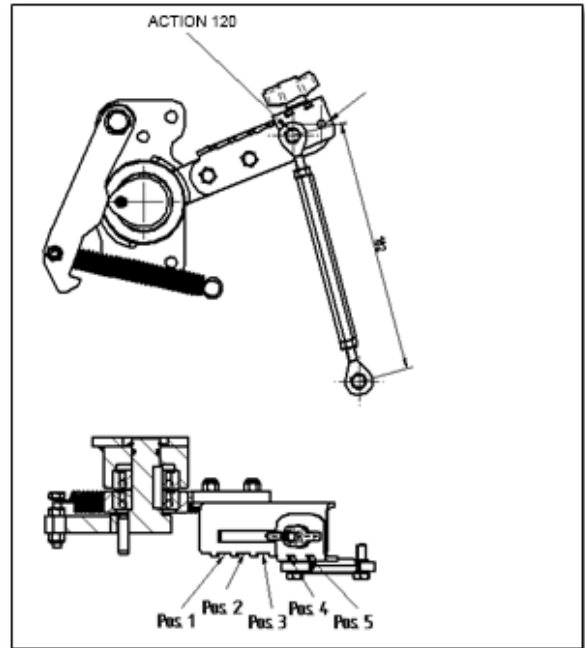
Pic. 21 – Net turns

The amount of netting to be wound around the bale can be adjusted by altering the position of the wing nut (A Pic. 21) and lever.

From Tab.1 and from Pic. 22, you can see how you set the desired number of revolutions.

Position	Turns
1	2
2	2,5
3	3,0
4	3,5
5	4

Tab. 1



Pic. 22 – Net turns adjustment

CAUTION

At least 2.5 turns are recommended in order to ensure binding is secure.

5.12 IN WORKING

In order to commence picking up and pressing, proceed as follows:

- Hitch the round baler to the tractor as described in section «5.2 – Hitching to the tractor».
- Make sure the twine or netting has been installed on the binding device.
- Using the hydraulic distributor control lever, perform the various actions to make sure it is working properly
- Close the rear gate.
- Lower the Pick-up cylinder to the desired work height.
- Engage the tractor’s power takeoff, increasing the speed of rotation to approx. 380 to 400 RPM.

WARNING

Under no circumstances must the speed exceed 540 RPM.

DANGER

Operating with the rear door it is absolutely forbidden that persons or animals stay near the machine.

- Start the tractor gradually with the round baler attached until reaching the right work speed. This varies depending on the type of product but between 5 and not over 12 km/hours.
- Near the binding pressure, however, limit the speed of advancement to obtain the best result.
- Start the binding after the buzzer sound and red light come on. Continue to collect the product until twine or net has begun to wrap the bale.
- Stop the tractor and wait the binding end.
- Once the binding has been completed, reduce the rotation speed and open the rear door.
- The bale leaves the pressing chamber, possibly moved by the ejector (optional).
- Once the bale has been unloaded, activate the rear gate closure, pressurizing the closing cylinders again;
- The round baler is now ready for the next bale formation. In case of very large windrows, is advisable to limit the feed speed and increase the speed of the cardan shaft.

5.13 ADJUSTING ROUND BALE DENSITY

The round baler features a manually adjustable graduated rod (Pic. 23), so that the compactness of the bales can be adjusted to suit the Pick-up requirements. If this lever is set in the down position (green), the bale is softer, whilst the up position (red) produces more compact bales.



Pic. 23 – Density adjustment

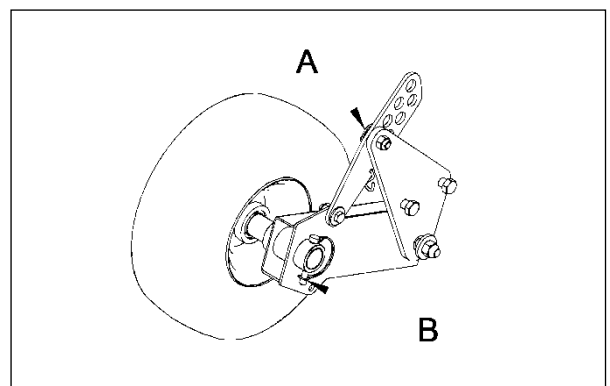
5.14 PICK-UP HEIGHT ADJUSTMENT

The pick-up is equipped with wheels for adjusting the height (4°, Pic.1)

To adjust the wheels:

- 1- Loosen the screws for fixing the wheel supports
- 2- Using the hydraulic control, position the pick-up at the desired height.
- 3- Push the wheels on the ground and fasten the screws.

5.15 PICK-UP WITH ADJUSTABLE WHEELS (OPTIONAL)



Pic. 24 – Adjustable Pick-up wheels

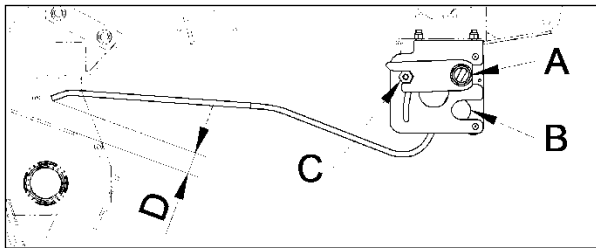
If the machine is equipped with adjustable wheels, the pick-up height can be adjusted as follows (Pic. 24):

- 1- Remove the plug (A)
- 2- Change the position of the hole on the adjustment rod
- 3- Insert the plug

The wheels can be removed to reduce the overall width of the machine

- 1- Remove the plug (B)
- 2- Remove the pin and the wheel from its seat.

5.16 RAKE ADJUSTMENT



Pic. 25 – Rake

The rake can be adjusted in two height positions (A and B of Pic. 25). Use the position according to the ground height of the pick-up and the type of product to be collected.

The adjustment stop (C) must be positioned so that the dimension D is equal to 5 cm.

5.17 MACHINE JAMMING

During the work phase, the machine may «jam». Should this happen, stop immediately and proceed as follows.



WARNING

In the event the part of the machine jammed is where the product is fed in, remember it is strictly prohibited to clean the round baler while it is running.

The power takeoff must first be disengaged, the engine shut off and the parking brake pulled on.

In order to free the machine, you must:

1. Disengage the power takeoff, stop the tractor and pull on the parking brake.
2. Wait until all the moving parts have stopped completely and procure a suitable pair of cut-proof gloves.

5.18 STOPPING THE ROUND BALER

When work is finished, the operator must:

- Stop the tractor on flat and engage the parking brake.
- Disengage the tractor P.T.O. shaft.

- Switch off the power supply to the control unit.
 - Raise the pick-up.
 - Stop the engine.
 - Fix the collector in a raised position and close the tap located on the control tube.
 - Drain the hydraulic circuit pressure.
 - Check that the tailgate is closed and that all the parts of the machine are completely stopped and in rest position.
 - Lower the support foot until it touches the ground.
 - Disconnect the various connections: hydraulic hoses and electric cables.
 - Withdraw the PTO shaft from the PTO shaft on the tractor.
 - Remove the plug inserted in the towing eye.
- At this point it is possible to restart the tractor and move it to another place.

5.19 PARKING

- Before putting the round baler away in its storage shed on a suitable level surface, make sure all the product has been unloaded.
- Rest the front support leg on the ground.
- Wedge suitable chocks under the wheels and make sure all the guards on the machine are in the right place.
- Stop the tractor and pull on the parking brake.
- With the tractor still and all parts completely immobile, remove the power-takeoff shaft from the tractor's power takeoff.
- Set the power-takeoff shaft down on suitable rests so that the actual shaft and its shields are not damaged.
- Relieve the hydraulic pressure.
- Uncouple the hydraulic system's connecting hoses from the tractor.
- Disconnect the power supply cables.
- Disconnect the tractor from the round baler drawbar.
- Lubricate and grease all the points indicated, including the chains.



WARNING

When parking the round baler, it is essential that the machine be housed in a place that is:

- **Dry;**
- **Sheltered from the elements;**
- **Guarded or closed to deny access to personnel not authorized in the machine's use.**

5.20 SAFETY DEVICE

The installed security devices must be always efficient and correctly positioned.

- P.T.O. shaft security bolt: this device is on P.T.O. shaft. In case of overloading it beaks down stopping the transmission.
- Safety bolt for rotor: it protect the rotor from excessive strain that could seriously damage it (Screw M8x45 class 8.8).
- Security supports: in case of maintenance and/or adjustments with the rear door open, fix the stops on the hydraulic cylinders.
- Grip wedges: must be used to avoid dangerous machine movements once that it is disconnected from tractor.
- Security protections: the machine side protections, according to European rules, are fitted with security locks that automatically act when the protection is closed. To open them the operator must use a suitable tool. After the maintenance, he has to close them.



WARNING

Be always sure that all protections are well closed before working or transporting the machine.

- P.T.O. shaft support: has the function to support it when the machine is stopped. You haven't to work or to transport the machine when the P.T.O. shaft is on this support.
- Switch off the tractor and engage the parking brake by bringing the key with you.
- Disconnect the cardan shaft and place it on the rudder support.
- Disconnect the electrical connectors and the hydraulic couplings.
- In case of prolonged stops, insert the wheel chocks.

5.21 CHECKS AND TESTS

- Check the right bolts fixing.
- Be sure that all the fixing elements are lubricated.
- Check tyres pressure: look at 3.4.1 – "Tires pressure".
- Let work few minutes the machine empty to check the right functioning.
- Let run the P.T.O. with low RPM and open and close the rear door few times.
- Switch off the tractor and verify the general conditions of the machine.

The above mentioned sequence must be made every time the machine stays without working for a long period.

6 MAINTENANCE

6.1 MAINTENANCE

The various routine maintenance operations are described below.

It is worth remembering that the round baler will cost less to run and last longer if these instructions are complied with.

Performing maintenance carefully is to the user's benefit as the machine will be in an excellent state of repair once work is resumed.

The times required to perform the work featured herein are given as a guide only and refer to normal operating conditions. Nonetheless, said times tend to vary depending on the type of use, the amount of dust in the environment, seasonal factors etc.. In demanding operating conditions, maintenance will, of course, need to be stepped up.



WARNING

Before commencing any kind of work, make sure the machine is on flat ground and that the round baler is secured in place with suitable chocks under the wheels.

The maintenance, adjustment or setup work must be performed with the tractor and power-takeoff shaft disconnected from the round baler.



CAUTION

The greasing points on the round baler are indicated with the «lubricating nipple» sticker. Before injecting lubricating grease by means of the lubricating nipples, the nipples' fittings must be thoroughly cleaned to prevent mud, dust or foreign bodies getting mixed into the grease and diminishing the lubricating effect, or even neutralizing the lubricating effect altogether.

Avoid inserting too much grease in the lubricating nipples. Inserting a large amount of grease in the greasing point at a high pressure may damage the bearing protections. Perform this operation with due care.

Any worn areas should be treated with a coat of rust inhibitor.



DANGER

Keep lubricants out of the reach of children. Read the warnings and safety instructions indicated on the lubricant containers carefully. After use, wash your hands and any other soiled areas thoroughly. Treat used oils in

conformity with the law dispositions on pollution.

6.2 REAR DOOR SAFETY BLOCK



WARNING

In case of maintenance or cleaning of the pressing chamber, insert the appropriate safety stops, in order to avoid a possible and accidental descent of the tailgate.

To insert the tailgate safety latches, proceed as follows:

- Fully open the tailgate by the hydraulic control.
- Switch off the tractor, apply the parking brake and remove the key from the control panel.
- Move the tailgate cylinder safety latches, on both sides, to the locked position (forward, towards the cylinder shaft) without going under the tailgate.
- Always with the tractor off, operate the tractor distributor that controls the tailgate in order to relieve the oil pressure and lower the tailgate until it leans on the safety stops.
- Make sure that the safety locks are in the correct position, resting on the cylinder liner (Pic. 26).



Pic. 26 – Rear door safety

6.3 P.T.O. SHAFT

As regards the maintenance of the power-takeoff shaft, follow the P.T.O. shaft instructions supplied by the Manufacturer to the letter: they are to be found in the instruction manual supplied with each shaft.

6.4 AFTER THE FIRST 8 HOURS OF USE

After the first 8 hours of use:

- Check the general state of the round baler;

- Check all nuts and bolts are properly tightened;
- Restore the chains' correct tension;
- Check for leaks in the hydraulic circuit and make sure the drives are working properly;
- Check the tires pressure;
- Check the lubrication of transmission components.

6.5 EVERY 8 HOURS OF USE

- Check the general state of the round baler.
- Perform the complete greasing operation, lubricating all the points marked by the «lubricating nipple» sticker and any points subject to friction.

The following checks are to be repeated at regular intervals and, in all cases, at the beginning of each season:

- Check the reduction gear's oil level and, where necessary, top up.
- Perform the complete greasing operation, lubricating all the points marked by the «lubricating nipple» sticker and any points subject to friction.
- Restore the chains' correct tension.
- Check all nuts and bolts are properly tightened.
- Make sure the electrical system is working properly.
- Check for leaks in the hydraulic circuit and make sure the drives are working properly.
- Check the tires pressure.

6.6 EVERY 24 HOURS OF USE

Every 24 working hours, lubricate and grease all the rolling parts subjected to frictions and particularly:

- Rear door cylinders joints.
- Main pressing arm cylinders articulations.
- Pick-up drums articulations.
- Rear door articulations.
- Tensioned joints.
- All the greasing points..

6.7 AFTER THE FIRST 50 HOURS OF USE

After the first 50 W.H. change gear-box oil following the procedure mentioned on paragraph 6.8.

6.8 EVERY 50 HOURS OF USE

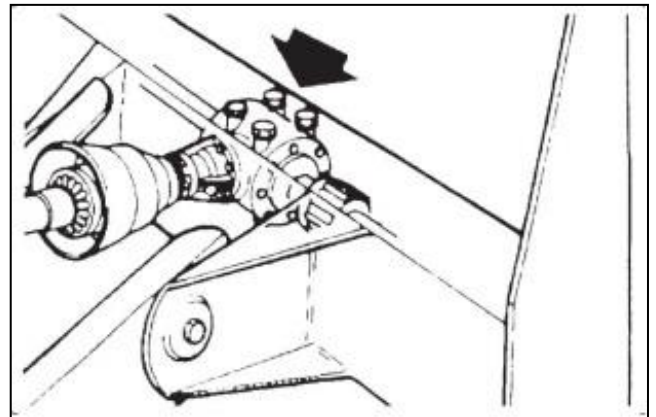
Every 50 W.H. or even more frequently check the gearbox oil level through the inspection window. Lubricate the cardanic transmission according to the quantities and the methods indicated in the cardan shaft manual.

6.9 EVERY 400 HOURS OF USE

Every 400 W.H. change the gearbox oil with oil type Agip BLASIA 220, the required amount is about 2lt.

To do it is necessary to:

- Unscrew the filling up plug.
- Put a tank under the gearbox to bring the exhausted oil.
- Unscrew the drain plug making sure that the used oil flows into basin.
- When the operation is completed, tighten the drain plug.
- Unscrew the level plug and introduce the new oil through the filler plughole. A correct level should touch the lower edge of the level plughole.
- Screw the level plug and the filling up plug.



Pic. 27 – Gearbox

6.10 LUBRICATION

The lubrication of any machine featuring rotating components and/or parts rubbing against each other is of great importance in assuring the lasting service life and proper working of the actual machine. Hence, lubrication should be performed systematically at regular intervals.



CAUTION

The greasing points on the machine are indicated with the «ingrassatore» sticker (par. 2.3). Before injecting lubricating grease through the grease nipples, it is necessary to clean the grease fittings to prevent mud, dust or foreign bodies from mixing with the grease, reducing or even canceling the lubrication effect. Avoid introducing too much lubricating grease into the grease nipples. The introduction at the greasing point of a large quantity of grease with high pressure can damage the bearing guards. Perform this operation with caution.

Use a coat of anti-rust over any abraded areas.



DANGER

Keep lubricants, oils, solvents and paints out of the reach of children. Carefully read the warnings and precautions indicated on the containers of the liquids used.

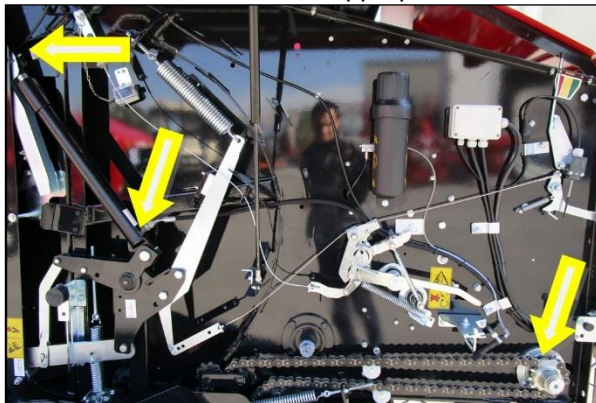
After use, wash thoroughly.

Treat used oils in accordance with the provisions of anti-pollution law.

You can find the oils and lubricants recommended for the various parts in the table below.

Part	Lubricant	Q.ty
Hydraulic system	ENI MULTITECH 15W-40	2 – 4 L
Chains lubrications	ISO – VG 100	4 L
Gearbox	SAE.140EP	2.4 L
Greasing system	MAX NLGI 2	Look at the table

Below there are the lubrication points found in the machine, indicated with the appropriate stickers.



6.11 EXTRAORDINARY MAINTENANCE

The extraordinary maintenance operations must be carried out by expert staff well trained. The manufacturer is available to give information or explanation on what to do in case of repair or maintenance.

6.11.1 Lifting through hydraulic jacks

To carry out the operations of substitution of the tires or intervention on the axle, may be necessary to lift the rear part of the round baler.

If no cranes are available for lifting using the upper lifting points, it is possible to lift the rear of the baler using one or two jacks positioned under the framework of the axle.

Before use, make sure that the lifting capacity of the jacks is adequate for the weight of the machine (par. 1.7).



DANGER

It is absolutely forbidden to lift the baler using jacks to a height of over 10 cm. As this can lead to loss of stability of the machinery and heavy loads on the support bracket.

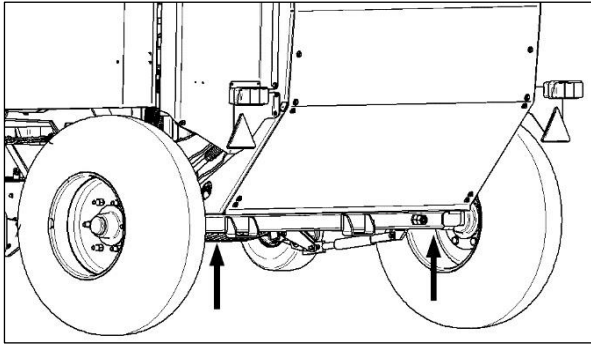


Fig. 28 – Hydraulic jacks placement



WARNING

The jacks must be fitted with suitable supports or one side in contact with the round baler made of a non-slip rubber in order to avoid dangerous heeling of the lifted part.



WARNING

Use the lifting by jacks only for interventions on the machine made by trained personnel. Do not leave the machine on jacks for parking or for a period longer than 2 hours.

6.12 STORAGE

At the end of the season, or in the event the machine is to be left idle for a lengthy period, the following steps are necessary:

- Make sure all the product inside the round baler has been unloaded.
- Place the round baler on a suitable level surface.
- Wedge suitable chocks under the wheels and make sure all the guards on the machine are in place.
- Wash the machine to delete any traces of dirty.
- Perform a careful checking and if is necessary, replace damaged or worn parts.
- Check all nuts and bolts are properly tightened.
- Perform the complete greasing operation, lubricating all the points, chains included.

- Any worn areas should be treated with a coat of rust inhibitor.
- Parking the machine in a dry and sheltered place.

If these operations are carried out with care, the advantage will be only the user as to the resumption of the work will find an equipment in optimal conditions.

In case of dismantling the machine, follow the anti-pollution laws and, in particular, the disposing of exhaust lubricants and the various elements, according to their differentiated structure.

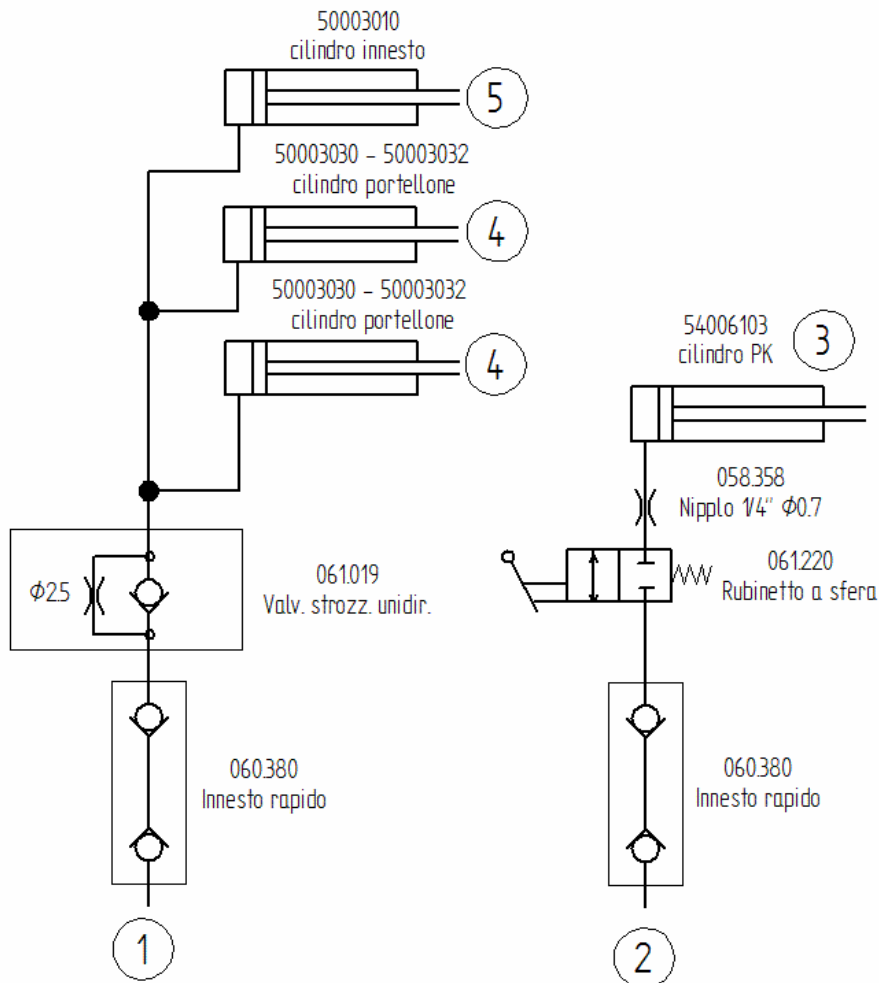


WARNING

In the case in which a long period of inactivity of the round baler is foreseen, it is necessary to lubricate all the parts subject to usury and to put the machine in a sheltered and dry environment covering it with a plastic sheet.

In this way, when the work is resumed, a machine will be in optimal operating conditions.

6.13 HYDRAULIC DIAGRAM



POS	MEANING	POS	MEANING
1	Tractor (simple effect) Max 210 bar	2	Tractor (simple effect) Max 210 bar
3	Cylinder pick-up	4	Cylinder door opening
5	Cylinder catenary connection		

6.14 TROUBLESHOOTING: CAUSE AND POSSIBLE REMEDY

TROUBLE	CAUSE	REMEDY
Drive chain making excessive noise	- Insufficient lubrication	- Top up oil
The press chamber does not close properly	- Problems with the hydraulics - Material residues preventing closure - Hook connection rod not properly adjusted	- Check the system - Remove residues - Adjust the relevant adjusters
Closing hooks not synchronized The main chain turns but the product is not fed in	- Safety bolt sheared off	- Replace the safety bolt
During the binding, the twine is not cut	- Knife not cutting - Twine brake not adjusted properly	- Sharpen or replace the knife - Increase the tension of the twine
The twine is caught by the bale but the binder carriages do not move	- Twine not wound around the pulley - The dragging chain pin is broken	- Correct the winding on the pulley - Replace the broken link or the whole chain
Bale too light	- Pressure not regulated properly - RPM too low - Pick-up with tractor going too fast - Windrow too large	- Adjust the operating pressure - Increase the revolutions of the round baler's power takeoff - Reduce forward speed - Alter the windrow size
The bale does not exit the chamber	- Baling pressure too high - Windrow too far off to the side	- Reduce the baling pressure Correct the tractor path
Bale poorly shaped	- Irregular feeding	Correct the tractor path
Pick-up irregular	- Pick-up too high	Alter the height of the Pick-up wheels
The round baler in feed throat jams	- Windrow too thick and irregular - Windrow too far off to the side - Pick-up with tractor going too fast - RPM too low	- Alter the windrow size - Correct the tractor's path - Stop and reverse with the power takeoff engaged, lift and lower the Pick-up. Resume forward motion with a lower speed - Increase the revolutions of the round baler's power takeoff
Irregular netting over the surface of the bale	- The netting is not taut between the support and binder	- Check the tension of the netting
Electrically controlled binding	- No power - Twine overstretched	- Check fuse on the tractor - Decrease twine tension
Gear box does not work automatically	- Incorrect command set on control unit - Sensor not working	- Change the functions on the electronic control panel - Replace the sensor

7 SPARE PARTS

7.1 SPARE PARTS

All the components of the baler can be requested to the Manufacturer specifying:

- Machine model.
- Serial number of the machine.
- Production year.
- Code of the part you need (you will find it in the spare parts book), description and quantity.
- Transport device. In case that this voice isn't mentioned, the Manufacturer doesn't reply in case of delay in the delivery. Freight costs are always at charges forward.
- The goods is always delivered EX-WORKS our Company.

The Manufacturer is always available for every kind of commercial and technical request you may have.



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