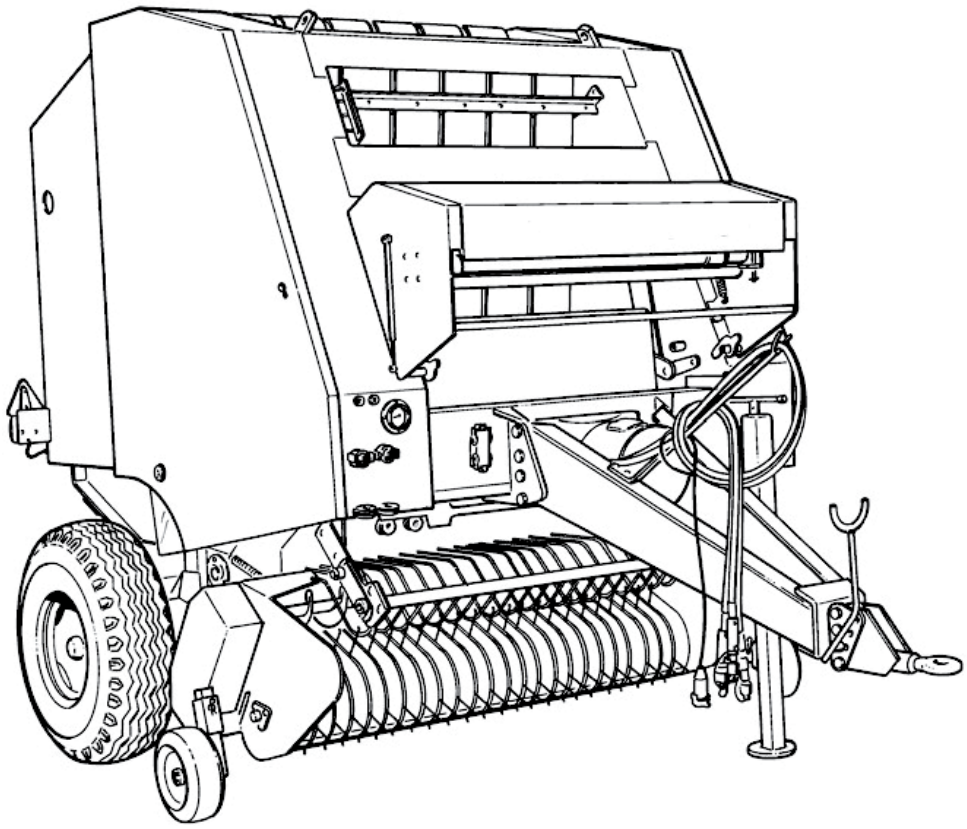
OPERATING & MAINTENANCE MANUAL

Z589 ROUND BALER



EN	Z589 EN03	CE
28.08.2012		

Read the operating manual before using this machine.

This Manual contains the general information required to safely operate your product. Contact the nearest dealership or an Authorised Service Centre for more information.

All components must only be replaced with original spare parts from **METAL-FACH**, which are available from dealerships and the Manufacturer's warehouse.

LEGEND:

Model Z589 Series 3 ..... Z589 Round baler with collector

Model Z589 Series 3 ..... Z589 Round baler with 13-blade cutting system

CONTENTS

1 GENERAL

Dear Customer!
congratulations on your purchase of a METAL-FACH product.
Follow the instructions contained in the **Operating Manual** for maximum safety, efficiency and durability of your product.

1.1 OPERATING MANUAL

This Manual is an essential equipment of the machine you have purchased. All suppliers of machines, new or pre-owned, are required to provide the user with the Manual originally enclosed with the product. If you sell the machine to a third party, provide them with this Manual too.
If the Operating Manual is lost or destroyed, immediately contact the Spare Parts Centre for a new copy. Refer to the Manual number or the data from the metal nameplate of the machine when ordering your copy.
Read this Manual thoroughly and in full. If you have questions about any of its contents, contact the nearest METAL-FACH Dealership or Authorised Service Centre.
This Manual must also be known and understood by all operators of this machine to assure that the only persons who will operate the machine are trained and understand the operation and potential hazards of using the machine and how to maintain it.

The Manufacturer disclaims any liability for damage due to negligence or failure to comply with this Manual.

USE ORIGINAL SPARE PARTS ONLY.

You can order original spare parts by contacting the nearest METAL-FACH Dealership or Spare Parts Centre.

1.2 WARRANTY

The Warranty Card is enclosed at the end of this Manual.

1.3 USE

The round baler is intended for collecting and baling of the following material: straw, semi-dry silage, grass and hay. The machine can be operated by one person only from the tractor cab.

Using the machine in any way other than permitted in this Manual is non-intended use and shall release METAL-FACH from any liability for damage to property, people or animals.

CE DECLARATION OF CONFORMITY

FOR THE MACHINE

METAL-FACH Sp. z o.o.
ul. Kresowa 62
16-100 SOKÓŁKA
acting as the Manufacturer

declares under sole responsibility that the following machine:

ROUND BALER

type/model: Z589-.....

serial number:.....

year of manufacture:.....

to which this declaration applies, meets the following requirements:

- Directive 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL dated 17 May 2006 on machines and the Resolution of the Minister of Economy of 21 October 2008 concerning general requirements for machinery (Journal of Laws No. 199 item 1228);

The following harmonised standards were used for compliance evaluation:

PN-EN ISO 4254-1:2009 / AC:2010	**PN-EN ISO 12100:2011**
PN-EN ISO 4254-11:2012	**PN-EN ISO 13857:2010**

- and the following standards: PN-ISO 3600:1998, PN-ISO 11684:1998; and the Regulation of the Ministry of Infrastructure of 31/12/2002 on the technical requirements for vehicles and the scope of their necessary equipment (Journal of Laws 2003, issue 32 item 262 as amended).

Safety Test Report No. LBC/07/11

Unit responsible for engineering documentation: Metal-Fach Engineering Department

This Declaration of Conformity becomes null and void if the machine is changed or modified in any manner without prior consent from the Manufacturer.

Sokółka, August 2012

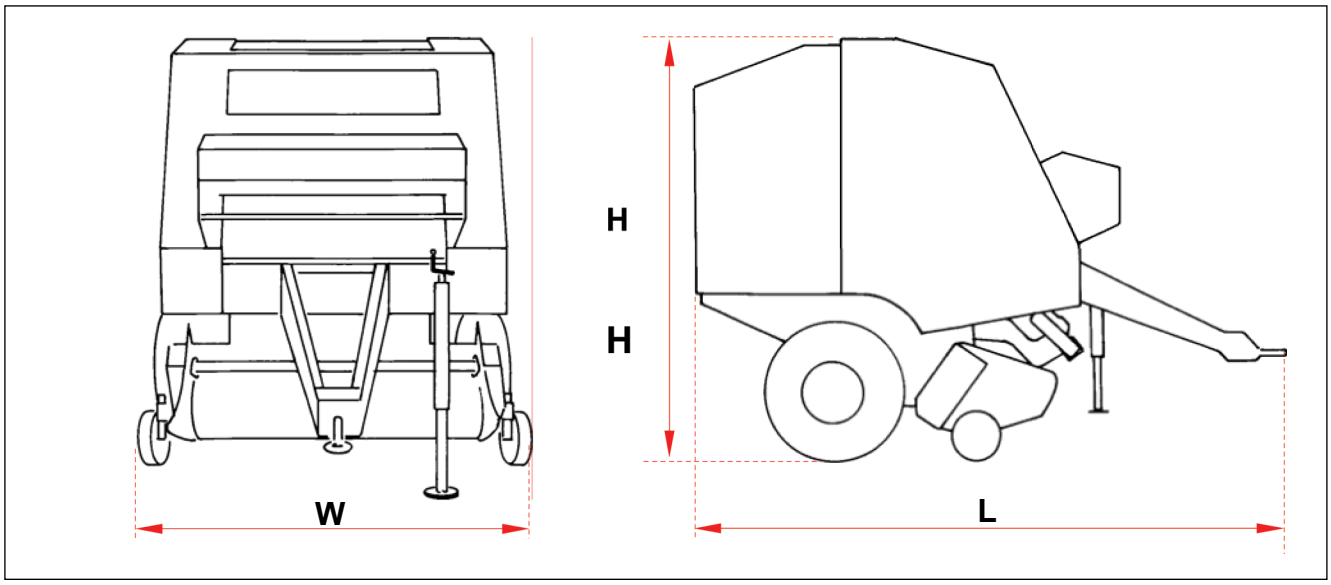
President of the Managing Board

Jacek Marek Kucharewicz

3 TECHNICAL DATA

All technical data shown in the following tables is indicative only. The Manufacturer may modify it without notice.

All dimensions are given in millimetres (mm).
All references to mass (weight) are in kilograms (kg).
The character "÷" is any value between a minimum and a maximum value of a range.



3.1 DIMENSIONS AND WEIGHT

	Z589-3…	Z589-2…
Length (**L**)	3920	
Width (**W**)	2400	
Height (**H**)	2500	2650
Mass	2330	3200

3.2 PICKUP AND HANDLING ASSEMBLY

PICKUP	**Z589-3…**	**Z589-2…**
Max. collecting width	2000	
Service collecting width	1869	
Prong spacing	69	
Frame diameter	250	
Number of rows on the frame	4	
Number of prongs per row	28	
Total no. of prongs	112	
Support wheels	Fixed	
Tyre/tyre tread size	16.650 / 10	
Service height adjustment	Mechanical, 7 positions	

COLLECTOR	**Z589-3…**	
No. of prongs	16	
Prong spacing	69	

CUTTING ASSEMBLY		**Z589-2…**
No. of blades		13
Blade spacing		77
Cutter blade control		Electrical drive
Blade protection		Single spring action
Feeding rotor		Star-type with 3 vertices

3.3 WRAPPING

	CORD	NET	PLASTIC SHEET
Cord wrapper	Double cord		
Cord weight	500 ÷ 1000		
Cord hanks	6		
Net reel diameter		250÷300 mm	
Net titre		12÷16 g/m	
Plastic sheet			---
Control	electronic	electronic	
Max. no. of reels (with 1 wrapping)	6	1	1
Max. no. of reels (with double wrapping)	6 (cord) + 1 (net)		1

3.4 BELTS

	Z589-2…	Z589-3…
No. of belts	6	
Width	179	
Length	10540	
Fasteners	MATO U24BS n°.13	

3.5 TYRES

	Ply rating	Radius (mm)	Speed (km/h)	Capacity (kg)	Pressure (bar)	Outer diameter (mm)
Serial: 400/60-15.5	10-14 P.R.	380	40	2240÷2745	2.5÷3.5	875

3.6 PTO drive shaft

The baler is equipped with a PTO drive shaft type 3600076 BYPY 1R6, code 71R6111CEWR7N70A, manufactured by Bondioli & Pawesi. The shaft is protected by a friction coupling.

3.7 TRACTOR REQUIREMENTS *

	Z589-2…	**Z589-3…**
PTO rotational speed	540 RPM.	
Min. power demand (kW-HP)	45-60	
Hydraulic	2 bi-directional control valves	
Required oil flow rate	25 lpm	
Electrical system	12 V= / negative common	
Max. transport speed		

(*) For tractors with closed cab.
If using a tractor, order a hydraulic hose guard.

3.8 BALE CHARACTERISTICS

	Z589-2…	**Z589-3…**
Diameter	500÷1600	
Max. width	1200	
Hay bale weight	300÷625	
Straw bale weight	280÷420	
Silage bale weight	600÷1235	
Capacity per hour	25÷45	

3.9 F Bus CONTROL SYSTEM CHARACTERISTICS

Name	**EASYTRONIC**
Power supply	11÷15 V DC
Controls: membrane keypad	9 keys
Display	Graphics LCD: 128x64 pixels
Backlight	White LED
CPU	16bit 24Mhz
Memory	Flash + Static RAM + EEPROM
Sound alarm	Buzzer
Protection	IP65
Operating temperature	0÷50
Storage temperature	-10÷70
Relative humidity	100%
Enclosure	ABS
Colour	Black
Mounting	Magnet
Dimensions (max.)	190x105x90
Weight	420 g
CE compliance	Yes

MODULES (sensors, motor control, etc.)

Power supply	11÷15 V DC
Protection	IP65
Operating temperature	-20÷70
Storage temperature	-30÷80
Relative humidity	100%

4 GENERAL SAFETY STANDARDS

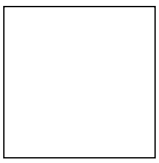
Aside from compliance with this Manual, follow the general safety and accident prevention rules and regulations in your country. This machine has been designed and built to assure maximum operating safety. The user must maintain the safety conditions.
Read this Manual **thoroughly**: understand the safety rules contained herein and be careful when attempting any actions which may potentially be extremely hazardous. It will be too late to learn that during work!

METAL-FACH disclaims any liability for failure to comply with the safety and accident rules provided herein.
The Manufacturer will not accept any liability for any damage caused by unintended use of the round baler or its unauthorised modifications.

4.1 TERMS AND DEFINITIONS

Thoroughly read and understand all sections identified with the following symbols. Have all operators of the machine do that too.

This symbol is a personal safety WARNING of a potentially hazardous situation.

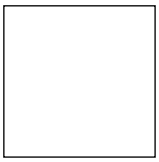


All personal safety **WARNINGS** herein are identified with this symbol and a **warning phrase**, which indicates imminent or potential hazards:

DANGER!
The phrase **DANGER** means a potentially hazardous situation which must be prevented to avoid death or severe injury.

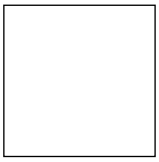
CAUTION!
The phrase **CAUTION** means a potentially hazardous situation which must be prevented to avoid light to moderate injury.

This symbol is a mechanical WARNING of a potentially hazardous situation.



IMPORTANT!
This symbol and the phrase **IMPORTANT** warns of actions which, if incorrect, may result in **severe** damage of the machine.

This is a warning sign for the operator to stop the tractor engine and remove the ignition key.



Stop the tractor engine and remove the ignition key before attempting the actions identified with this symbol.

METAL-FACH disclaims liability for any incidents caused by failure to comply with the safety precautions.

This symbol means **"Note:"**
The operator must read, understand and remember the notice marked with this symbol!

4.2 SAFETY WARNING

Before starting the machine:

- Make sure that you perfectly understand the controls and their functions.
- Periodically check the whole machine, especially all safety and protection equipment.
- All work safety equipment shall be installed as required by the Manufacturer. DO NOT tamper with the safety equipment.

DANGER!
No personnel which has not read and understood this Manual may operate the round baler.

4.2.1 PERSONNEL PRECAUTIONS

Mind the warning symbols contained herein and on the machine. Keep all warning stickers perfectly legible and visible.

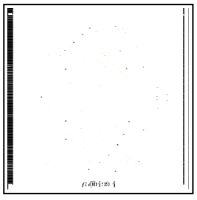
- Keep the warning symbols clean and replace them whenever they become damaged or illegible.
- See Chapter 4.4 "Safety signals" for the list of warning symbols and their locations.

DANGER!
CAUTION!

- **Never leave the machine unattended during operation.**
- **Never leave the tractor unattended with its engine running.**
- **This machine must not be operated by underage persons or unskilled persons, persons with health problems, or persons without a valid driver's license.**

- The work range of the machine is a **hazardous area**. Before starting the machine make sure that there are no persons or animals in its direct vicinity. If any person or animal is in the machine vicinity, stop the machine and resume only when the area is clear.

  The round baler user is liable to third parties for any damage caused by operation of this machine.



- Keep clear of any mechanical equipment, do not touch any moving parts or reach inside them when operating this machine.

  Keep your face, hands and feet away from moving parts. Always keep a safe distance.

- Do not stand behind the machine: the gate may open, releasing a bale.

- The area in front of the pickup is extremely hazardous. **NEVER drive** the product into the machine with your hands, feet or any tools when the machine is working.

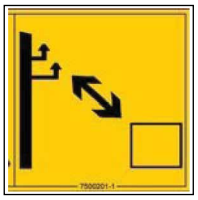
DANGER! If the product is jammed in the feeding section:

- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Turn off the F Bus system.**
- **Follow the instructions in Chapter "8.8 Jamming of products".**
-

- Install the cord only with the tractor engine stopped and the F Bus powered off.
- Do not use the controls, hoses or other protruding parts of the machine as handles or feet support.
- Follow the PTO drive shaft safety of use standards and instructions in the enclosed shaft manufacturer's instructions to install, start and remove the PTO drive shaft.
- Carrying persons or animals on the tractor is STRICTLY PROHIBITED.
- Wear protective clothing, cut-resistant gloves, safety shoes and protective goggles when maintaining or repairing the machine.
- Do not wear any clothing which can be caught by moving machine parts.

Wear a safety helmet with a face shield when there is hazard of objects being thrown. See Chapter 4.6 "Work garment" for more information.

- Keep a safe distance of the working machine from electrical power lines. The machine is largely made of metallic parts: any contact with electrical power lines or electrical arcing between a power line and the machine can be a health or death hazard to the operator.
  If you absolutely need to work near electrical power lines, notify the relevant power distribution operator first.



- Unload the bales on a flat ground or with the machine discharge facing the bottom of the slope.

- Hydraulic oil under high pressure may puncture skin and cause **severe** injury. Always depressurize the hydraulic lines before opening or inspecting them.
  If injured by high-pressure jets of hydraulic oil, immediately seek medical attention or call medical help. Otherwise the injure is at risk of **severe** infection.

METAL-FACH disclaims liability for any incidents caused by failure to comply with the safety precautions.

4.2.2 MACHINE WARNINGS

DANGER!
CAUTION!

- Keep hydraulic couplings clean at all times. Protect the hydraulic couplings from damage and dirt by plugging them with the plastic caps provided by the manufacturer.

Inspect and replace the damaged hydraulic lines and couplings as required. Replace each hydraulic hose in 5 years from the manufacturing date identified on the hose body.
Verify that the hydraulic lines and couplings are tightly closed before pressurizing. Use a piece of cardboard or absorbent paper to detect any leaks.

- Every PTO drive shaft is supplied with its Operating and Maintenance Manual enclosed by the manufacturer. Use all protective equipment, lines and guards of the PTO drive shaft as intended to and keep them in a perfect condition.

Note: Maintain the PTO drive shaft by strictly following its Manual enclosed by the shaft manufacturer.

Verify the following before installing the PTO drive shaft:

- The tractor output RPM to the shaft meets the required RPM (refer to the data on the nameplate located on the machine tow bar).
- The sense of rotation matches the sense of rotation on the warning sticker.
- **DO NOT install the PTO drive shaft before starting the tractor engine.**
- Stop the PTO before turning back at the end of the headland and before negotiating very tight turns.
- Rest the PTO drive shaft on a suitable support when unhitching the machine from the tractor.
- Do not start rolling a bale before the baler gate is firmly locked. Verify the lock engagement on the control panel display.

DANGER! FIRE HAZARD
Regularly remove the collected material to minimise the risk of fire and prevent ingress of the material into the mechanical components of the machine.

If a bale catches fire:

- Immediately release the bale and leave the baler gate open.
- Drive away with the machine hitched from the product on the ground and other flammable materials.
- Fight the fire with an extinguisher the tractor must be equipped with.

The tractor must be equipped a fire extinguisher, especially if you want to work with dry products.

- Wheels and tyres shall only be repaired by suitable trained and experienced personnel equipped with the right tools.

- **Do not drive on public or private roads with a bale in the baler chamber.**
  Empty the baler chamber and make sure that the gate is shut and locked before leaving the field. Follow the traffic code regulations on all roads.

Note that the vehicle traction, steering control and brake performance are largely affected by the towed load.

- Fold the support in the transport position before towing the machine.

METAL-FACH disclaims liability for any incidents caused by failure to comply with the safety precautions.

4.3 MAINTENANCE SAFETY

DANGER!

IMPORTANT!

Follow these safety precautions before attempting any adjustments, maintenance or other servicing of this machine or leaving the machine unattended:

1) Stop the machine and disconnect the PTO drive shaft.
2) Rest the pickup on the ground.
3) Stop the tractor engine, remove the ignition key and engage the parking brake of the tractor.
4) Make sure that all moving components of the machine have come to a full stop.
5) Turn off the F Bus system.

- NEVER remove any safety equipment or tamper with their function: the safety equipment has been designed and built for user safety. Replace the safety equipment one before using the machine.
- Regularly inspect the joints of nuts, bolts and screws.
- Periodically inspect the wear of bearings, rollers, chains and transmission gears.
- Do not attempt any maintenance or cleaning before stopping the tractor engine and removing the ignition key.
- Remove all dirt accumulated between the moving parts of the machine.
- Do not clean the machine with high pressure jets of water, otherwise there is a risk of **severe** damage of mechanical parts.

- Follow proper safety precautions for welding.
  Unhitch the machine from the tractor, remove all residues of plant material from the baler and make sure there are no plastic components nearby to avoid fire hazards.

- Have a fire extinguisher at hand.

- Use the recommended oils for the machine.
- All maintenance of the machine must follow this Manual. Worn out or damaged parts shall be replaced by qualified personnel only.

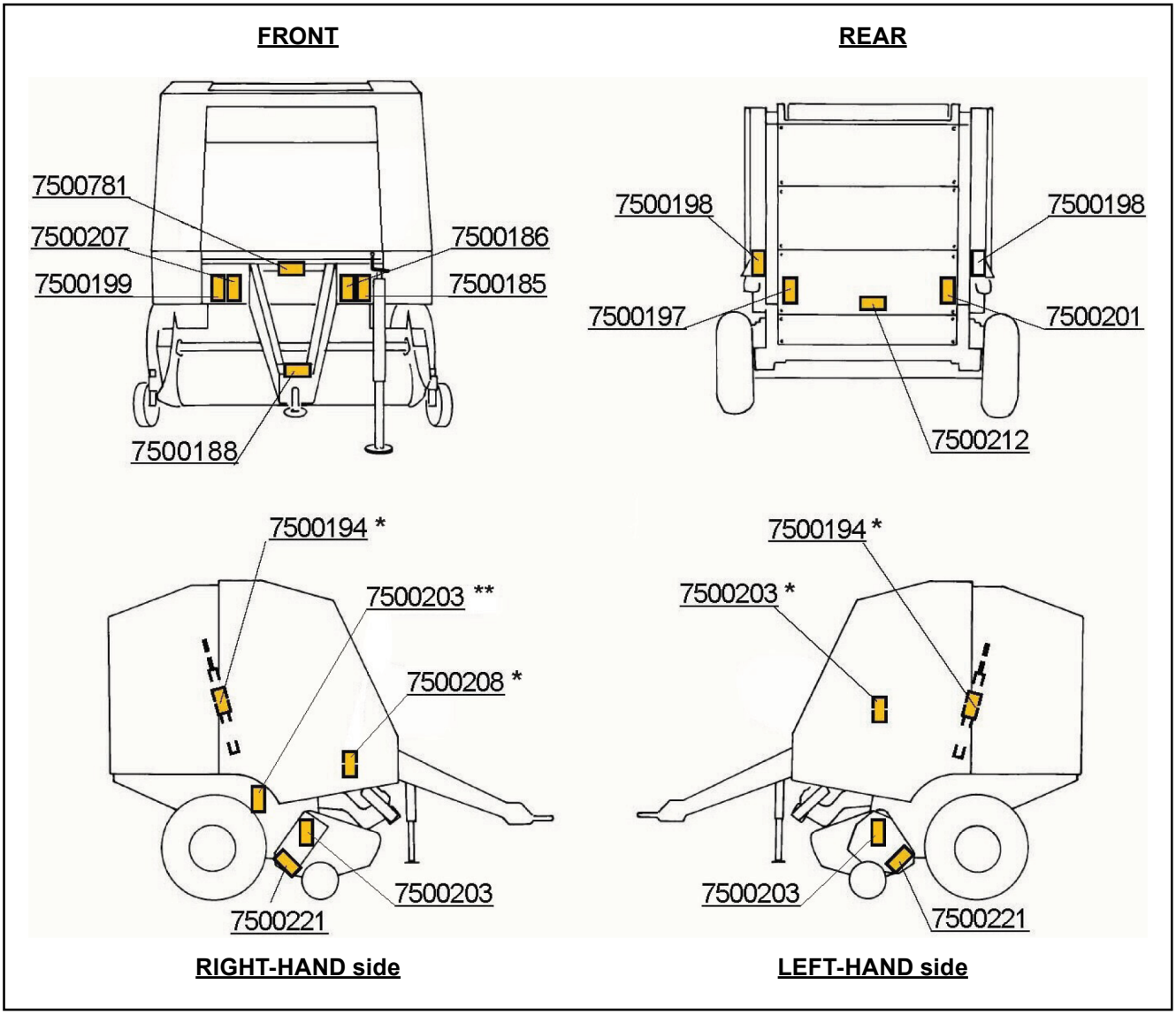
USE ORIGINAL SPARE PARTS ONLY.

- Spare parts must meet the Manufacturer's requirements.
- Use only the PTO drive shafts specified by the machine manufacturer.

DANGER!
This Operating Manual must be read and kept for the entire service life of the machine. Understand and remember all information contained herein.

METAL-FACH **disclaims liability for any incidents caused by failure to comply with these guidelines.**

Diagram: LOCATIONS OF ROUND BALER SYMBOLS



*(*) INSIDE*

*(**) Z589-2… only*

4.4 WARNING STICKERS

The machine features warning symbols which provide important personal safety information. The symbols explain the occupational hygiene and safety standards and any potential hazards during operation and maintenance of the machine.

- The warning symbols are pictogram in black and red on yellow background.
- Keep all symbols clean and legible at all times. Replace all lost or damaged symbols.
- If you need to replace or repaint a part which has a warning symbol, apply new stickers once the part has been recoated or replaced.

Each warning sticker as a part number recognised by the Spare Parts Centre. Submit the part numbers of the warning symbols you want to purchase.
The following pages show and explain all warning signs placed on the baler and shown in the diagram **Locations of round baler symbols**.
Read and understand each warning symbol description and have every operator or persons near the machine at work or during maintenance do the same.

4.4.1 DRAWINGS

The explanations of the warning symbols on the machine and shown in the diagram **Locations of round baler symbols**.

	**7500185** CAUTION! Read and understand the Operating and Maintenance Manual before commissioning the machine at the start of the work season or servicing the machine.
	**7500186** CAUTION! Stop the tractor engine, remove the ignition key and read the Operating Manual before attempting any maintenance or repairs of the machine.
	**7500187-1** CAUTION! This machine has been designed for coupling with tractors with the output of 540 RPM and the PTO sense of rotation required by the machine.

7500194
DANGER! Before entering the baler chamber for servicing, lock the hydraulic lifts with suitable clamps to avoid crushing hazard.

7500197
DANGER! Do not stand behind the machine to prevent crushing hazard from sudden movement.

7500198
DANGER! Do not pass or stay under the lifted baler gate to avoid crushing hazard, unless suitable protective measures are in place.

7500199
DANGER! Keep clear from the space between the tractor and the machine when the engine is running. This area is extremely hazardous.

7500201
DANGER! Exercise extreme caution when working near electrical power lines.

7500203
DANGER! Before attempting any intervention with the machine, make sure that all machine parts have come to a full stop and prevent any sudden movement with proper precautions.

7500207
DANGER! Do not feed or remove the product by hand in front of the pickup when the machine components are running. This may result in the hazard of pinching your upper limbs or the entire body by the machine.

7500208
DANGER! Before attempting to intervene with the hydraulic system, read and understand the Operating Manual. Hydraulic oil under high pressure may cause **severe** injury.

7500210
DANGER! Do not remove any protective components and keep clear of all parts which are a crushing hazard to the upper limbs.

7500212
DANGER! Do not stand behind the machine before the bale is released. Keep a safe distance.

7500221
DANGER! Do not approach too close to the machine. Hazard of limb crushing or severing due to the machine weight and descent. Keep a safe distance.

7500781
DANGER! Hazard of catching the telescoping jointed shaft and dragging the persons body by the machine.

4.4.2 PTO DRIVE SHAFT WARNING STICKER

The PTO drive shaft bears a warning sticker with operator precautions and safety instructions for operating the shaft.

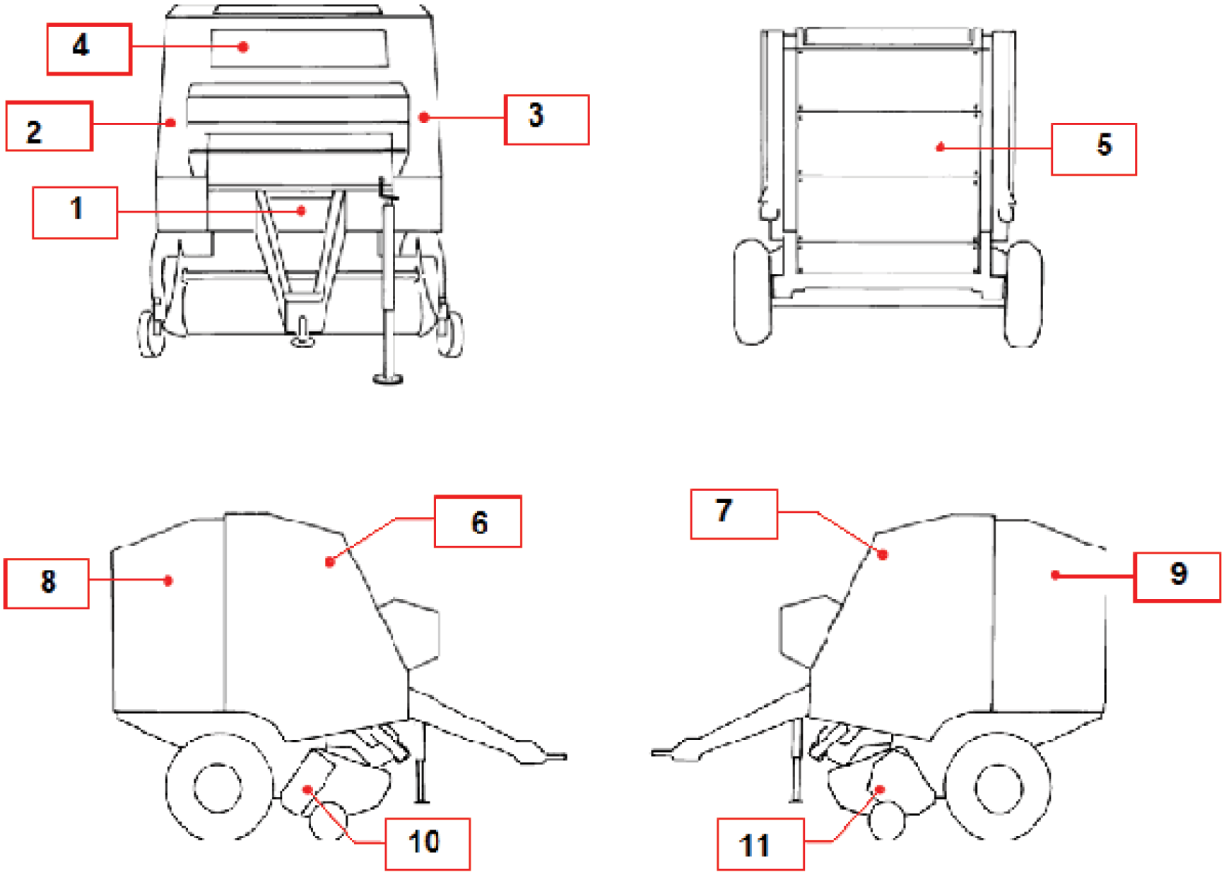
4.5 SAFETY EQUIPMENT

The machine is equipped with safety devices which guarantee proper operation and risk mitigation under normal conditions of use.

DANGER!
Verify that all machine equipment are in a good condition and in proper locations before work.

4.5.1 GUARDS

The machine features enclosures which protect the operator against moving mechanical components and those components from accidental ingress of foreign bodies:



1) Transmission gearbox guard.
2) Front right-hand belt guard.
3) Front left-hand belt guard.
4) Belt front guard.
5) Tail gate belt guard.
6) Front right-hand panel guard.
7) Front left-hand panel guard.
8) Tail right-hand panel guard.
9) Tail left-hand panel guard.
10) Pickup left-hand guard.
11) Pickup right-hand guard.

DANGER! Before removing the protective guard(s):

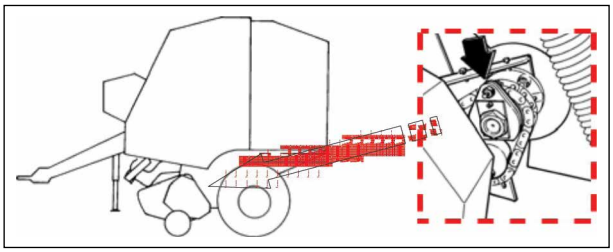
- **Stop the machine.**
- **Stop the tractor engine and remove the ignition key.**

4.5.2 PTO DRIVE SHAFT PROTECTION

The PTO drive shaft features a safety system (a friction coupling) which protects the mechanical components from excessive static moment and the maximum torque.

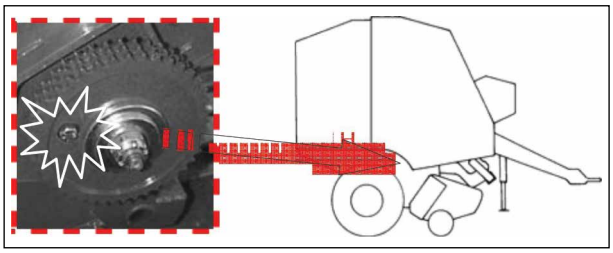
4.5.3 PICKUP DRIVE PROTECTION

The pickup drive features a safety based on a shear bolt, which protects against overloading and foreign bodies.



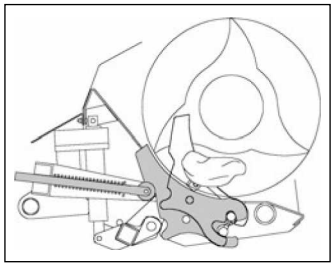
4.5.4 MECHANICAL DRIVE PROTECTION (Z589-2… only)

The rotor drive is coupled with a shear bolt which protects against overloading and foreign bodies.



4.5.5 BLADES (Z589-2 only)

To prevent ingress of foreign bodies (e.g. stones, branches, etc.) into the machine which may result in breaking of the blades, each blade is mounted on a spring-action pivot which allows the tools to automatically tilt and return into the service position.

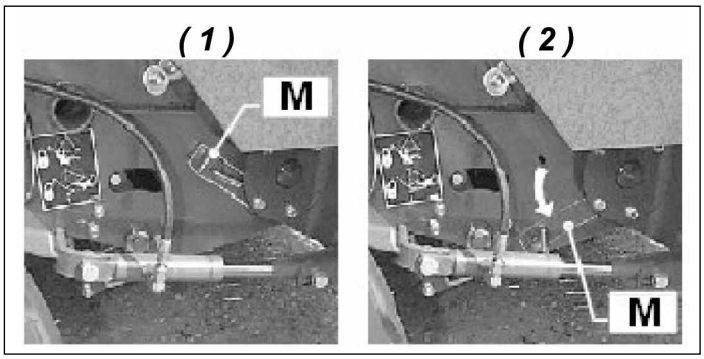


4.5.6 BLADE SAFETY (Z589-2… only)

The lever M holds the cutting assembly blades during work in a position which prevents the tools from entering the baling chamber:

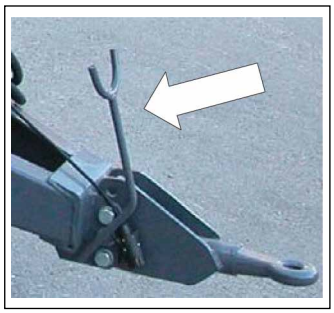
1) Lever M lifted: BLADES LOCKED

2) Lever M lowered: BLADES RELEASED



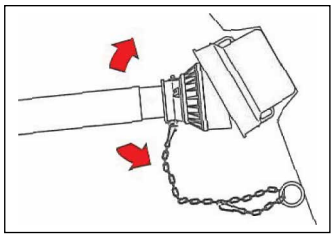
4.5.7 PTO DRIVE SHAFT SUPPORT

The support is a rest for the PTO drive shaft when the assembly is decoupled from the tractor and protects it from damage.



4.5.8 PTO DRIVE SHAFT SAFETY CHAIN

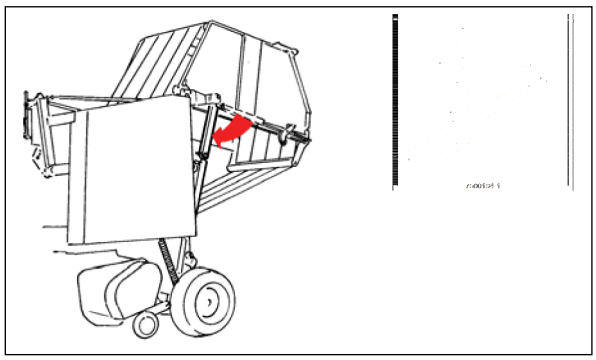
The safety chain prevents the rotation of the joint guards at work. Keep the safety chain fastened to the tow bar.



4.5.9 GATE SAFETY LOCK

The machine features a component which facilitates locking the gate open to prevent it from accidentally shutting when the operator is inside of the machine to service the internal components.

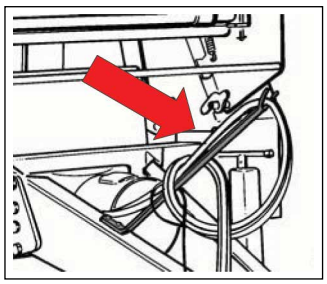
If you need to service the machine with the gate open or inside of the baling chamber, lock both lift prongs with the gate safety clamps by insering the safety pins.



IMPORTANT!
Remove both clamps before closing the gate – otherwise the machine may become damaged!

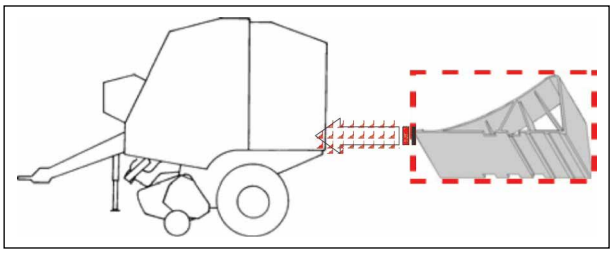
4.5.10 CABLE SUPPORT

The cable support fastens the hydraulic lines, electrical wiring and cables.



4.5.11 WHEEL CHOCKS

The wheel chocks are inserted under the wheels to secure the machine in place and prevent it from rolling away when not in use or whenever the machine must be secured for servicing.



4.6 WORK GARMENT

- Wear proper clothes when working with the machine.
- Do not wear loose or flapping clothes which might get caught by the machine mechanisms or become drawn in by moving parts.

- Tie up long hair before work.

Wear the following protective equipment when servicing the machine:
- cut-resistant gloves;
- work clothes;
- safety glasses.

Use proper PPE (personal protection equipment) if there might be a risk of dust emission or hazardous substance emission during servicing.

4.7 NOISE LEVEL

CAUTION!
Follow the noise protection regulations valid in your country.

Use proper PPE (personal protection equipment) if there might be a risk of dust emission or hazardous substance emission during servicing or operating the machine.

4.8 ENVIRONMENTAL PROTECTION AND HAZARDS

CAUTION!
Follow the regulations valid in your country for handling and disposal of all products intended for operation, maintenance and cleaning of the machine.

• Avoid spills when draining oil from mechanical components or the hydraulic system or handling other toxic or environmentally hazardous substances.
Store hazardous waste substances in a safe locations and dispose of them properly as soon as possible by following the applicable standards and according to the availability of proper technical measures of disposal.
• Place all waste residues from baling in suitable waste containers which facilitate waste segregation. When dismantling the machine, follow all applicable environmental protection regulations of your country.

5 TRANSPORT AND DRIVING

DANGER!
- **Do not carry any persons or objects on the machine.**
- **DO NOT tow the round baler with a bale inside.**
- **Do not start the baler when it is towed.**

DANGER! Always tow the machine:
- **when empty;**
- **with all machine parts ready for transport;**
- **with all safety equipment installed in place.**

- The maximum towing speed of the round baler is 20 km/h.
- Hitch the machine by its front tow bar ring to the tail hook of the tractor and secure the joint with the proper towing pin and safety pin, see Chapter 7.2 "Hitching to the tractor for towing".
- Connect the machine's electrical system to the tractor and verify that the turn indicators, parking lights and brake lights work.

Before towing:
- Lift the pickup into the transport position (all the way up) and close the hydraulic valve (closed position, see Chapter 7.4.3 "Connecting the hydraulic system").
- Fold the support in the transport position, see Chapter 7.2 "Hitching to the tractor for towing".
- Set the pickup wheels in the proper mounting holes on the machine tow bar.
- Do not connect the quick-release couplings of the baler to the tractor.
- If the machine is to be towed at a large distance, you can ship it on a truck or by train.

5.1 LOADING WITH RAMPS

Do not use movable ramps to load or unload the machine on or from a carrier vehicle.

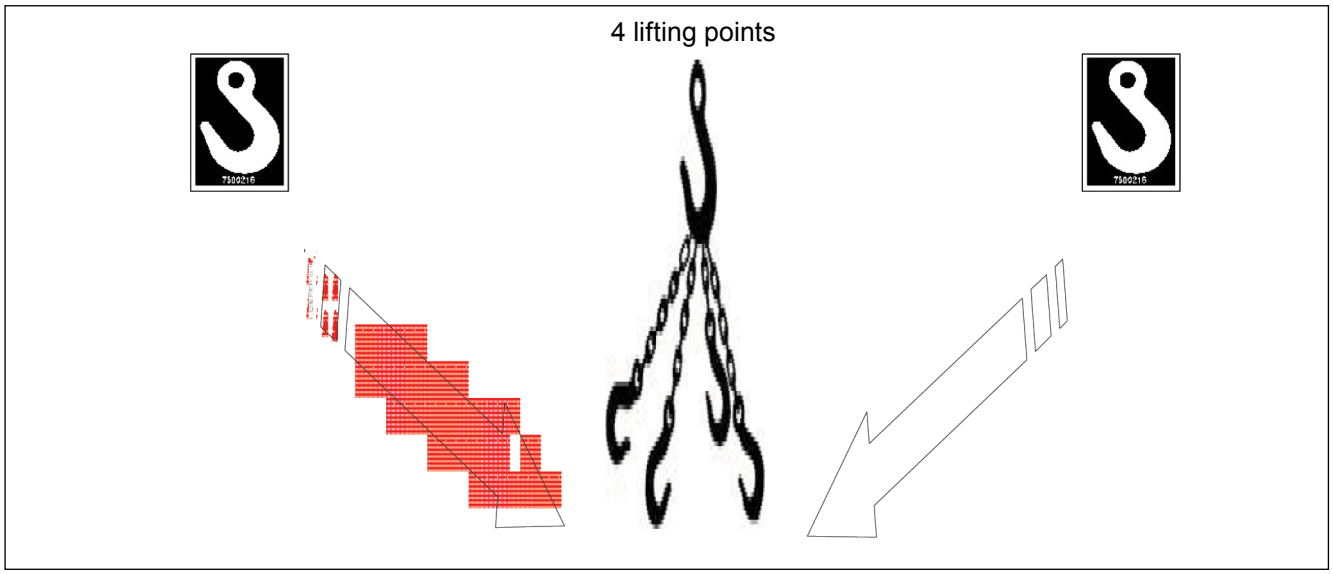
5.2 LOADING WITH CRANES

DANGER!
Make sure that there is no bale in the machine before lifting it off the ground.

Use lifting equipment of sufficient capacity to lift the machine off the ground. Make sure that the lifting equipment and its counterweight are sufficient to safely lift the machine, see Chapter 3.1 "Dimensions and weight".
Use all four lifting points of the machine to assure proper and safe lifting.

IMPORTANT!

- **All four lifting points are clearly visible and identified by the warning stickers, P/N 7500216.**
- **Hook the machine only by its four designated lifting points – otherwise there is a risk of damage to the machine.**



METAL-FACH shall not be liable for any damage to the round baler caused by improper hooking to the lifting equipment.

Lift the machine very slowly and carefully. Avoid sudden movements. Load the machine on a truck or a rail car.

DANGER! Lifting and overhead handling can be extremely hazardous. Be very careful.

- **Verify the technical condition and the capacity of lifting equipment and aids.**
- **Clean out and fence out the lifting area.**
- **Make sure that the lifting area is clear of any obstacles and wide enough to facilitate fast escape from the hazardous area if the suspended load falls on the ground.**
- **Make sure that no bystanders are in the lifting area.**
- **Do not touch the suspended load and keep a safe distance.**
- **Do not lift the load above 20 cm over the ground when handling it horizontally.**

CAUTION!
The surface on which the machine is to be loaded must be level to prevent accidental rolling of the machine.

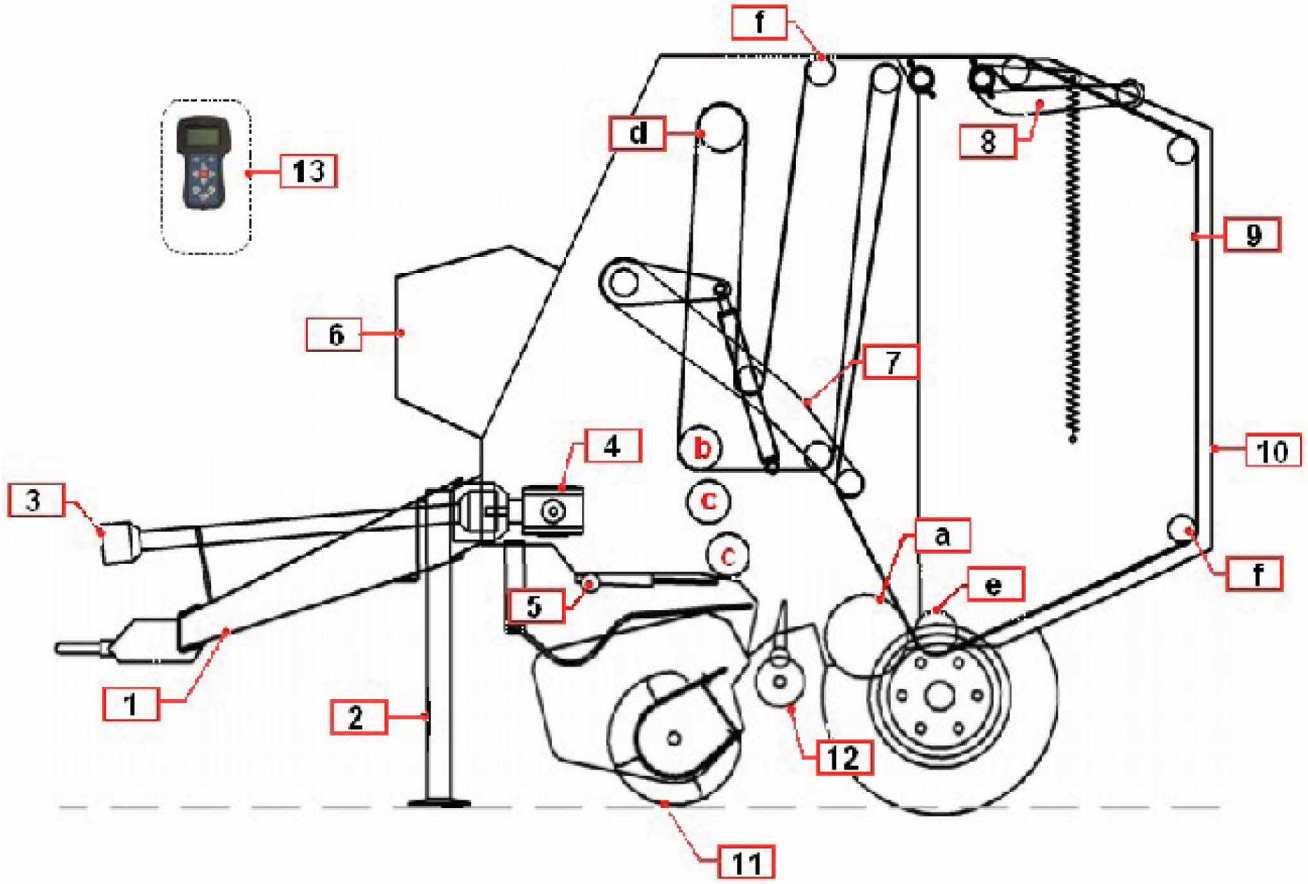
Once the machine has been loaded on the truck or the rail car, it must be securely lashed with safety cables or chains attached to the machine lifting points and the lashing points of the carrier vehicle. Chock the machine wheels.

CAUTION!
No part of the machine must extend too far beyond the carrier vehicle outline.

Having shipped the machine on the carrier vehicle verify that the condition and alignment of the machine are not hazardous before unlashing.
Unlash the safety fasteners of the carrier vehicle from the machine and unload it. Follow the instructions, measures and precautions applicable to the machine loading for shipping.

6 OVERVIEW

The machine is a structure installed on a chassis and composed of all service (working) mechanisms. The chassis rests on a axle suspended on wheels, which facilitate movement of the machine, and features a tow bar for hitching the machine to a tractor.
An electrical system is installed to actuate the control system commands and the lights during transport on roads.
The hydraulic power system of the machine is fed through the machine lines when they are coupled with the double-action sockets on the tractor hydraulic system.
The PTO drive shaft, when coupled to the tractor and the machine transmission gearbox transfers power from the tractor to all machine parts.



6.1 ROUND BALER MAIN COMPONENTS

1) Tow bar
2) Support
3) PTO drive shaft joint
4) Intersecting axis gear
5) Cord wrapper
6) Net wrapper
7) Belt tensioning main arm
8) Belt tensioning side arm
9) Belts
10) Gate
11) Pickup
12) Handling assembly
- Collector (Z589-3… only)
- Cutting assembly (Z589-2… only)

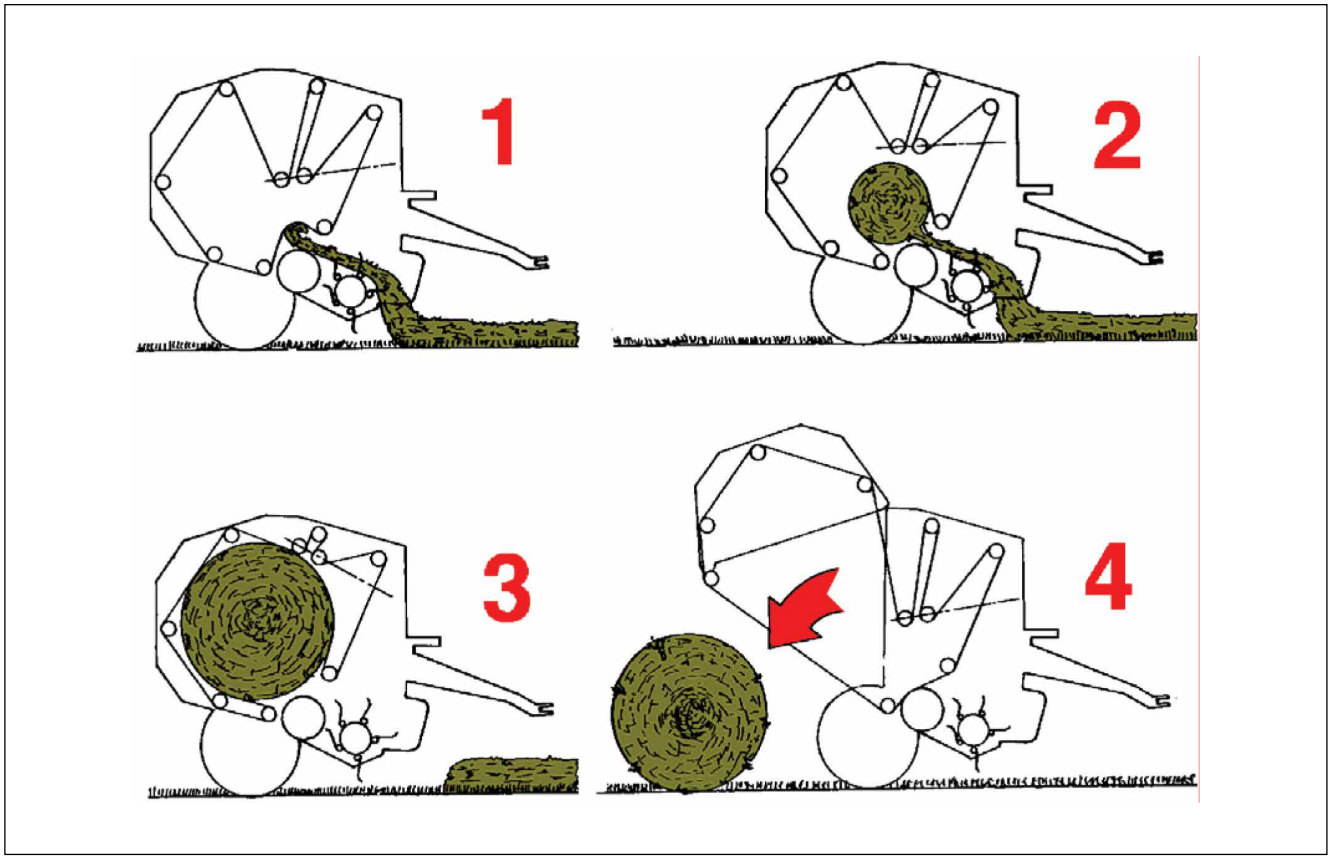
13) F Bus control system terminal
- EasyTronic

a) Big roller
b) Plain roller
c) Corrugated rollers
d) Rubber roller
e) Gate idler rollers
f) Idler rollers

6.2 WORK CYCLE

The round baler performs the following work cycle steps:

1) Collect the plant material spread in rows on the ground
2) Press the material into cylindrical bodies (bales)
3) Wrap the bale
4) Release the bale



The product is carried into the baling chamber by the pickup and the handling assembly (a variable speed comb, or a cutting assembly with a rotor and blades on the Z589-3 only). The product is compacted into round bales with the belts which run on fixed and moving rollers.

The required bale size – from the minimum of 0.50 m to the maximum of 1.65 m – is produced by an automatic net or cord wrapping system, controlled by the F Bus system.

The bale is then released by a hydraulic mechanism controlled by the tractor hydraulic power unit without decoupling the PTO.

The baler permits various adjustment of the bale diameter and core density to the processed material and other work requirements.

The mechanical adjustment facilitates rolling bales with soft or hard cores.

7 OPERATING MANUAL

7.1 BEFORE USE

Note: All operations shall be carried out by a designated operator only who has read and understood all parts of this Manual, and especially the safety standards explained herein.

Before starting your work make sure that the machine is in good technical order, all lubricant levels are good and all parts prone to wear or damage are in good shape.

DANGER! Before attempting any adjustment or preparing the machine for work:

- **Stop the tractor engine and remove the ignition key.**
- **Stop and lock the machine.**
- **Turn off the F Bus system.**

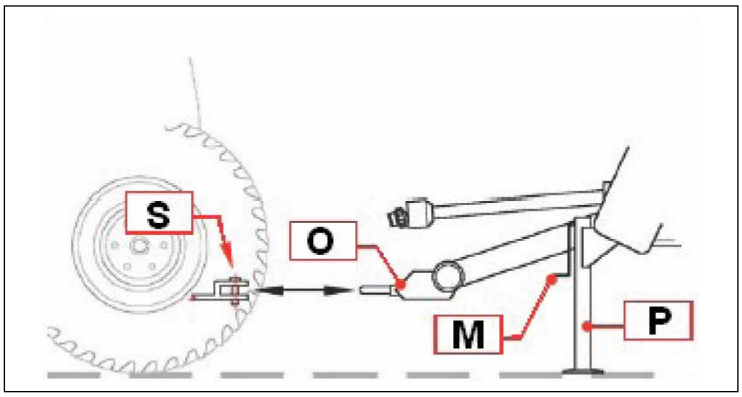
(Unless special requirements are specified herein)

7.2 HITCHING TO THE TRACTOR BEFORE TOWING

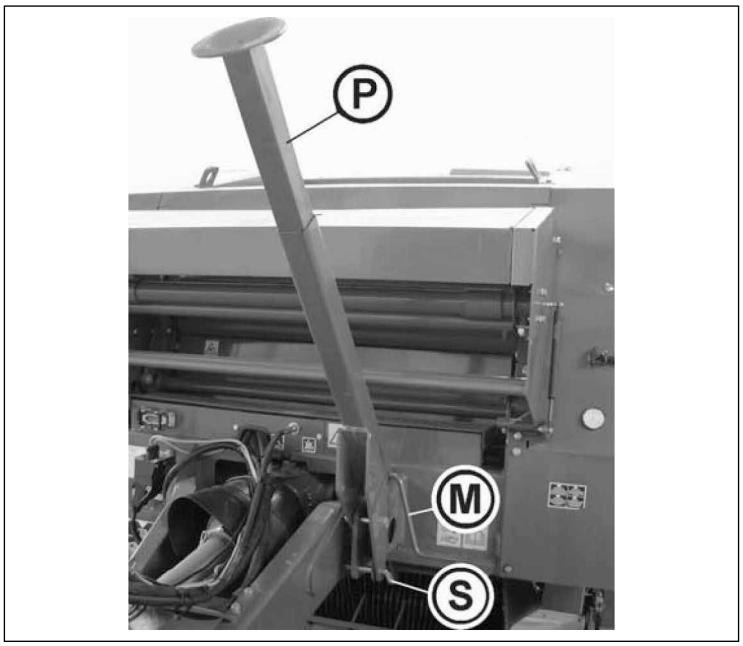
CAUTION! Hitching to the tractor can be hazardous. Exercise caution:
• Hitch the machine to the tractor on level ground only.
• Before attempting to hitch, chock the machine wheels.

Use the machine with tractors the output performance of which facilitates towing, see Chapter 3.7 "Tractor requirements".
Make sure that no objects are on the machine and no bystanders or animals are in the work area.
The baler tow bar features a pivot tow ring.

- Couple the baler to the rear hitch of the tractor so that the machine is aligned horizontally and stable, and the ring ***O*** is level with the tractor hitch assembly.
- Turn the crank ***M*** on the support ***P*** to lower or raise the tow ring until it is aligned properly with the tow bar.
- Secure the tow ring with the towing pin and secure the pin with the safety plug ***S***.



- Remove the wheel chocks.
- Insert the machine lighting power plug into the socket on the tractor. Verify that all turn indicators, parking lights and brake lights are working.
- Make sure that the baler gate and body parts are properly shut and locked in place.
- Lift the support ***P*** by operating the crank ***M***.
- Remove the safety pin ***S*** and fold the support into the transport position.
- Secure the support with the same safety pin ***S***.



- Make sure that the pickup is lifted.

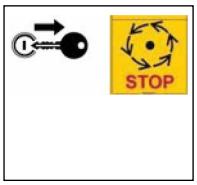
7.3 HITCHING TO THE TRACTOR BEFORE BALING

Before connecting any component of the baler to a tractor, make sure that the tractor performance meets the machine operating requirements, see Chapter 3.7 "Tractor requirements".

The baler tow bar can be adapted to the tractor towing assembly, which can be a standard hitch or an upper hitch. **In either case, the tow bar ring must be parallel to the ground.**

DANGER! Before attempting any adjustment of the machine tow bar for hitching to the tractor:

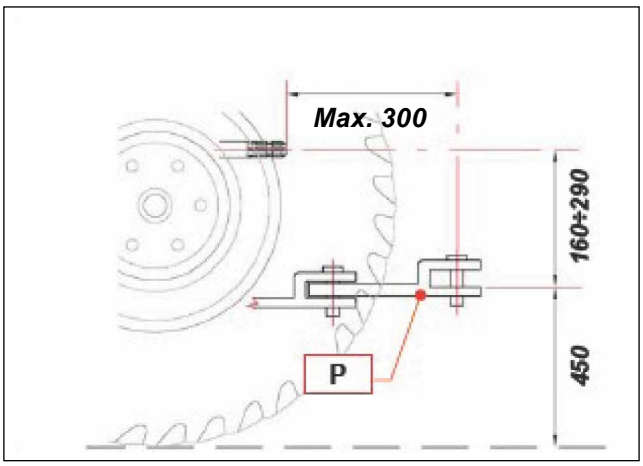
- **Stop the tractor engine and remove the ignition key.**
- **The machine must be completely detached from the tractor.**
- **The machine support must rest on the ground.**
- **The machine must be secured against movement on a firm ground to avoid accidental movement.**
- **Turn off the F Bus system.**



Follow all relevant safety standards explained in Chapter 4 "General safety standards".

7.3.1 STANDARD HITCHING

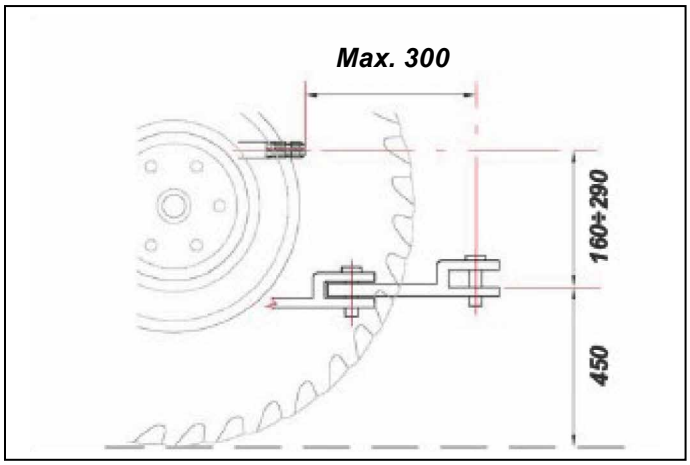
The machines supplied by **METAL-FACH** are compatible with the **standard hitch arrangement** of the tractor.



If necessary, you can use the extension ***P*** for the tractor standard hitch if all restrictions shown in the diagram are followed.

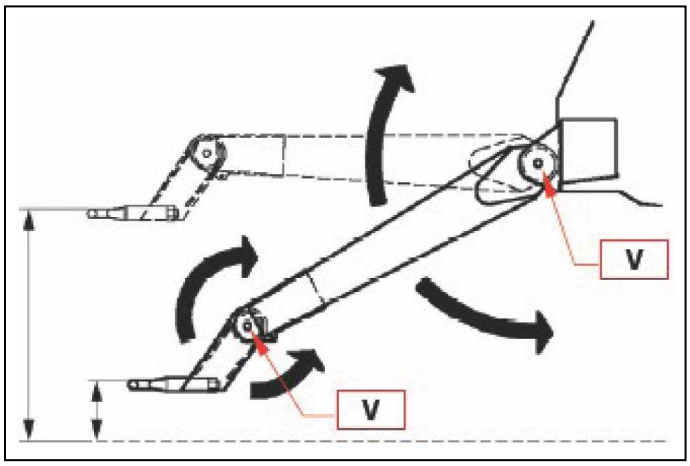
7.3.2 UPPER HITCHING

The baler can also be coupled with tractors with an upper hitch arrangement, if all restrictions shown in the diagram are followed.



Adjust the baler tow bar to do so:

- Remove the bolts ***V***.
- Turn and align the tow bar in the upper hitch position, while keeping the towing ring parallel to the ground.
- **When the position is aligned, check that the spring washers are properly chosen before retightening the removed bolts.**
- **Next retighten all removed bolts to 700 Nm.**



<u>IMPORTANT!</u> The upper hitch heigh shall be 800÷1050 mm above the ground.

7.4 CONNECTING THE BALER EQUIPMENT

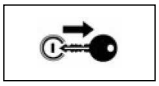
Set the support to the rest position once the machine has been hitched on the tractor (see 7.2 "Hitching to the tractor for towing").

Next connect the baler systems to the tractor:
- The F Bus system
- The lighting system
- The hydraulic system
- The PTO drive shaft

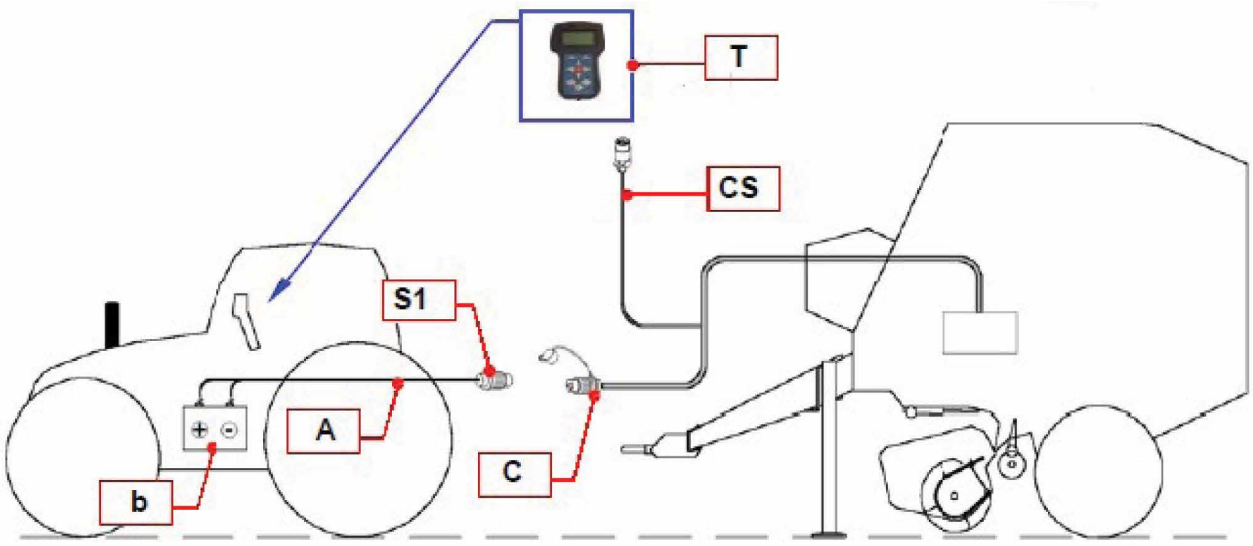
7.4.1 CONNECTING THE F Bus CONTROL SYSTEM

When connecting the machine to the tractor for the first time, first connect the power cable *A* to the 12 V battery *b* on the tractor.

IMPORTANT! Mind the correct battery polarity.
- **RED cable: + (positive)**
- **BLACK cable - (negative)**
- **Do this step only with the tractor engine stopped.**



The baler electrical system requires a 12 V power supply with the negative common.
The battery power cable plug ***S1*** should be located in the rear of the tractor.
Install the control terminal in a readily visible spot that is always within the operator's reach in the tractor cabin.
- Locate the control terminal ***T*** in the tractor cabin.
- Connect the power supply cable ***C***.
- Connect the control cable ***CS***.
  Next, try to turn on the control terminal with the Power button. The system will be on if the wiring has been properly connected.



7.4.2 CONNECTING THE LIGHTING SYSTEM

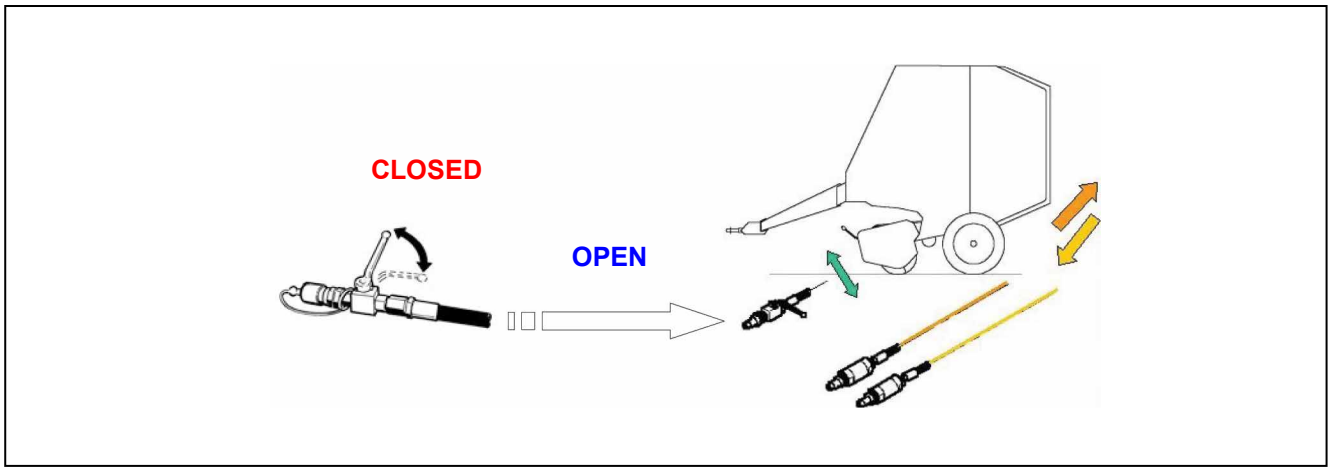
Connect the machine's electrical system to the tractor and verify that the turn indicators, parking lights and brake lights work.
Use suitably sized fuses only. Do not interchange the wiring or replace any electrical plugs for any non-genuine or non-standard plugs.
If you need maintenance or repairs, contact your nearest Authorised Service Centre.

METAL-FACH disclaims liability for any incidents caused by failure to comply with these guidelines.

7.4.3 CONNECTING THE HYDRAULIC SYSTEM

Connect the hydraulic hoses as follows:

- Connect the small hydraulic line to the single-action DCV.
- Connect both large hydraulic hoses to the double-action DCV.
- The small hydraulic line of the pickup lift features a cut-off valve.



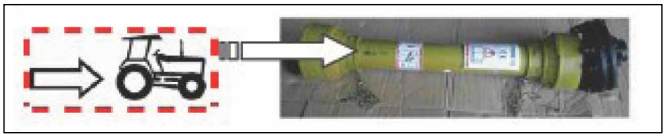
Before lifting the pickup:

- Switch the cut-off valve lever to **OPEN**, then lift the pickup (into the transport position).
- Switch the cut-off valve lever to **CLOSED** to lock the pickup.

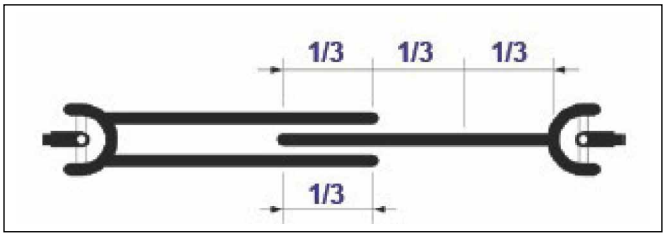
7.4.4 INSTALLING THE PTO DRIVE-SHAFT

The PTO drive shaft is a power transmission device with the CE certificate.
Each PTO drive shaft is supplied with its Operating and Maintenance Manual. Follow all PTO drive shaft operating instructions and safety rules of that Manual.

Install the PTO drive shaft supplied with the machine between the tractor PTO and the machine transmission gearbox. The PTO drive shaft coupling style on the tractor end is shown on the joint.



The PTO drive shaft length must not exceed the minimum distance between the machine and the tractor (to prevent the shaft from creeping), whereas the shaft halves must engage one into the other at least at 1/3 of length at the maximum distance between the two machines.



- Verify that the buttons and safety bolts are firmly seated in the PTO attachment grooves and that the PTO drive shaft guard rotates freely; otherwise relubricate the guard.
- Fasten the safety chain which prevents its rotation with the guard.
- See the PTO drive shaft Operating and Maintenance manual for more information about use and maintenance.

DANGER!
Recondition the safety guards on the joint after every servicing which has involved the PTO drive shaft.

7.5 FUNCTIONAL TEST

CAUTION!
Before attempting any operation with the machine (running empty or with a bale), couple the baler with the tractor.

Once the machine has been coupled as instructed above:

- Check that the belts do not stick to the paint coating on the rollers.
- Start the tractor motor with the PTO drive shaft decoupled and verify proper performance of all baler movements.
- Do functional tests of: the hydraulic system, the gate opening and closing movement, and the pickup lifting and lowering movement (Note: you need to switch the pickup cut-off valve to **OPEN** to unlock the device for lifting).
- Test the electrical connection to the controil terminal: operate the relevant F Bus button.
- Do functional tests of the machine electrical systems: the turn indicators, parking lights and brake lights.
- Close the baler gate and start the PTO.

CAUTION!
Before starting the PTO make sure that there are no persons or animals in its direct vicinity. Do the first start carefully, while monitoring the performance of all mechanical and transmission components.

7.6 PREPARING FOR WORK

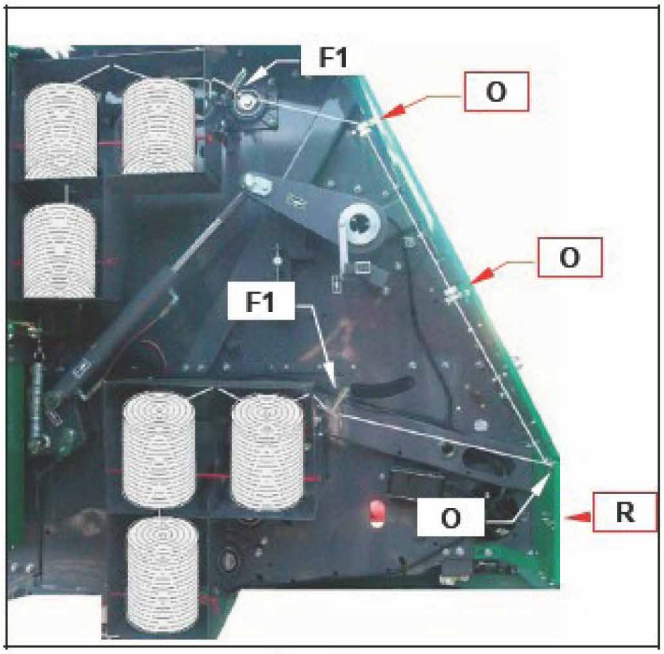
Before starting your work with the machine, prepare it according to the planned task.

7.6.1 INSTALLING THE CORD

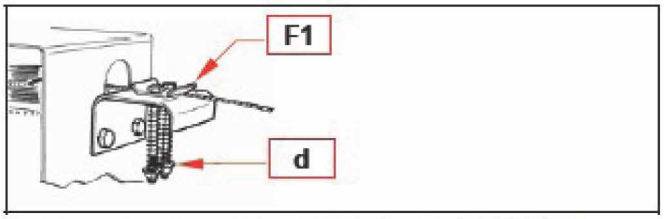
To assure proper performance of the cord wrapper, use a PP (propylene) cord rated between 500 and 75 or 1000 (m/kg).
The round baler cord wrapper is compatible with other cord grades.

- Open the side right-hand guard panel and install the cord hanks in the cord cartridges.

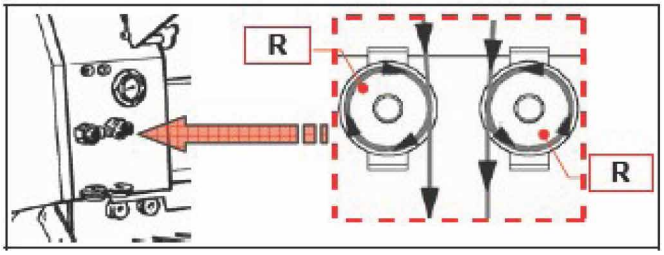
- Tie the cord hanks together (3 + 3) so that the cord passes the separator holes and magazine mouth rings.



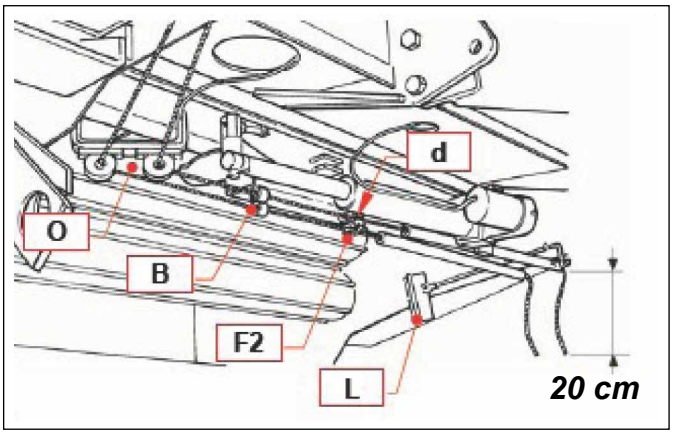
- Pass the ends of two cords through the cord brake ***F1***.
- Pass the two cords through the eyelets ***O*** in the direction indicated on the diagram.



- Make a full turn over the two wheels ***R*** located in front of the right-hand side belt (as shown in the diagram). The wheels indicate that the bale is being wrapped with the cord.



- Pass the cord through the eyelets ***O*** followed by the two sleeves ***B*** and the cord brakes ***F2*** located on the cord wrapper arm; next, pass the cord through the two pipes so that its ends extend from the other end of the tubes by approximately 20 cm.



CAUTION!

- **Install the wrapping cord with the tractor engine stopped and the control terminal off.**
- **Be careful when working close to the blade *L* on the wrapper.**

Adjust the cord tension with the nuts ***d*** on the cord brake ***F1*** – twist in or out the nuts.

Compressing the spring will tension the cord.
Releasing the spring will slacken the cord.

7.6.2 INSTALLING THE NET

- The baler can hold net reels 2000 to 3000 m long.
- The inner hole of the net reel core should be 75÷78 mm wide.
- Use a 14÷16 g/m rated net to assure proper performance of the wrapper.

DANGER!
Turn on the F Bus system and – depending on the control terminal type – follow the net loading instructions in the following Chapters:
- ***EasyTronic = 10-ET.6.2 Installing the net.***

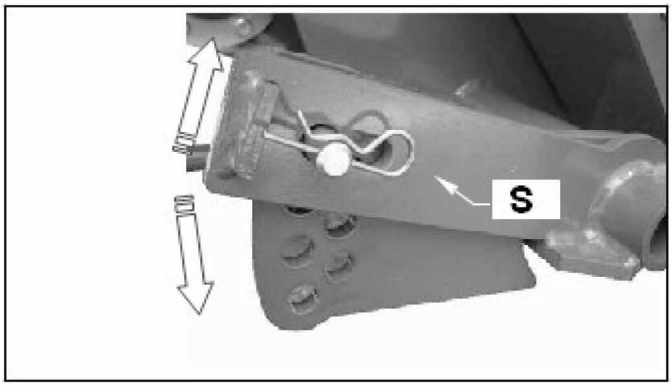
IMPORTANT!
- **Pay attention to the proper installation of the net reel in the tube. Work with the net reel unwinding direction shown on the sticker.**
- **Once the net has been installed, set the wrapper in its original position before starting the machine to work.**
- **Make sure that the cutting assembly is released (i.e. the wrapper must be in the original run limit position).**

CAUTION!
Be careful when working close to the wrapper blade.

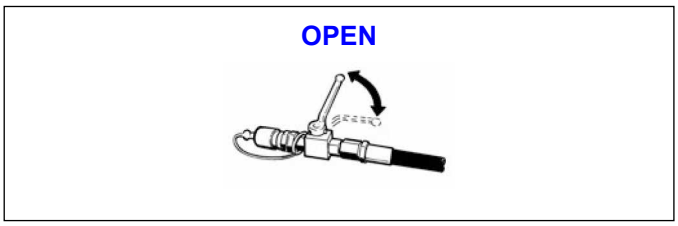
7.6.3 PICKUP WHEEL ADJUSTMENT

The service height of the pickup is adjustable.

You can increase the pickup service height as necessary by replacing the pin ***S***, which is located on the support wheel arm, in one of the holes on the pickup sides.



Lowering the pickup:
Turn the tractor selector lever with the pickup cut-off valve near the quick release coupling open (***OPEN***).

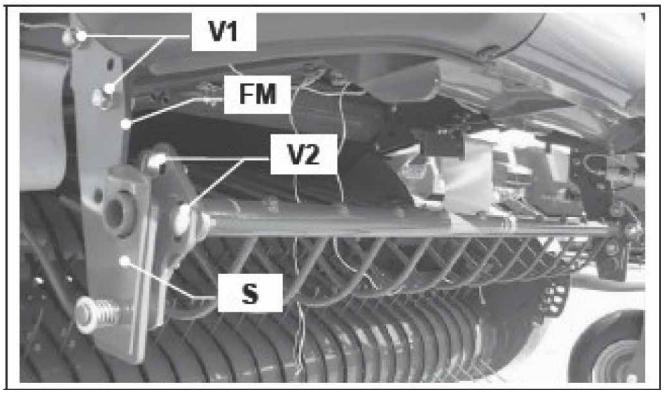


IMPORTANT!
- **The pickup prongs MUST NOT touch the ground. Adjust the pickup service height to keep the prongs at least 2÷3 cm over the ground.**
- **Place the pins *S* on the same level on the left and right-hand side of the pickup.**
- **Before reversing, lift the prongs over the ground with the wheels by lifting the pickup to avoid damage of the prongs.**

7.6.4 RAKE (Z589-3 only)

Depending on the material row to be collected, you can set the front rake in the following positions:
- **Low:** when narrow and/or low rows of material are collected.
- **Medium:** when wide and/or high rows of material are collected.
- **High:** when very wide and/or very high rows of material are collected.

Stop the machine and the tractor engine to:
- Pull out the rake with the spring clamps ***FM***.
- Remove the bolts ***V1*** from the brackets.
- Set the brackets ***S*** at the desired height and replace the bolts.



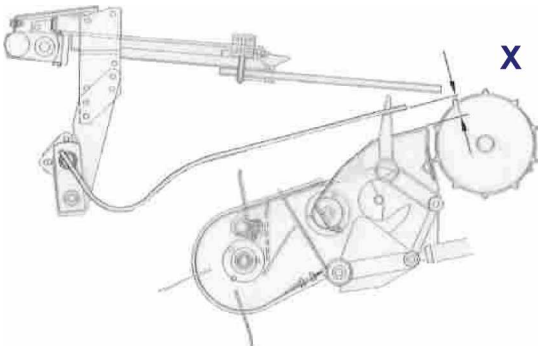
IMPORTANT!
Set the brackets *S* on the same level on the left and right-hand side of the rake.

- Reinstall the rake in place.

You can also adjust the prong tilt with the six bolts ***V2*** (with 3 bolts on each side):
- Remove the bolts and tilt the cross frame into the desired position. Retighten the six bolts ***V2*** when finished.

IMPORTANT!
Check the tilt height *X* of the rake: it must not exceed 70 mm (measured from the collector cage).

X = max. 70 mm

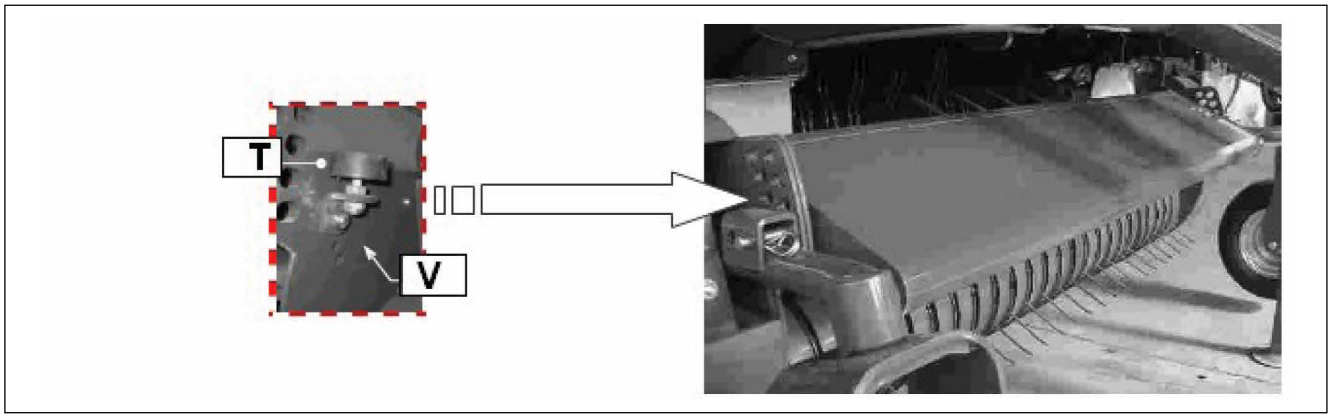


7.6.5 PROTECTIVE SHIELD (Z589-2 only)

The safety guard installed on the machines with a cutting assembly optimises collection of the product and its infeed to the machine.
You can adjust the spacing of the safety guard to the pickup prongs by shifting the buffers T.

Stop the machine and the tractor engine to:

- Remove the shield.
  Remove the retaining bolt ***V*** of the buffer ***T*** and relocate the buffer to one of the holes on the pickup side as required. Retighten the bolts ***V*** when finished.



IMPORTANT!
Place the buffer T on the same level on the left and right-hand side of the pickup.

- Reinstall the protectiv shield in place.

If a product run is short or product rows are narrow and/or low, set protective shield closer to the pickup prongs; otherwise move the protective shield away from the pickup prongs.

7.6.6 CUTTING ASSEMBLY (Z589-2… only)

If the machine is equipped with the cutting assembly, the product can be cut (shredded) when being picked up. Extend the cutting blades into the baling chamber by operating the control terminal to cut the product.

IMPORTANT!
Turn on the F Bus system and – depending on the control terminal type – follow the blade extension and withdrawal instructions in the following Chapters:

- ***QuickTronic = 10-QT.3.4 Cutting assembly.***
- ***EasyTronic = 10-ET.6.3 Cutting assembly.***

The cut-off spacing is 77 mm.
If the product is to be cut into longer pieces, some blades need to be removed.

See Chapter 9.9 "*Cutting assembly maintenance and adjustment*" for more information about adjusting, replacing and maintaining the blades.

7.6.7 SELECTING THE CORE TYPE

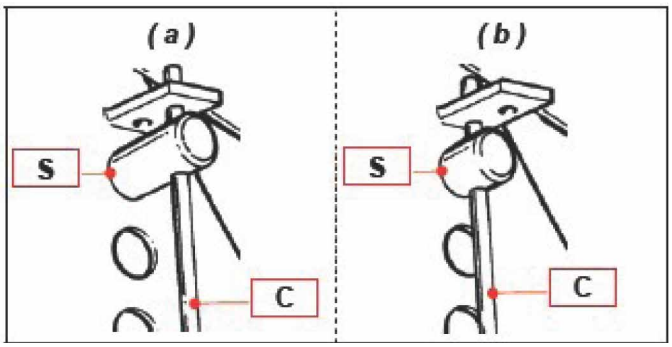
The F Bus control system facilitates setting the bale core diameter and density depending on the material type and individual needs.
The mechanical sorting function facilitates rolling bales with soft or hard cores.

Adjusting the core type:
The bale core adjustment pin is located under the side guards on both front sides of the baler.
You can roll bales with a hard core and four types of soft core:

Note: The bale soft core size must be less than the bale diameter.
Bale diameter ≤ 1.2 m: select the setting 1 or 2.

a) The **hard core** bales are produced with the pin ***S*** installed at any position and fastened with the plug ***C***.

b) The **soft core** bales are produced with the pin ***S*** installed in a soft core position and fastened with the plug ***C***.

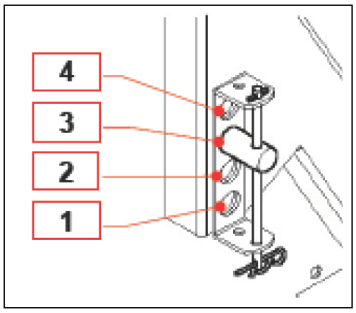


To insert or remove the pin ***S***, set the belt tensioning main arm in the maximum position by moving the tractor to clear the pin holes.

IMPORTANT!
- **The pins must be on one level on both sides of the machine.**
- **Make sure that the belt tensioning main arm is over the pin holes (it MUST NEVER be below the pin holes).**

Pin *S* positions (level on the left and right-hand sides):

1) Bale with small soft core .....ø = 50÷60 cm
2) Bale with average soft core .....ø = 70÷80 cm
3) Bale with average/large soft core .....ø = 85÷90 cm
4) Bale with large soft core (star-shaped) ..... ø = 100÷110 cm

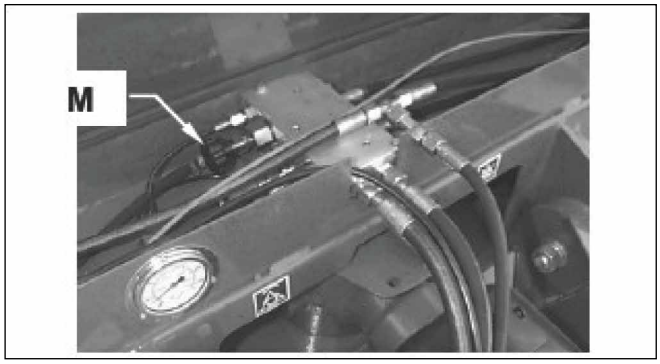


7.6.8 SELECTING THE BALING PRESSURE

The baling pressure depends on the desired bale density.

The baler features the baling pressure control valve:

Open the service hatch in front of the machine to access the baling pressure control valve.
Loosen the counter nut and operate the knob M to adjust the baling pressure.



- Turn the knob ***M*** clockwise to increase the baling pressure (and make heavier bales). Turn the knob home **to achieve the maximum baling pressure of approx.. 195 bar**.

- Turn the knob ***M*** counter-clockwise to reduce the baling pressure (and make lighter bales).

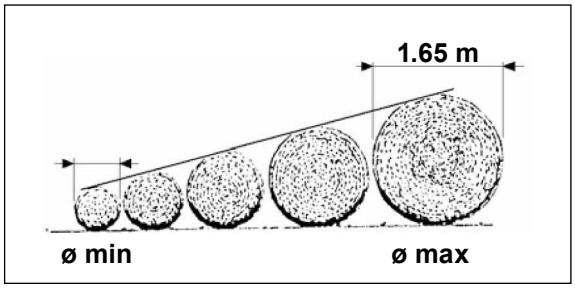
Minimum baling pressure is approx. 60 bar.

- Lock the adjusted knob ***M*** by retightening the counternut.
- Close the service hatch.

7.6.9 SELECTING THE BALE DIAMETER

You can use the F Bus control terminal to select the bale diameter.

The possible bale diameters range from
0.50 m (minimum) to **1.65 m** (maximum).



7.7 PREPARING THE FIELD FOR WORK

Follow these guidelines to achieve the maximum collection and baling performance with various products:

7.7.1 CONDITIONING

Silage must be conditioned to achieve equal moisture of stalks and leaves.

Long and hard materials shall be conditioned to produce broken stalks, which will reduce their rolling resistance when baling, since long stalks are prone to enter between the baling belts.

Corn stalks should be ground for better baling and optimum bale density. Do not grind them too finely!

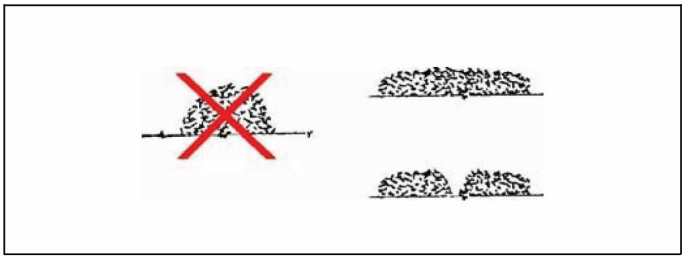
7.7.2 PRODUCT ROWS

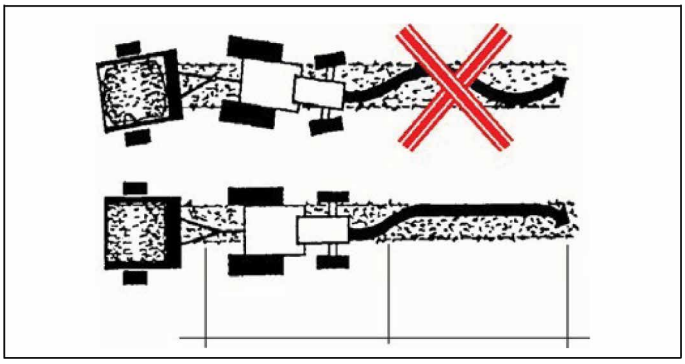
It is critical to properly form the product in rows to achieve optimum baling.
Once the product has been shredded and properly dried, form rows of it in the field.

You can form single or double rows with the total width equal to the pickup service width to maximise the baler performance.
When forming double rows, the rows must be adjacent one to another and cannot overlap each other.

The width of single rows can be 0.50÷0.60 m, which will require driving in a zig-zag pattern to feed the baler at the entire pickup service width and form uniformly rolled bales.

Follow the indications of the F Bus control terminal when zigzagging.





See the following Chapters for more information:
- *EasyTronic = 10-ET.7 Work stages.*

8 FIELD WORK OF THE MACHINE

8.1 STARTUP

Once the machine has been prepared according to Chapter 7 "Operating Manual", turn on the F Bus to start your work.

You can review and modify the machine settings on the control terminal before work.

Check that the cord wrapper arm is home and that the required cutting tools are released (unlocked) before starting your work.

Park the tractor with the machine in front of the row end, open the pickup cut-off valve (set to ***OPEN***) and lower the pickup. Make sure that the baler gate is closed and locked. The hydraulic pressure gauge must read at least 30 bar.

Now you can start the PTO and start collecting the product.

The PTO speed must be 450÷540 RPM. DO NOT exceed the maximum RPM value.

See the following Chapters for more information about modifying the F Bus control system programs:
- *10-ET EasyTronic.*

8.2 DRIVING SPEED

Adapt the driving speed to the product being processed and the terrain.

8.3 BALING CHAMBER CHARGING (optional accessory kit)

If the baler is equipped with the load indicators and the load indication function is on, you can monitor how the product is charged into the baling chamber.
See the following Chapters for more information on how to charge the baling chamber with the load indicator kit:
- *EasyTronic = 10-ET.7 Work stages.*

8.4 BALING

You can monitor the baling stages with the F Bus system, e.g.:
- Bale diameter
- Wrapping tie type (cord or net)
- Wrapping control (automatic or manual)

If the machine is equipped with the cutting assembly (Z589-2 only), you can also use the control system to monitor the following:
- Blades (extended / retracted)

Once the programed bale diameter is produced, F Bus will warn you to immediately stop driving so that the wrapper can tie the bale.

See the following Chapters for more information about the baling stages:
- *10-ET EasyTronic.*

8.5 WRAPPING

The F Bus control system can start and complete the bale wrapping cycle automatically or under manual control.

See the following Chapters for more information about the wrapping stages:
- *10-ET.7 Work stages.*

8.6 BALE DISCHARGE

When the bale has been wrapped, F Bus will warn you (with an indication depending on the control terminal type) to open the gate to release the bale.

CAUTION ! Before opening the gate:
- **Make sure that you are parked on a flat ground or, when parking on a slope, the machine gate is directed down the slope.**
- **Remove all persons clear from the direct vicinity of the machine and from behind the gate.**

Open the gate with the hydraulic DCV lever of the tractor. Wait until the bale clears the baler and close the gate.

F Bus will notify that the machine is ready for the next work cycle.

If the gate fails to close shut, F Bus will warn you (with an indication depending on the control terminal type).

IMPORTANT!
Do not begin collecting with the gate open or one of its hooks not locked!

***Note*: The F Bus control system can be operated with different control terminal types.**
All information on specific work operations will be explained depending on the control terminal in use.

See Chapter 10 "F Bus control system" for detailed instructions on how to operate the control terminal.

8.7 JAMMING OF PRODUCTS

DANGER!
If the machine is jammed during field work, do not attempt to remove the product when the baler is running.

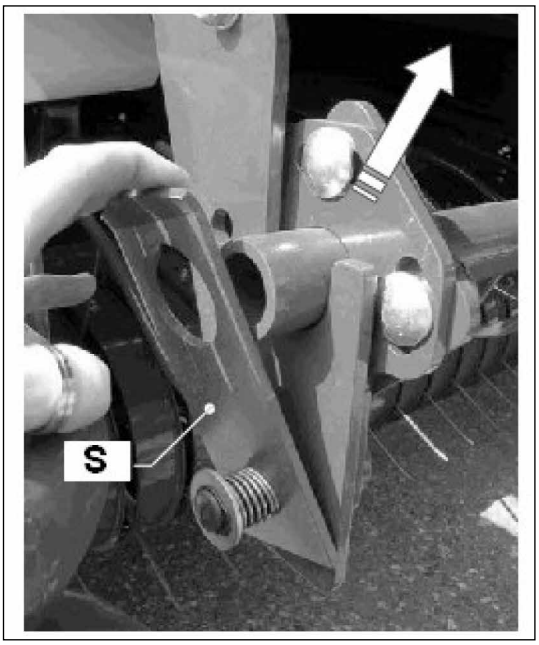
8.7.1 CLEARING THE PICKUP AND THE RAKE (Z589-3 only)

The product is jammed between the rake and the pickup prongs.

CAUTION ! Before attempting to do ANYTHING to clear the machine:
- **Stop the tractor engine, remove the ignition key and wait until all moving machine components stop completely.**
- **Turn off the F Bus system.**

- Tilt the bracket ***S*** (on the left and right-hand sides), to release and pull out the rake.
- Put on protective work gloves and clear the product jam with proper tools.

Example, RIGHT-HAND SIDE



CAUTION!
Detach the brackets *S* with caution: the product stuck between the rake and the pickup may cause the rake to spring up suddenly.

- Once the gap has been completely cleared, reinstall the rake and secure it with the brackets ***S***.
- Once finished, you may restart the PTO.

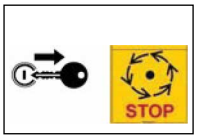
If the pickup does not run, its safety shear bolt could be shorn.

Replacement instructions, see Chapter 9.2.1 "Replacing the pickup safety".

8.7.2 CLEARING THE PICKUP FROM THE PRODUCT JAMMED BETWEEN THE BLADES AND THE PROTECTIVE SHIELD (Z589-2 only)

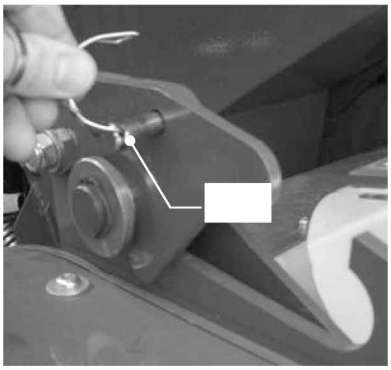
The product is jammed between the protective shield and the pickup prongs.

CAUTION ! Before attempting to do ANYTHING to clear the machine:
- **Stop the tractor engine, remove the ignition key and wait until all moving machine components stop completely.**
- **Turn off the F Bus system.**

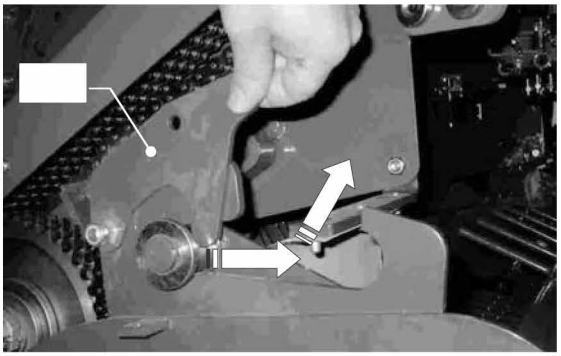


- Unlock and remove the safety pin ***S*** (on the left and right-hand sides) and lift the clamp hook ***G***.
- Remove the protective shield.
- Put on protective work gloves and clear the product jam with proper tools.

Example, RIGHT-HAND SIDE



Example, RIGHT-HAND SIDE



- Once the gap has been completely cleared, reinstall the protective shield and secure it with the clamp hook ***G*** and the safety pins ***S***.
- Once finished, you may restart the PTO.

If the pickup does not run, its safety shear bolt could be shorn. Replacement instructions, see Chapter 9.2.1 "Replacing the pickup safety".

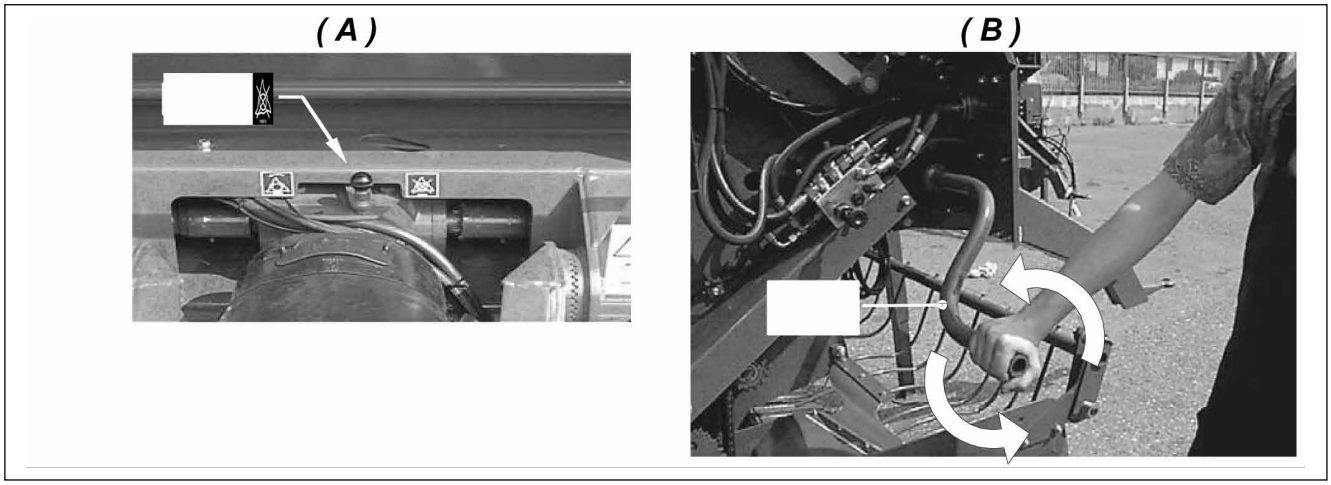
8.7.3 CLEARING THE ROTOR (Z589-2 only)

There is too much product jammed between the rotor and the conveyor bottom.

DANGER! Before attempting to do ANYTHING to clear the machine: Stop the tractor engine, remove the ignition key and wait until all moving machine components stop completely.
- **Turn off the F Bus system.**

- Open the right-hand guard panel and remove the clearing gear crank ***M***.

A) Shift the rotor coupling lever ***L*** to neutral and insert the clearing gear crank into the gear shaft.
B) Rotate the crank ***M*** in the direction opposite to the normal running direction to clear the jammed product from the machine.



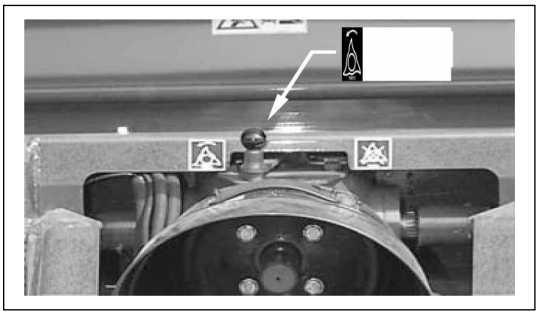
If foreign bodies are present and must be removed (e.g. stones, branches, etc.), put on protective work gloves or use proper tools.

CAUTION!
Be extremely careful: the rotor working zone is extremely hazardous due to the blades located therein.

If you need to remove the protective shield, follow Chapter 8.7.2 "Clearing the pickup from the product jammed between the blades and the protective shield".

Once the gap has been completely cleared, remove the crank ***M*** and replace it in its stowage holder, then close the access guard panel.

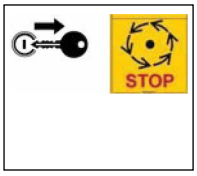
- Switch the rotor coupling lever ***L*** back to drive.
- Reinstall the protective shield if you have removed it.
- Once finished, you may restart the PTO.



If the rotor does not run:
- Verify that the rotor coupling lever ***L*** is properly shifted.
- The mechanical transmission shear bolt could be shorn.

Replacement instructions, see Chapter 9.2.2 "Replacing the rotor mechanical safety (Z589-2 only)".

8.8 STOPPING THE MACHINE



<u>IMPORTANT!</u> Do the following to finish your work:

- **Stop the machine.**
- **Make sure that all moving components of the machine have come to a full stop and are home.**
- **Stop the tractor, stop the engine and remove the ignition key.**
- **Turn off the F Bus system.**

8.9 PARKING

<u>CAUTION!</u>
Before parking the machine at its storage site, make sure that there is no bale in the chamber.

Once your field work is finished, park the machine in a suitable storage location on a flat ground to prevent the machine from accidentally rolling away.

- Chock the wheels or engage the parking brake, see Chapter 2.4 "Parking brake" (if the machine is equipped with the parking brake).
- Rest the support on the ground and secure it with the safety pin.

Lift the machine 2÷3 cm over the tractor hitch to unhitch.

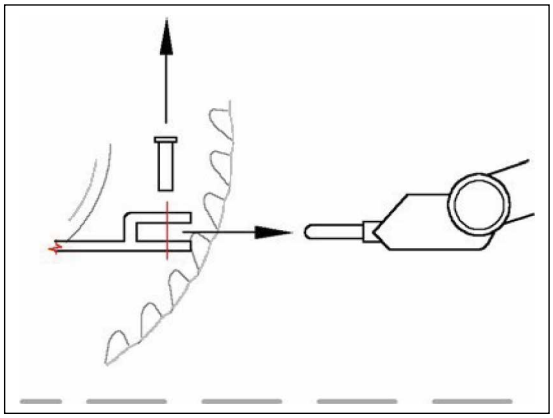
- Lift the PTO drive shaft support, uncouple the PTO drive shaft from the tractor and rest the shaft against the support. Secure the PTO drive shaft with the safety chain.

Depressurize the hydraulic system:

- Rest the pickup wheels on the ground.
- Switch the pickup cut-off valve lever to CLOSED.
- Disconnect the hydraulic line and secure it on the cable support.
- Disconnect other hydraulic lines and secure them on the cable support.

- Disconnect the electrical power and lighting cables and secure them on the cable support.
- Disconnect the F Bus control cable line and secure it on the cable support.
- Remove the control terminal from the cabin and store it at a location sheltered from dust and weather.

- Remove the safety pin and the plug from the tow bar ring and unhitch the machine.



- Drive away from the machine.

9 MAINTENANCE AND ADJUSTMENT

9.1 RUNNING MAINTENANCE

IMPORTANT!
Proper adjustments and thorough maintenance will extend the service life and assure safe operation of your machine.

All bolts shall be retightened to the torque values listed in Table 11.4 "Tightening torques", unless specified otherwise.
THE VALUE 8.8 IS THE STANDARD MINIMUM FOR THIS MACHINE.
The fastener diameter and tightening torque values according to material types follow the DIN ISO 898 standard.

Lubrication is critical to the life and performance of machines with rotating or friction parts. Relubricate periodically and consistently, see Table 11.4 "Tightening torques", unless specified otherwise.

CAUTION ! Before attempting any maintenance work on this machine:
- **Follow all relevant safety standards explained in Chapter 4 "General safety standards".**

All maintenance work must be carried out after stopping the machine and with all of its moving parts stopped:
- **Stop the tractor engine and remove the ignition key.**
- **Turn off the F Bus system.**
- **Do not lift the machine off the ground.**

Plan all scheduled maintenance work in advance.

This Manual is indicative only, and the maintenance schedules are provided for machines operated under normal conditions. If the operating conditions of the machine are more severe, shorten the maintenance intervals.

Replace all parts which could already be worn out:
USE ORIGINAL SPARE PARTS ONLY.

DANGER!
If you need to service the machine with the gate open or inside of the baling chamber, lock the gate open with the safety lock, see Chapter 4.5.9 "Gate safety lock".

All maintenance work must strictly follow this Manual. Worn out or damaged parts shall be replaced by qualified personnel only.

9.2 MAINTENANCE AND ADJUSTMENT OF SAFETY EQUIPMENT

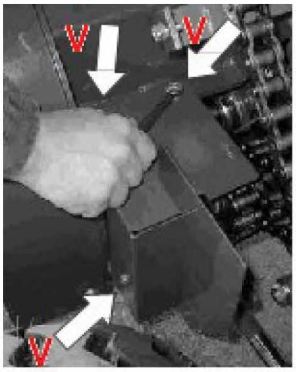
Certain safety devices listed in Chapter 4.5 "Safety equipment" require cleaning and/or readjustment.

9.2.1 REPLACING THE PICKUP SAFETY

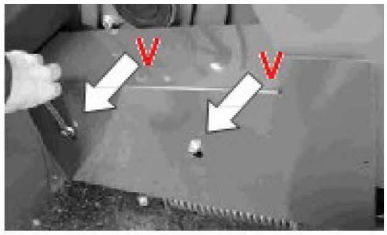
IMPORTANT!
If the pickup safety shear bolt is shorn, replace the part with a new one of identical ratings:
- **Bolt, M8x45-10.9 UNI 5738 - DIN 960 (non-galvanized, partial thread).**

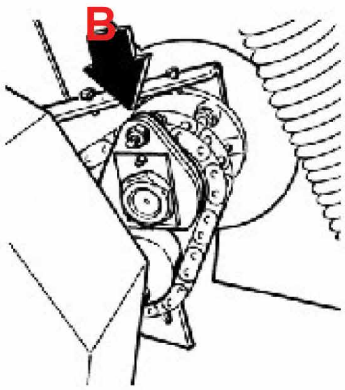
- Remove the bolts ***V*** and the safety guard on the left-hand side of the pickup.
- Verify that there are no shear bolt parts stuck between the gears.
- Align the safety shear bolt holes by manually rotating the worm screw. Thread in and tighten the new shear bolt ***B***.

Z589-3



Z589-2



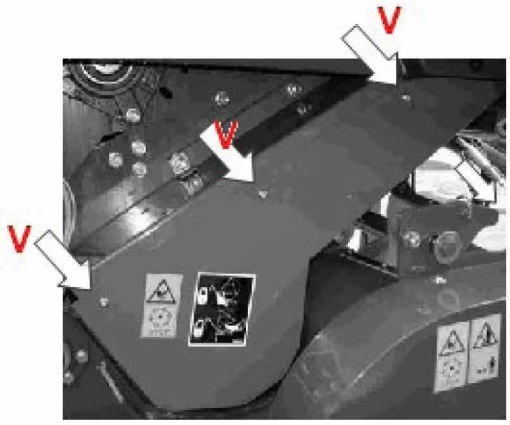


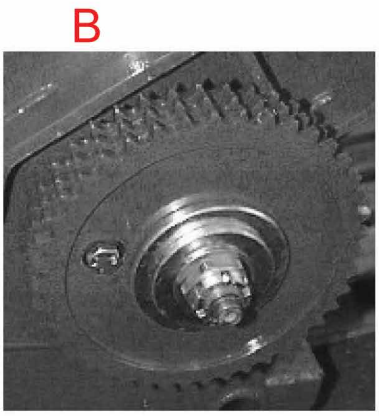
- Replace the safety guard and retighten the bolts ***V*** when finished.

9.2.2 REPLACING THE ROTOR MECHANICAL SAFETY (Z589-2 only)

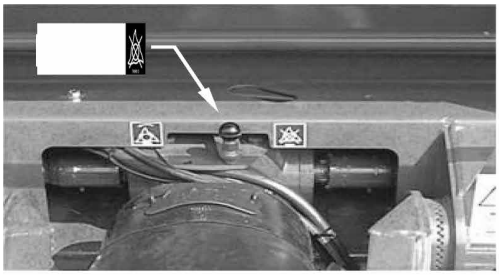
IMPORTANT!
If the safety shear bolt is shorn in the rotor mechanical safety device, replace the part with a new one of identical ratings:
- **Bolt, M14x60-8.8 UNI 5738 - DIN 960 (non-galvanized, partial thread).**

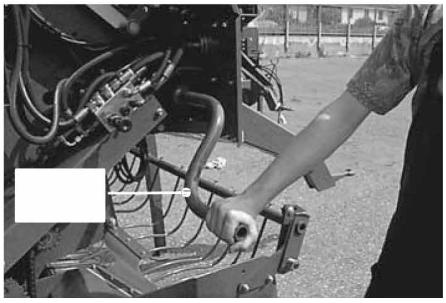
- Loosen the bolts ***V*** and the safety guard on the left-hand side of the rotor gearbox.
- Verify that there are no shear bolt parts stuck between the gears.



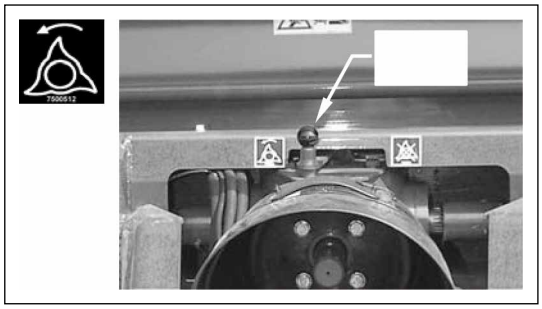


- Switch the rotor to idle (set the rotor coupling level ***L*** to neutral).
- Use the crank ***M*** (supplied with the machine) to align the rotor safety shear bolt holes. Thread in and tighten the new shear bolt.





- Engage the rotor (switch the rotor coupling level ***L*** to drive), then remove and stow the crank ***M***.
- Replace the safety guard and retighten the bolts ***V*** when finished.

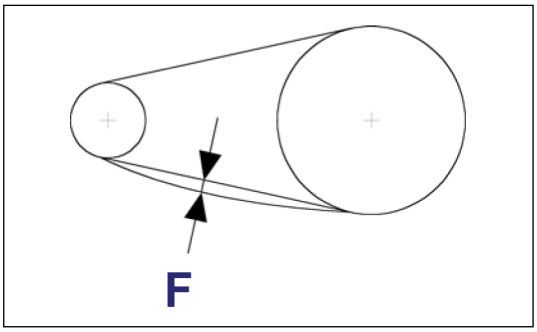


DANGER!
Verify the following before installing the PTO that the crank *M* has been removed and stowed away.

9.3 CHAIN TENSION

Periodically inspect the tensioning of the drive chains and (if applicable) the automatic tensioner performance.

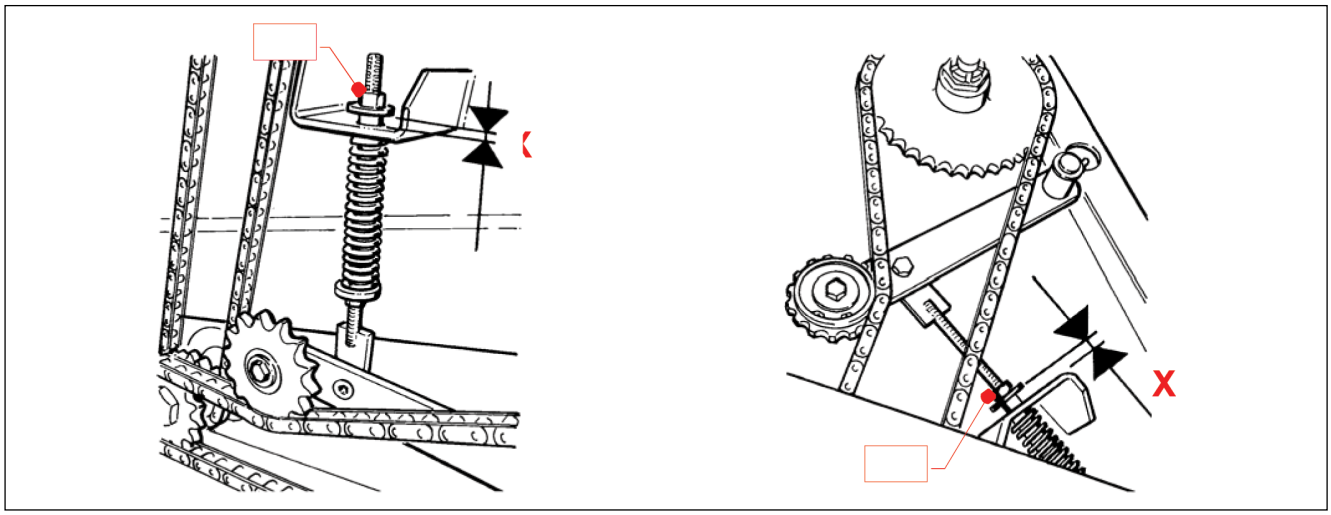
The chain tension *F* shall be 5÷10 mm.



9.3.1 ADJUSTING THE AUTOMATIC TENSIONERS

The roller chains of the machine are tensioned automatically by spring-action tensioners.
Periodically inspect the chain tensioning and readjust if necessary. Check the functioning of the automatic chain tensioners.

Open the left-hand guard panel to check and adjust the chain tension:



- Operate the nut ***d*** to adjust the distance ***X*** **to 10÷15 mm.**
- Once finished readjusting, retighten the nut ***d1***.
- Close the side guard panel.

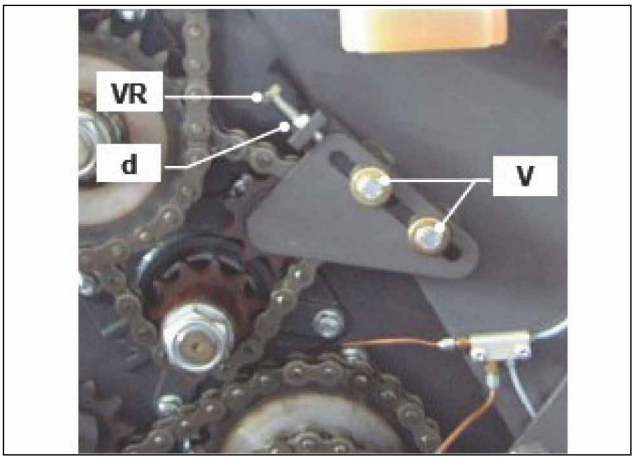
9.3.2 MANUAL TENSIONER ADJUSTMENT

Some roller chains of the machine are tensioned with manually adjusted tensioners.
Periodically inspect the chain tensioning and readjust if necessary. Check the functioning of the manual chain tensioners.

Open the left-hand guard panel to check and adjust the chain tension (and close it again once finished readjusting).

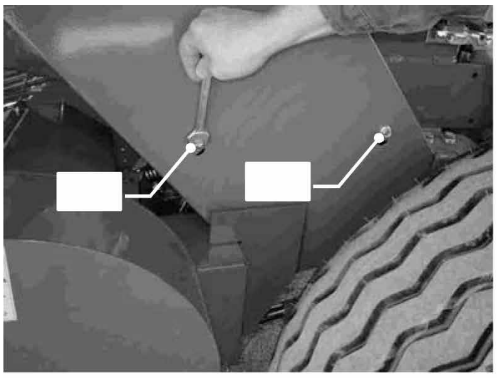
Feeding roller chain tension:

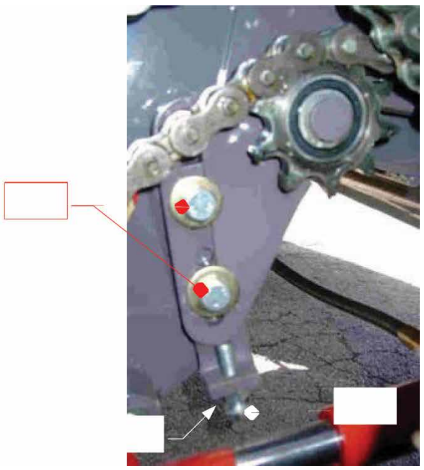
- Remove the bolts ***V*** and the counternut ***d***.
- Loosen or tighten the adjustment screw ***VR*** to set the proper chain tension.
  Once finished readjusting, retighten the counternut ***d*** and the bolts ***V***.



Big roller chain tension (Z589-3):

- Loosen the bolts ***V1*** and remove the guard.
- Loosen the bolts ***V2*** and the counternut ***d***.
- Loosen or tighten the adjustment screw ***VR*** to set the proper chain tension.
- Once finished readjusting, retighten the counternut ***d*** and the bolts ***V2***.

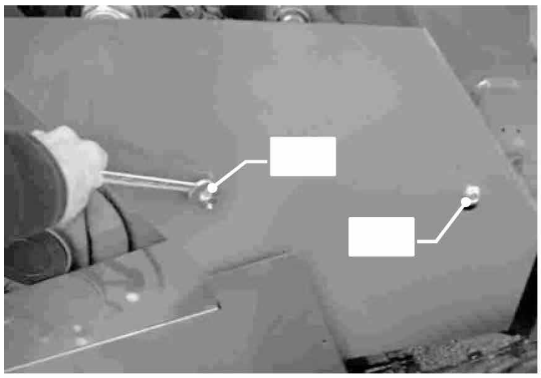


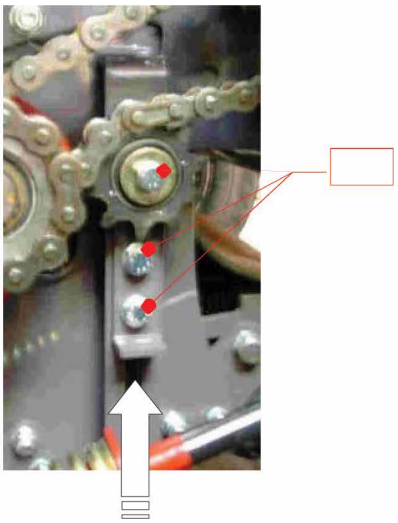


- Reinstall the guard and retighten the bolts ***V1***.

Big roller chain tension (Z589-2):

- Loosen the bolts ***V1*** and remove the guard.
- Loosen the 3 bolts ***V2*** and use a hammer to adjust the chain tension by slightly tapping the tensioner upward.
- Retighten the 3 bolts ***V2*** when finished.

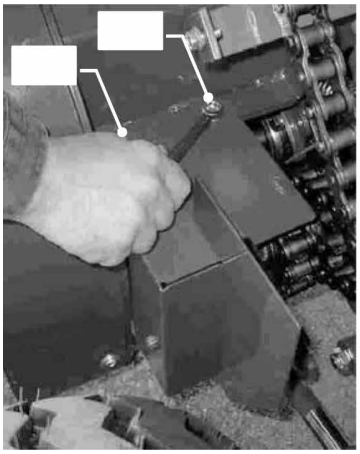


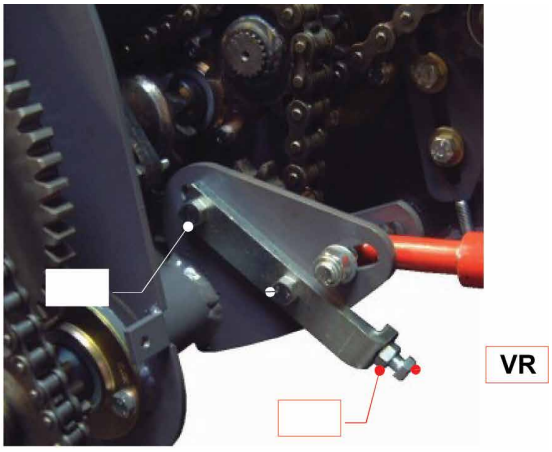


- Reinstall the guard and retighten the bolts ***V***.

Collector assembly chain drive tension (Z589-3 only):

- Loosen the bolts ***V1*** and remove the guard.
- Loosen the bolts ***V2*** and the counternut ***d***.
- Loosen or tighten the adjustment screw ***VR*** to set the proper chain tension.
- Once finished readjusting, retighten the counternut ***d*** and the bolts ***V2***.

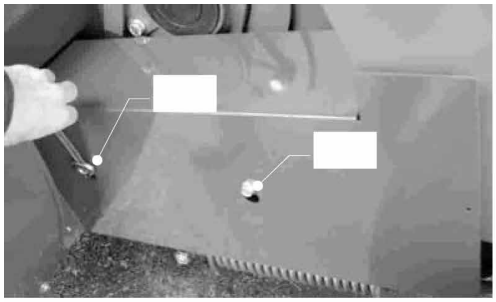


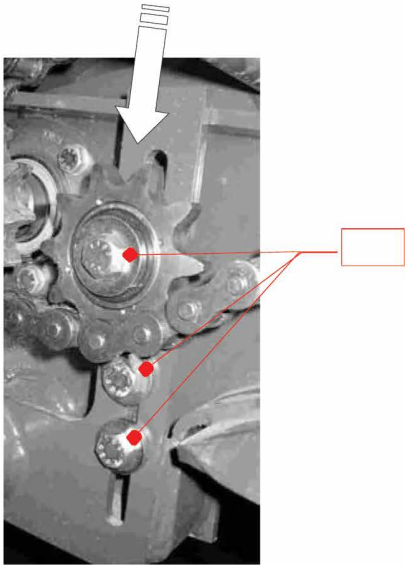


- Reinstall the guard and retighten the bolts ***V1***.

<u>Collector assembly chain drive tension (Z589-2 only):</u>

- Loosen the bolts ***V1*** and remove the guard.
- Loosen the 3 bolts ***V2*** and use a hammer to adjust the chain tension by slightly tapping the tensioner downward.
- Retighten the 3 bolts ***V2*** when finished.



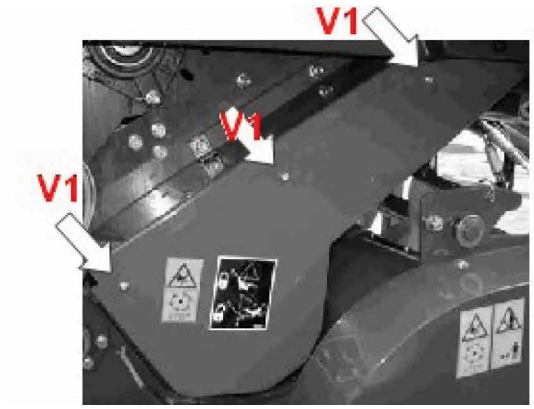


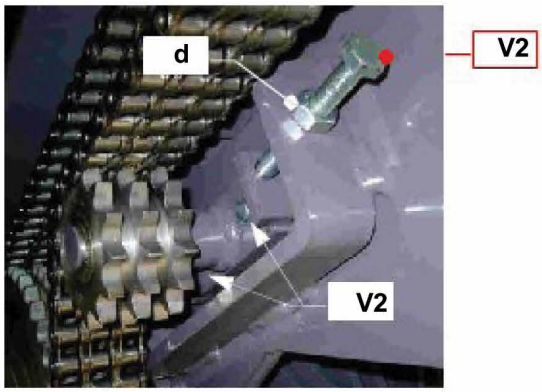
- Reinstall the guard and retighten the bolts ***V***.

Rotor chain tension (Z589-2):

Open the right-hand guard panel to check and adjust the rotor chain tension:

- Loosen the bolts ***V1*** and remove the guard.
- Loosen the 2 bolts ***V2*** from the machine wall interior.
- Loosen the counternut ***d***, then loosen or tighten the adjustment screw ***VR*** to set the proper chain tension.

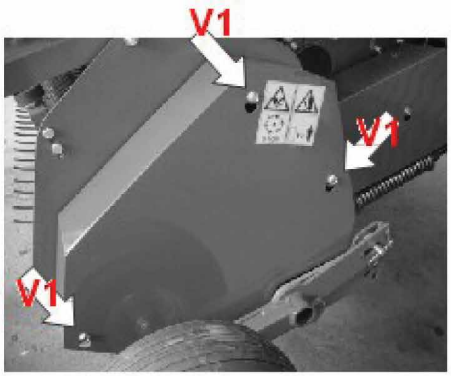


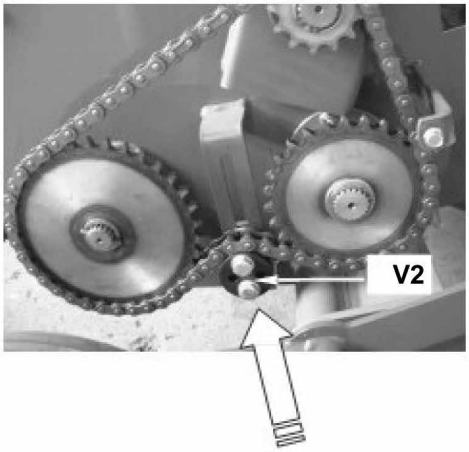


- Once finished readjusting, retighten the counternut ***d*** and the 2 bolts ***V2*** from the machine wall interior.
- Reinstall the guard and retighten the bolts ***V1***.
- Close the side guard panel.

Pickup chain tension (left-hand side):

- Remove the bolts ***V1*** and the pickup left-hand guard.
- Loosen the 2 bolts ***V2*** and use a hammer to adjust the chain tension by slightly tapping the tensioner upward.
- Retighten the 2 bolts ***V2*** when finished.

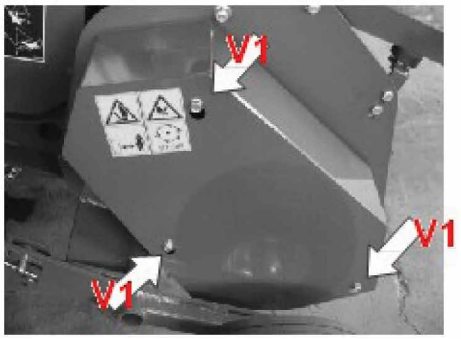


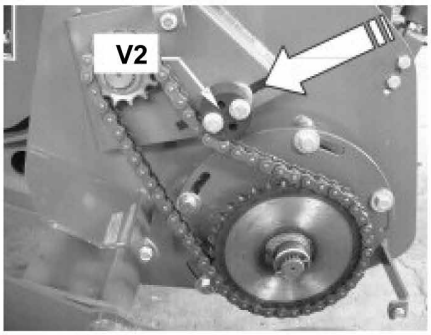


- Reinstall the guard and retighten the bolts ***V1***.

Pickup chain tension (right-hand side):

- Remove the bolts ***V1*** and the pickup right-hand guard.
- Loosen the 2 bolts ***V2*** and use a hammer to adjust the chain tension by slightly tapping the tensioner to move it.
- Retighten the 2 bolts ***V2*** when finished.



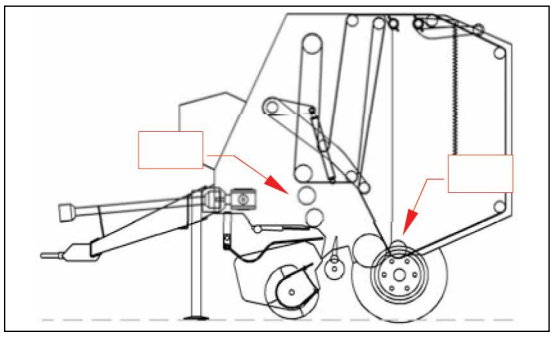


- Reinstall the guard and retighten the bolts ***V1***.

9.4 SCRAPER ADJUSTMENT

IMPORTANT!
Both areas on the machine where the scrapers are installed must always be properly adjusted and clean.

The machine scrapers are:
1) The dancing roller scraper
2) The bottom roller scraper

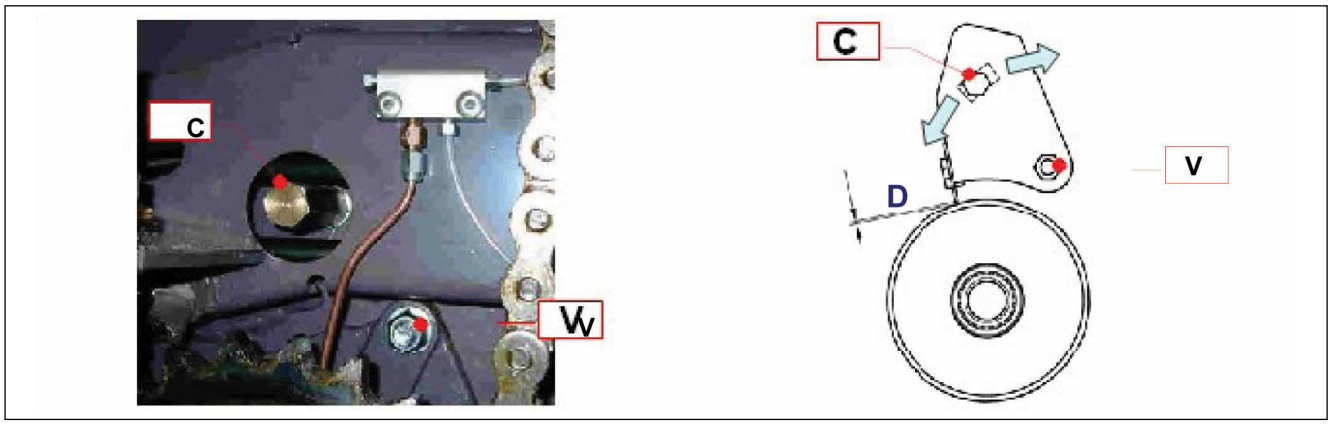


CAUTION ! Before attempting any maintenance or adjustment of the scrapers:
- **Stop the machine and wait until all moving machine components stop completely.**
- **Stop the tractor engine and remove the ignition key.**

IMPORTANT!
When adjusting the distance *D* between the scrape blade and the roller, the scraper blade MUST NOT touch the roller surface.

9.4.1 DANCING ROLLER SCRAPER

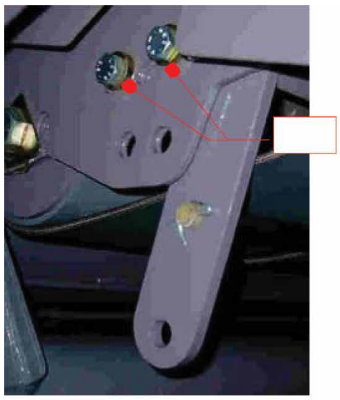
- Open the baler gate to facilitate the planned actions and lock the gate open with the gate safety lock, see Chapter 4.5.9 "Gate safety lock".
- Open both side guard panels of the machine.
- Loosen the 2 bolts ***V*** (one on each side) and the stud bolts ***C*** (one on each side), then adjust the distance ***D*** between the roller and the scraper blade by slightly tapping the scraper with a hammer:
  Distance *D* = 0÷0.5 mm.
- Once finished adjusting, retighten the 2 bolts ***V*** and the 2 stud bolts ***C***, then verify that the distance ***D*** has not been changed by retightening the bolts and the stud bolts.

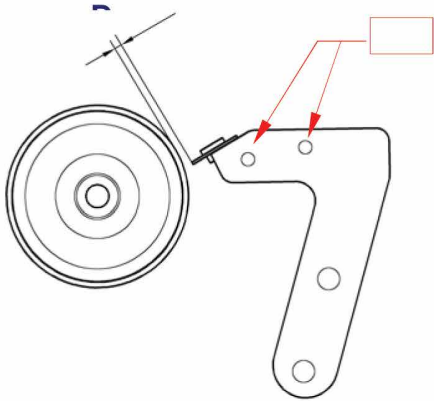


- Close the side guard panel of the machine.
- Make sure that no bystanders are near the machine (otherwise remove them from direct vicinity) and start the tractor.
- Release the gate safety lock.

9.4.2 BOTTOM ROLLER SCRAPER

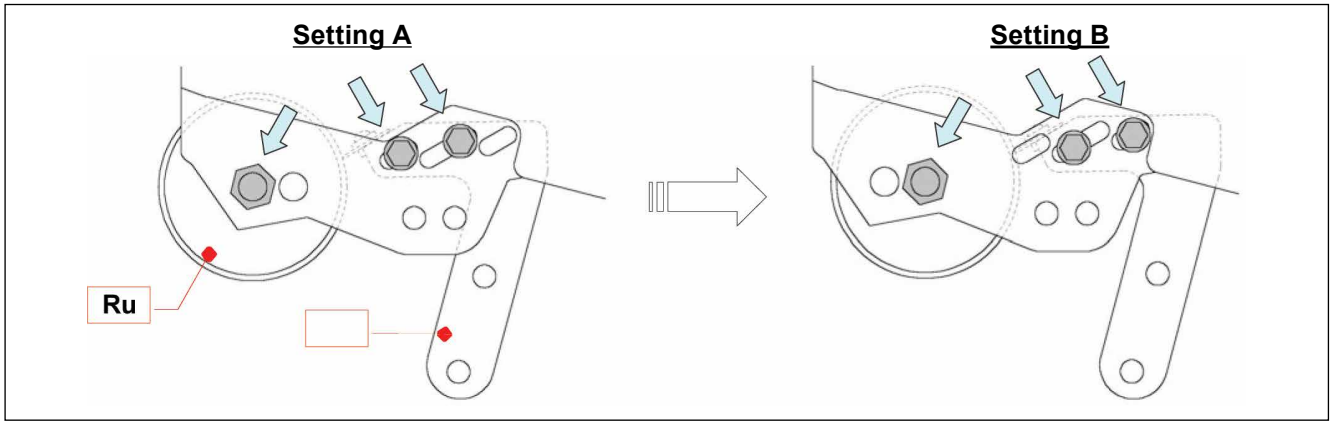
- Open the baler gate to facilitate the planned actions and lock the gate open with the gate safety lock, see Chapter 4.5.9 "Gate safety lock".
- Remove the 4 bolts ***V*** (2 on each side) and adjust the distance ***D*** between the roller and the scraper blade by slightly tapping the scraper with a hammer:
  Distance *D* = 0÷0.5 mm.
- Once finished adjusting, retighten the 4 bolts ***V***, then verify that the distance ***D*** has not been changed by retightening the bolts.





- Make sure that no bystanders are near the machine (otherwise remove them from direct vicinity) and start the tractor.
- Release the gate safety lock.

IMPORTANT!
The gate roller and the scraper are always factory installed in the holes *A* as shown in the drawing.



When working in a field littered with stones, move the gate roller and the roller scraper to the position ***B*** as shown in the drawing. The procedure:

- Open the baler gate to facilitate the planned actions and lock the gate open with the gate safety lock, see Chapter 4.5.9 "Gate safety lock".
- Remove the scraper fastening screws ***Ra*** so that the scraper can be relocated to the position ***B***.
- Fasten the scraper with the removed bolts and **do not tighten them yet**.

DANGER! When working with the scraper, be extremely careful:
- **The scraper blade is very sharp.**
- **The scraper weight is a crushing hazard.**

- Remove the bottom roller fastening screws ***Ru*** on the gate and relocate the roller to the new position ***B***.
- Fasten the scraper with the removed bolts and retighten the bolts.

DANGER!
Be extremely careful when working with the gate bottom roller: it is heavy and a crushing hazard.

- Set the correct distance ***D*** between the scraper blade and the roller.
- Once finished adjusting, retighten the scraper fastening bolts ***Ra***, then verify that the distance ***D*** has not been changed by retightening the bolts.
- Make sure that no bystanders are near the machine – otherwise remove them from direct vicinity.
- Start the tractor and release the gate safety lock.

9.5 BELTS

9.5.1 BELT ADJUSTMENT

Check the running of the belts:

- Set the machine to the bale hard core, park and secure the machine on a flat surface and close the gate firmly with the side lock hooks.
- Engage the PTO at a low speed and watch the running of the belts in the guides while standing behind the machine.

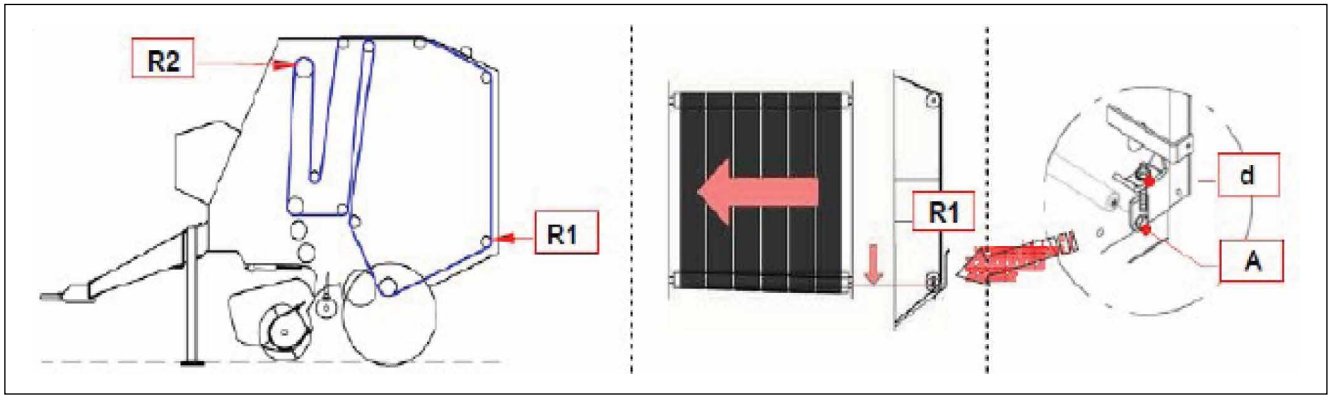
If the belts slip to the right-hand side, adjust at the point ***R1*** (on the right-hand side) as follows:

1) Open the gate slightly to:

- loosen the belts;
- relocate the adjustment point ***R1*** to make the adjustment easier.

Open and lock the gate open with the gate safety lock, see Chapter 4.5.9 "Gate safety lock".

- **Stop the machine and wait until all moving machine components stop completely.**
- **Stop the tractor engine and remove the ignition key.**



2) Loosen the bolts ***A*** (on the right-hand side), then loosen or tighten the tensioner counternuts ***d*** to lower the right-hand end of the roller. Retighten the bolt ***A*** and the counternuts ***d***.

3) Make sure no bystanders are near the machine (otherwise remove them from direct vicinity). Release the gate safety lock and close the gate.

4) Start the tractor and engage the PTO at a low speed to check if the belts are running correctly.
Repeat the steps 1 to 4 until correct adjustment is achieved.

If the belts slip to the left-hand side, repeat the aforementioned steps on the left-hand side of the machine.

If the belts slip sideways at the machine front, adjust at the position ***R2***:

a) Open the gate slightly to loosen the belts. Lock the gate by shifting the valve block lever into the locked position (Closed Padlock), see Chapter 4.5.9 "Gate safety lock".

- **Stop the machine and wait until all moving machine components stop completely.**
- **Stop the tractor engine and remove the ignition key.**

b) Open the machine side guard panel on the side to be adjusted.

c) Position yourself so you can reach the adjustment point ***R2***, which is located under the machine top cover, and loosen the bolt ***A***.

d) Loosen or tighten the tensioner counternuts ***d*** to lower of lift the roller end. Retighten the bolt ***A*** and the counternuts ***d***. Close the guard panel.

e) Make sure no bystanders are near the machine (otherwise remove them from direct vicinity). Release the gate safety lock and close the gate.

f) Start the tractor and engage the PTO at a low speed to check if the belts are running correctly.

Repeat the steps a) to f) until correct adjustment is achieved.

If the belt adjustment procedure does not solve the problem, contact your nearest Authorised Service Centre.

9.5.2 BELT MAINTENANCE

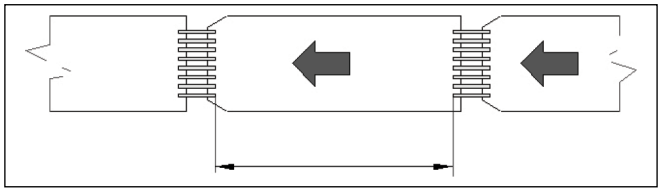
Follow this procedure to replace the belts or switch their positions:

Open the gate partially and lock it with the gate safety locks to prevent accidental closing, see Chapter 4.5.9 "Gate safety lock".

- Now you may replace the belts or switch their positions.

IMPORTANT!
The maximum permissible difference between the longest and the shortest belt shall not exceed 2.5÷3 cm.

You can one or add more links to the belts, provided that the link type is identical with the specific belt.

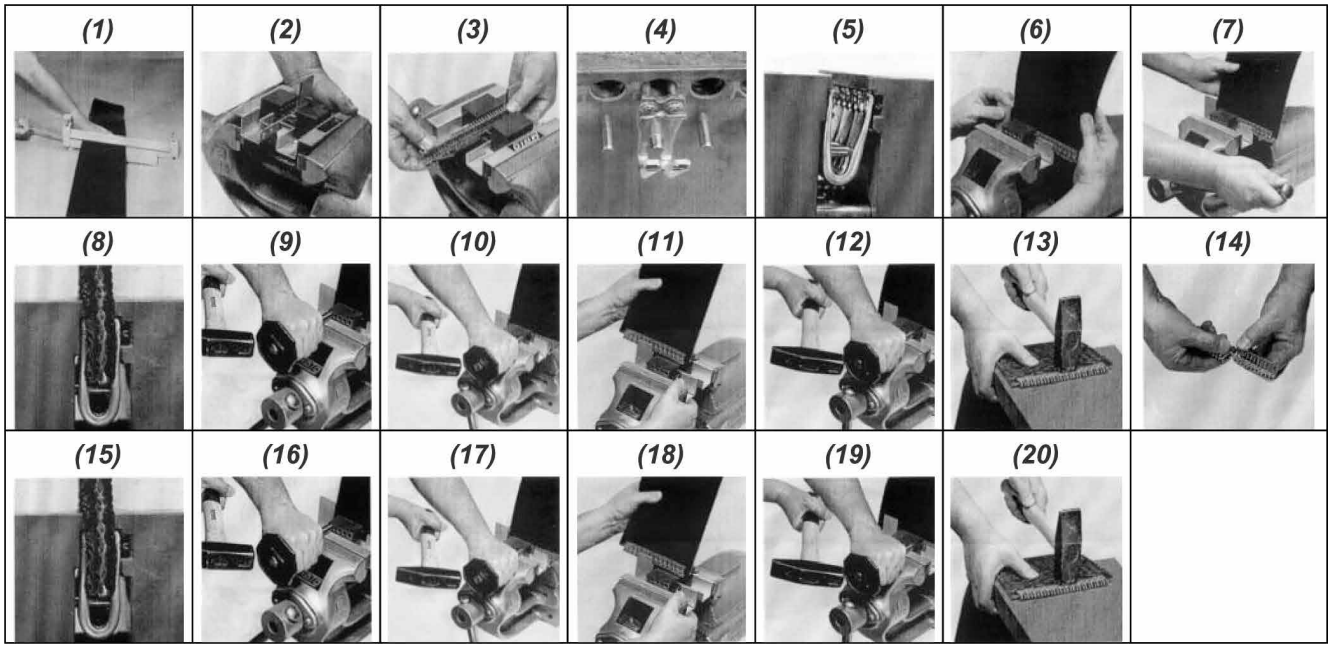


Note: Leave a minimum distance ***D*** of **50 cm** between two staples. Keep the same direction of motion identified by the arrow marks.

The arrow mark shows the belt direction of movement on the machine.

Unlock the gate before closing it shut after servicing.

9.5.3 BONDING THE BELT STRIPS WITH THE PROFI 5 LACER

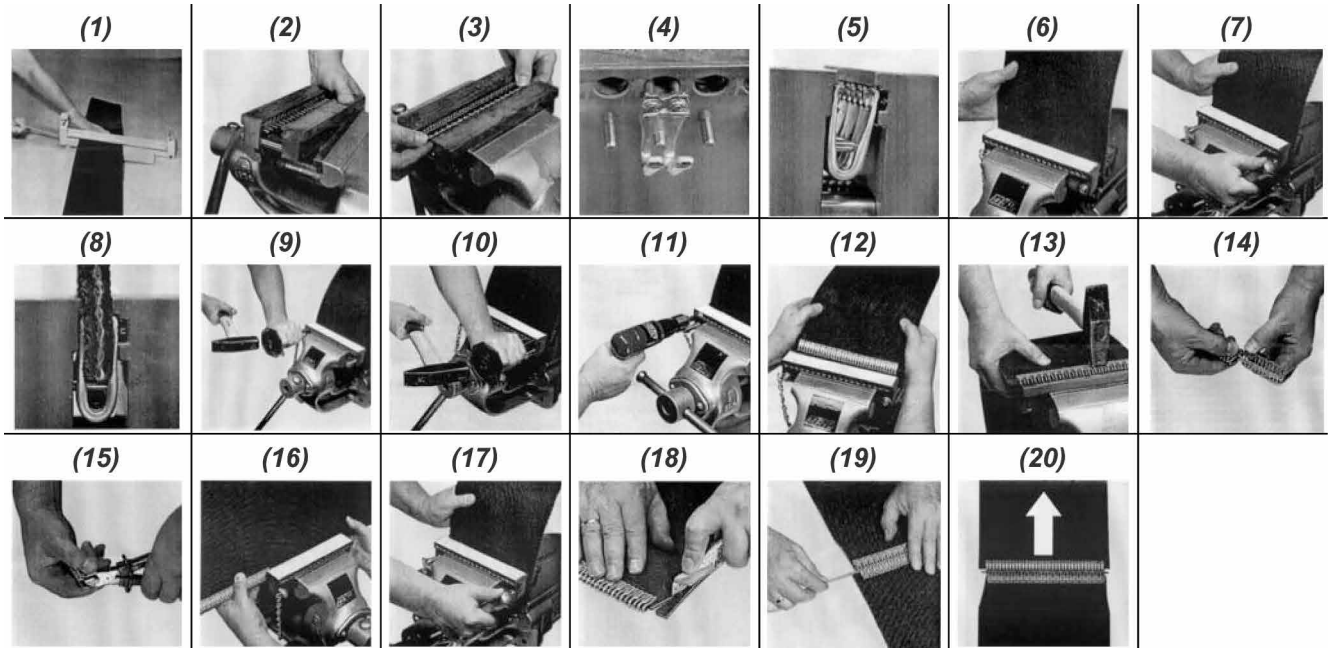


1) Cut the end of the belt exactly square to its side.
2) Place the PROFI 5 lacer in the vice with the holes outwards. Fully open the vice.
3) Place the staple rivets in the holes, starting from the left-hand side.
4) Insert two rivets in each hole.
5) Close the vice until the staples meet the stop to leave room for the belt.
6) Feed the belt as guided by the marks (depending on the belt width and the number of staples).
7) Hold the belt in the correct position and press the pressure rivets firmly by closing the vice.
8) The belt should touch the rivets and the vice should travel to close until the rivets touch the belt surface.
9) Insert the punch into the left hole and down to the stop. Strike the punch 3 times with a hammer to produce a perfect rivet joint.
10) Make the rivet joints from the right-hand side to the left. DANGER! Use a 500÷800 g hammer.
11) Open the vice and remove the belt by bending it slightly to the back.
12) Insert the next staple rivets, place the belt on the first left-hand rivet and bond as instructed above.
13) Hammer down all installed rivets on a flat surface – do not crush the eyelets!
14) You can trim the staple to the required length by bending and breaking them off.
15) Cut away the protruding link cord.
16) The belt bonding method is the same irrespective of the belt width.
17) Repeat the procedure to close the other end of the belt – install the staple rivets on the same side as before.
18) Make a 2 centimetres long cut askew and leave a reserve of 5 mm on both sides.
19) Bind both ends of the belt together and insert a rod into the eyelets to verify that the joint is good.
20) The outer edges of the belt should run aligned after bonding.

IMPORTANT! Install the belts on the machine with great care and mind the direction of movement shown in the diagram 11.6 "Belt runs".

9.5.4 BONDING THE BELT STRIPS WITH THE PROFI 19 LACER

1) Cut the end of the belt exactly square to its side.



2) Place the PROFI 19 lacer in the vice with the holes outwards. Fully open the vice.
3) Place the staple rivets in the holes, starting from the left-hand side.
4) Insert two rivets in each hole.
5) Close the vice until the staples meet the stop to leave room for the belt.
6) Feed the belt as guided by the marks (depending on the belt width and the number of staples).
7) Hold the belt in the correct position and press the pressure rivets firmly by closing the vice. Mind the different length marks.
8) The belt should touch the rivets and the vice should travel to close until the rivets touch the belt surface.
9) Insert the punch into the left hole and down to the stop. Strike the punch 3 times with a hammer to produce a perfect rivet joint.
10) Make the rivet joints from the right-hand side to the left. DANGER! Use a 500÷800 g hammer.
11) ***11)*** Use a special air gun instead of a hammer (max. pressure: 6 bar).
12) Open the vice and remove the belt by bending it slightly to the back.
13) Hammer down all installed rivets on a flat surface – do not crush the eyelets!
14) You can trim the staple to the required length by bending and breaking them off.
15) Cut away the protruding link cord.
16) The belt bonding method is the same irrespective of the belt width.
17) Repeat the procedure to close the other end of the belt – install the staple rivets on the same side as before.
18) Make a 2 centrimentres long cut askew and leave a reserve of 5 mm on both sides.
19) Bind both ends of the belt together and insert a rod into the eyelets to verify that the joint is good.
20) The outer edges of the belt should run aligned after bonding.

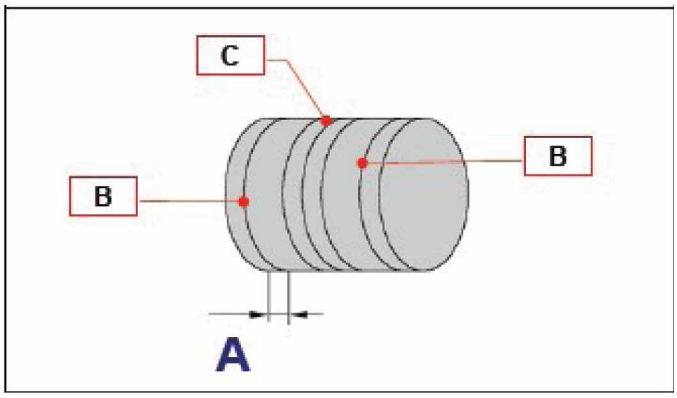
IMPORTANT! Install the belts on the machine with great care and mind the direction of movement shown in the diagram 11.6 "Belt runs".

9.6 WRAPPER ADJUSTMENT

9.6.1 DOUBLE CORD WRAPPER

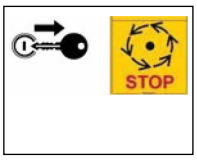
The F Bus control system facilitates management of the double cord wrapper settings irrespective of the bale diameter:

A = cord distance from the bale edge
B = number of winds at the edge
C = number of winds in the centre



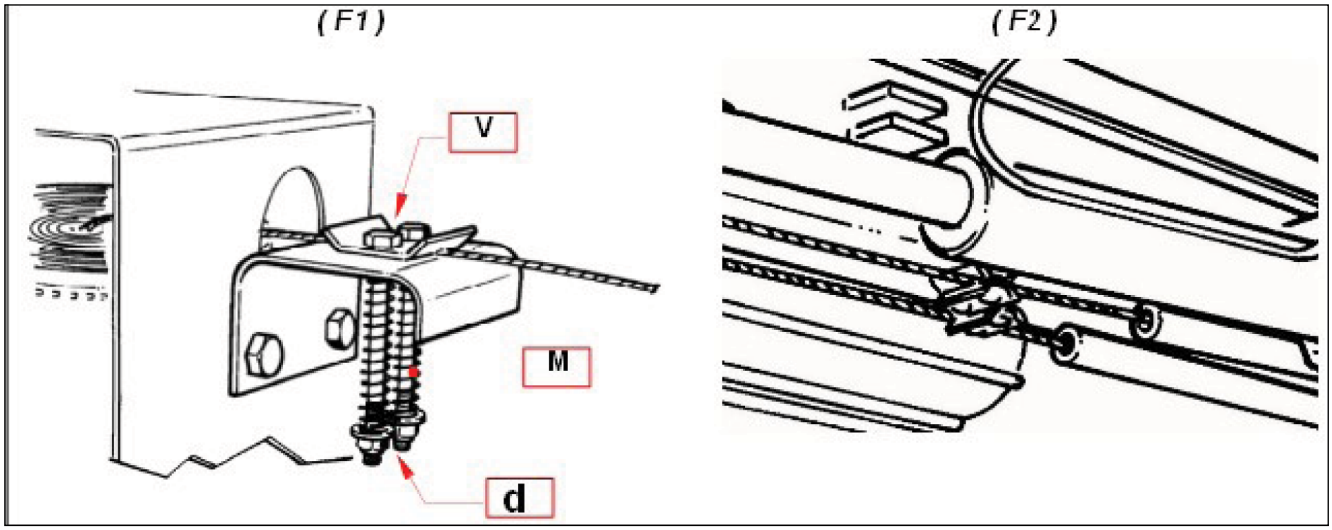
See the following Chapters for the information on modifying the parameters:
QuickTronic = 10-QT.3.1 Programming.
EasyTronic = 10-ET.5.1 Program menu.

CAUTION ! Before attempting any maintenance or adjustment of the double cord wrapper:
- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Turn off the control system.**



Cord brake adjustment:

The machine features cord brakes which adjust the cord tension.
- ***F1*** located on the cord hank cartridge;
- ***F2*** on the wrapper arm.



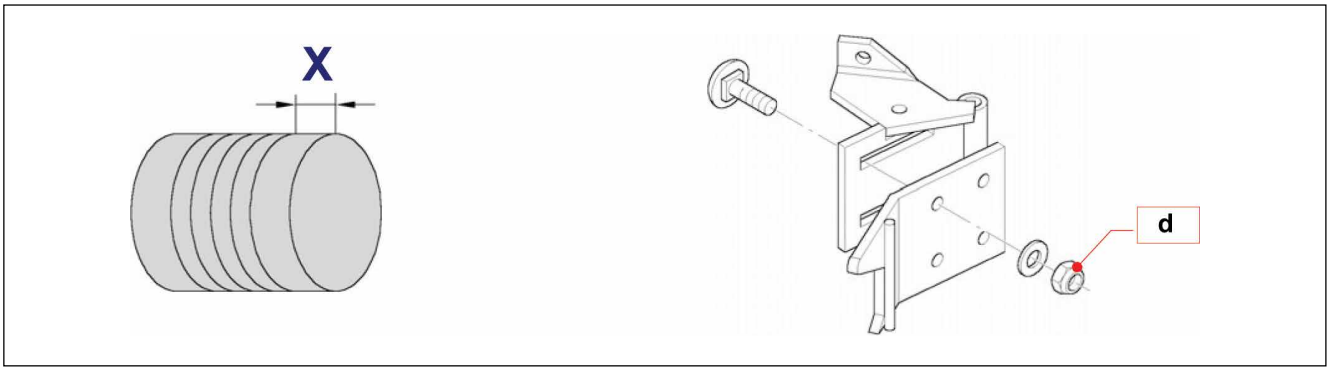
Adjust the cord tension by compressing or releasing the spring ***M*** with the counternuts ***d*** and the bolts ***V*** on the cord brake:
- Compressing the spring ***M*** increases the cord tension.

Releasing the spring ***M*** reduces the cord tension.

CAUTION!
Be careful when working close to the cord brakes on the wrapper arm and the wrapper blade.

Cord cutting blade extension:

If you need to tie the bales closer to their centres, you may have to adjust the blade arm:



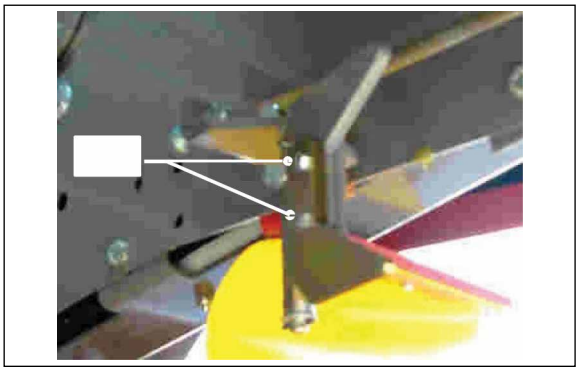
- Loosen the four nuts d and move both parts to the required distance.
- Retighten the four nuts ***d*** when finished.

Replacing the blade:

If the cord wrapper blade is too blunt to cut off the cord:

- replace it (if broken);
- reverse it (if worn out).

Remove the 2 bolts ***V*** and replace the blade with a new one or reverse it and retighten the 2 bolts ***V***.



CAUTION!
Handle the wrapper blade with extreme caution.

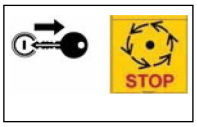
9.6.2 NET WRAPPER

The F Bus control system can be use to preset the number of bale winds. See the following Chapters for the information on modifying the settings:

- *EasyTronic = 10-ET.5.1 Program menu.*

CAUTION ! Before attempting any maintenance or adjustment of the net wrapper:

- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Turn off the control system.**

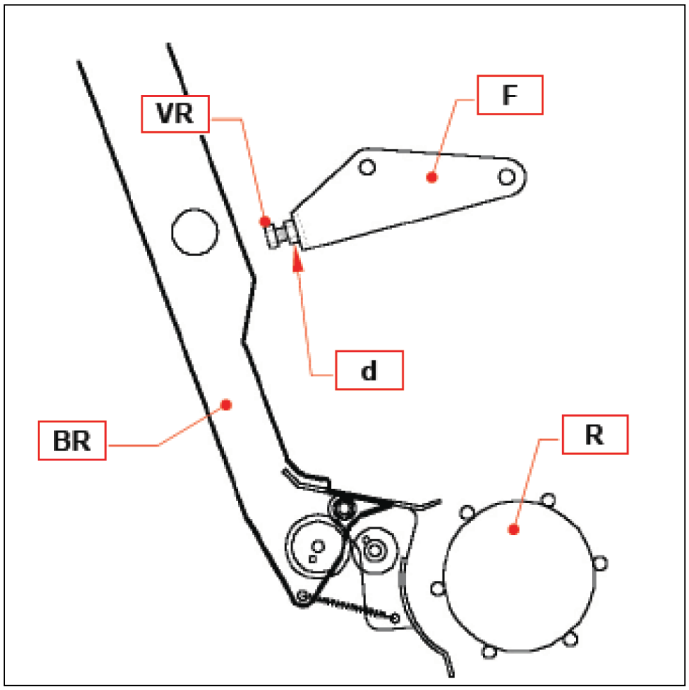


Adjusting the net feeding arm movement:

Adjust the movement of the net feeding arm ***BR*** relative to the intermediate roller ***R*** by operating the relevant adjustment screw ***VR*** located on the stop ***F***:

CAUTION!
Be careful when working close to the net wrapper arm and the wrapper blades.

- Open the right-hand side guard panel.
- Remove the nut ***d*** and then loosen or tighten the adjustment screw ***VR*** to set the correct distance between the net feeding arm ***BR*** and the intermediate roller ***R***.



Please note:

- If the screw ***VR*** is overtightened, the net feeding arm may shift out of alignment and start rubbing against the roller when wrapping.
- If the screw ***VR*** is too lose, the range of motion of the net feeding arm may be insufficient and prevent the net from being fed, resulting in failure to wrap the bales.

- Once finished adjusting, retighten the nut ***d*** and close the guard panel.

Replacing the blade:

CAUTION!
Be careful with the cutter blades.

- If the net wrapper blades do not cut the net any more (because they are worn out or broken), replace them:
- Remove the rivets R which fasten the blades.
- Replace the worn out or broken blades and **fasten to the wrapper arm with M6x20 bolts instead of the original rivets.**

9.7 ELECTRICAL AND ELECTRONIC COMPONENTS

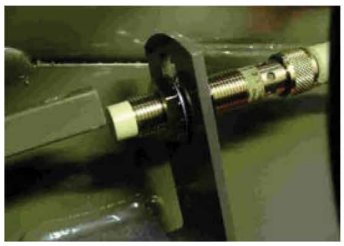
- Check that the electrical system and the control terminal wiring is not crushed or damaged.
- Keep all sockets, plugs, cables and sensors clean of mud, earth or collected material.
- Check the lights and replace all burnt lamps (bulbs) in the lighting system.

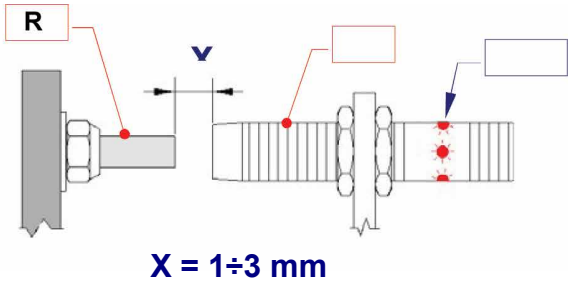
See Chapter 10 "F Bus control system" for detailed information about maintenance of the control terminal.

IMPORTANT!
After making the first 200 bales, inspect the machine as instructed above.

9.7.1 SENSORS

The baler features a number of proximity switch sensors which control and monitor the individual work stages of the machine over the F Bus control system.





Adjust the distance ***X*** (at approx. 1÷3 mm) between the sensor ***S*** and its respective reference ***R***, as shown in the example drawing (which is indicative only):

- With the F Bus control system switched on, operate the sensor mounting nuts on the sensor bracket to move it closer to or further from the relative reference.
- The correct distance ***X*** is set when the sensor LED turns on.
- Retighten the nuts and verify that the sensor LED is still on after retightening.

IMPORTANT!
Adjust the sensors so that they never touch or collide with their references.

CAUTION!
Adjust all sensors installed on the machine. Follow all safety rules and be extremely careful in all extremely hazardous areas.

If access to the sensors to be adjusted requires opening or removing a guard (panel), reinstall it completely when done servicing.

9.8 PICKUP ADJUSTMENT

9.8.1 PICKUP SERVICE HEIGHT ADJUSTMENT

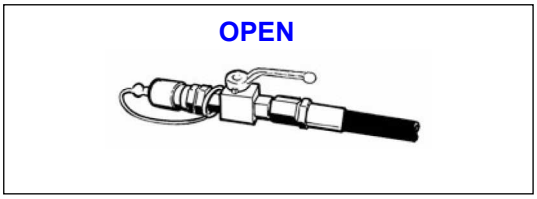
The pickup service height can be adjusted with the wheels inserted into an adjustment position which must be on the same level on both sides of the pickup.

IMPORTANT!
The pickup prongs MUST NEVER touch the ground. Adjust the pickup service height to keep the prongs at least 2÷3 cm over the ground.

See Chapter 7.6.3 "Pickup wheel adjustment" for more information.

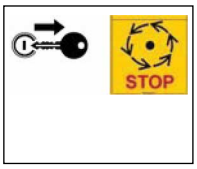
9.8.2 HYDRAULIC PICKUP LIFT

You can freely raise and lower the pickup with a pair of side-mounted hydraulic actuators by operating the tractor DCV lever and with the pickup hydraulic cut-off valve open (switch the valve lever to ***OPEN***).



See Chapter 7.4.3 "Connecting the hydraulic system" for more information.

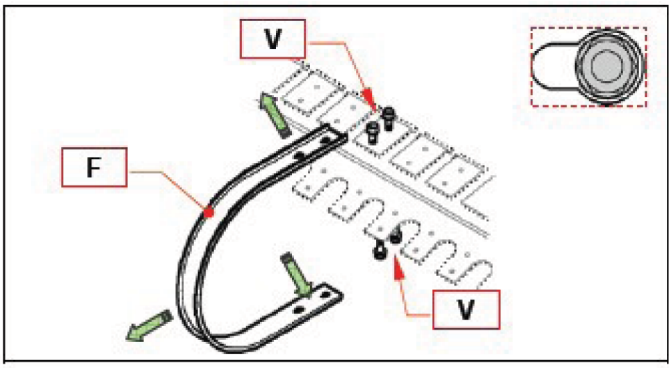
9.8.3 PICKUP PRONG REPLACEMENT



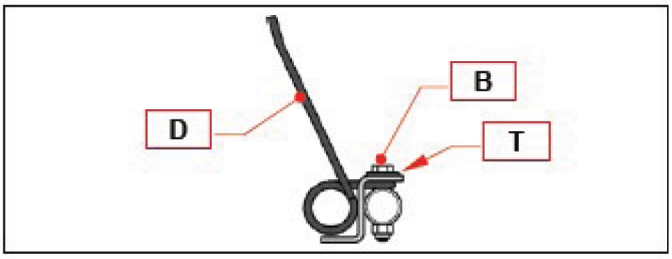
CAUTION ! When you need to replace the pickup prongs installed on the pickup frame:

- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Turn off the control system.**

Loosen the 4 bolts ***V*** (the 2 top and the 2 bottom) which fasten the clamp ***F*** of the prong to be replaced. Remove the clamp so that the bolt ***V*** heads pass the clamp holes.

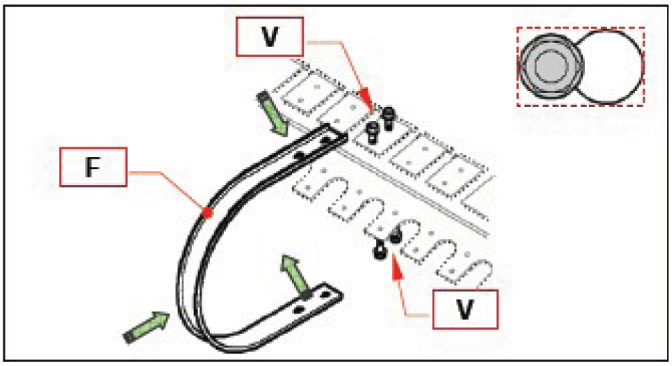


Remove the bolt ***B***, remove the prong ***D*** and the respective plate ***T***.
Replace the prong ***D*** with an identical new one. Fasten the prong with the plate ***T*** and the bolt ***B***.



Reinstall the clamp ***F***, by mounting and pressing it on the bolts ***V***.

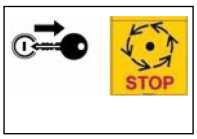
Retighten the 4 bolts *V* to 15 Nm.



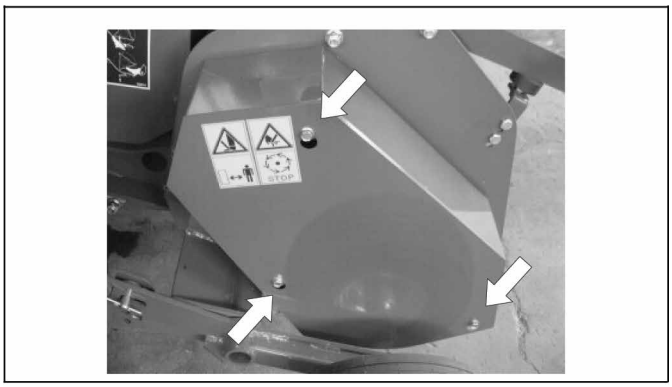
9.8.4 PICKUP CAM ADJUSTMENT

Adjust the product release point by operating the cam to the right-hand side of the pickup.

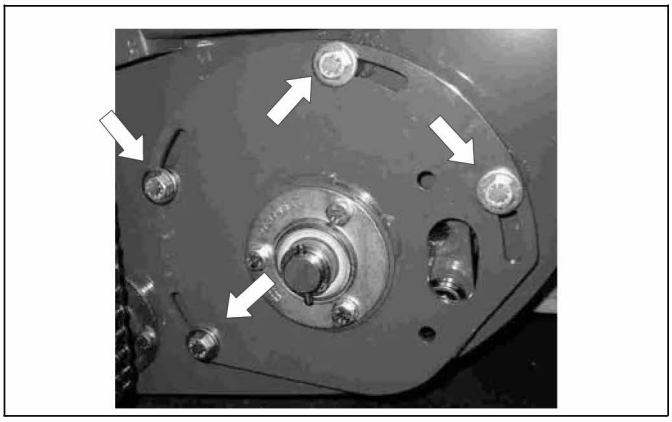
DANGER!
- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Turn off the control system.**



- Remove the bolts ***V1*** and the pickup right-hand guard.

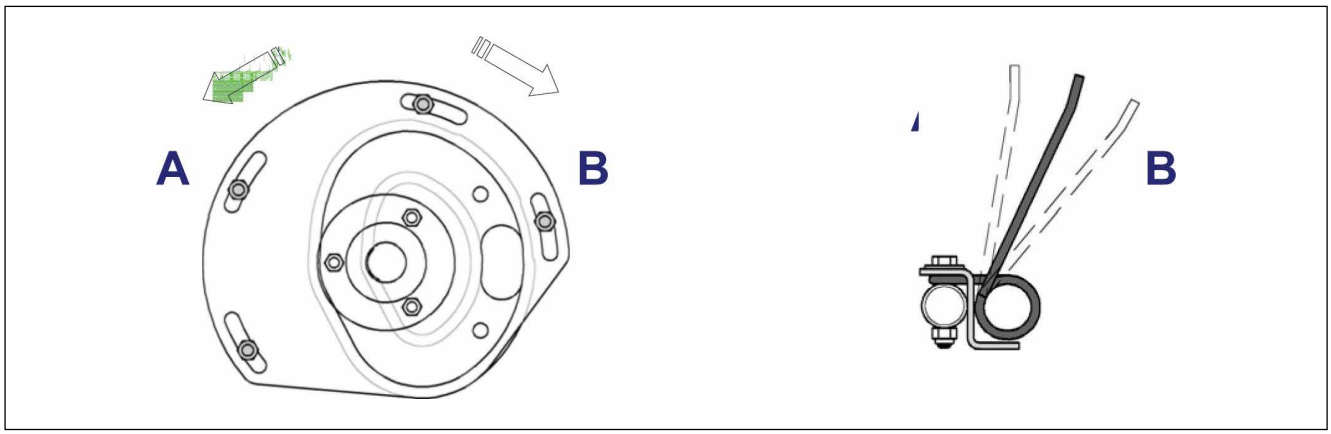


- Loosesn the 4 bolts ***V2*** on the cam.



Adjust the cam alignment by turning the piece and move the pickup prong to or away from the handling assembly (or the pickup on Z589-3, or the cutting assembly on the Z589-2).

Turn the cam towards the following setting direction:
A = to move the prong to the pickup assembly.
B = to move the prong away from the pickup assembly.



- Retighten the 4 bolts ***V2*** to fasten the cam.
- Reinstall the guard and retighten the bolts ***V1***.

9.9 CUTTING ASSEMBLY MAINTENANCE AND ADJUSTMENT (Z589-2 only)

Disassemble or reassemble the blades or blank blades whenever:

- All or several blades are removed.
- The blades are removed for sharpening.
- All or several blades are replaced with spares.

CAUTION ! Before attempting to disassemble or assemble the blades:

- **Open and lock the gate open with the gate safety lock, see Chapter 4.5.9 "Gate safety lock".**
- **Remember to unlock the gate before closing it.**
- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Turn off the control system.**

DANGER!
The blades are sharp. Wear cut-resistant gloves!

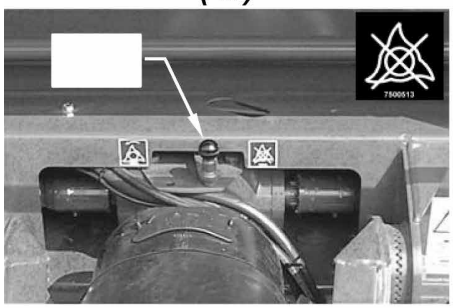
9.9.1 REMOVING THE BLADES

Disengage the blades before removing them. You can disengage the blade drive directly with the F Bus control terminal.

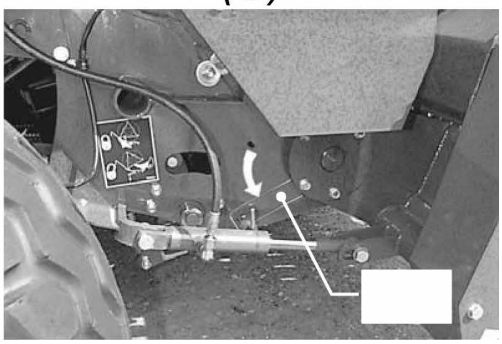
See the following Chapters on how to proceed:
- EasyTronic = 10-ET.6.3 Cutting assembly.

a) Switch the rotor coupling lever ***L*** to neutral.
b) Disengage the blades by switching the lever ***M*** on the right-hand side of the machine to the ***Blades Disengaged*** position (the lever ***M*** is down).

(a)



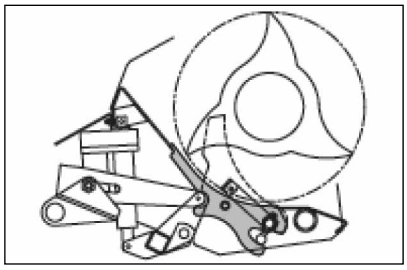
(b)



Lever M down to BLADES RELEASED

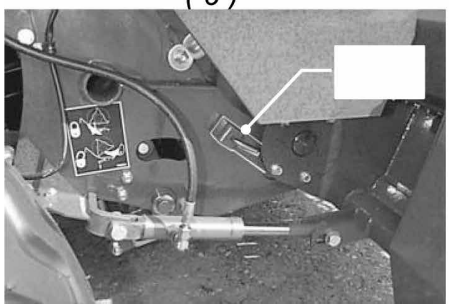
- Stop the blades to be removed in the baling chamber by grasping their end and pulling them out. You can turn the rotor by hand with great caution to facilitate removal of the blades.

IMPORTANT!
Install the replacement blades at the empty mounts to prevent the product from clogging them and preventing reinstallation of the blades.



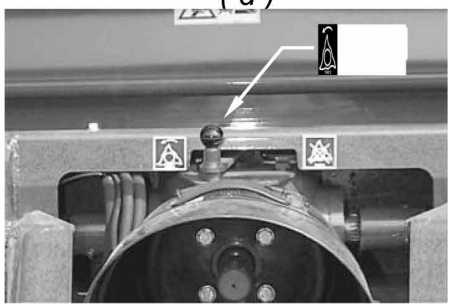
c) When finished installing the replacement blades, switch the lever ***M*** to the ***Blades Locked*** position (the lever ***M*** is up).
d) Switch the rotor coupling lever ***L*** to drive.

(c)



Lever M lifted to BLADES LOCKED

(d)



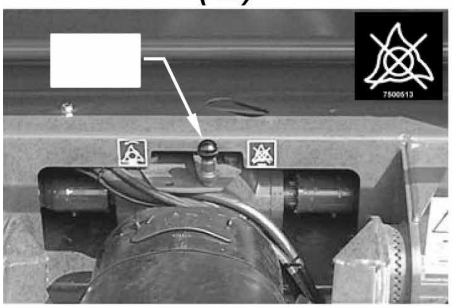
9.9.2 INSTALLING SHARP OR BLANK KNIVES

Withdraw the blades before installing the sharp blades or the blank blades. You can withdraw the blade drive directly with the F Bus control terminal.

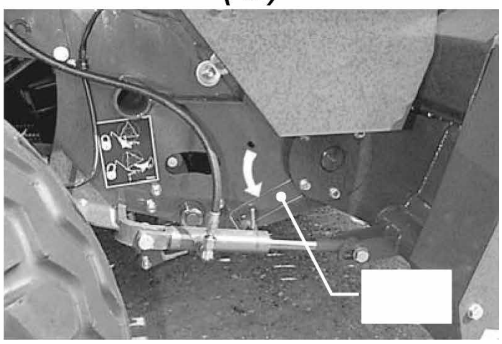
See the following Chapters on how to proceed:
- EasyTronic = 10-ET.6.3 Cutting assembly.

a) Switch the rotor coupling lever **L** to neutral.
b) Disengage the blades by switching the lever ***M*** on the right-hand side of the machine to the ***Blades Disengaged*** position (the lever ***M*** is down).

(a)



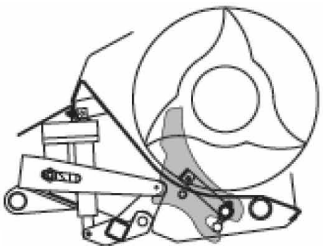
(b)



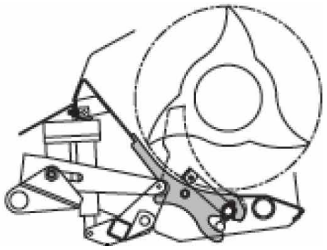
Lever M down to BLADES RELEASED

- Install the sharp blades or the blank blades into the respective mount slots. You can turn the rotor by hand with great caution to facilitate installation of the blades. Make sure that all blades are firmly seated.

IMPORTANT!
If the sharp blades or the blank blades are not properly fastened, they may fall into the baling chamber with the product to be baled.



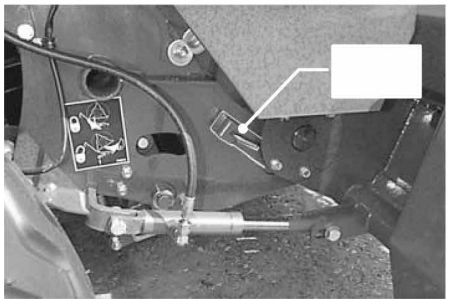
Good seating of blades



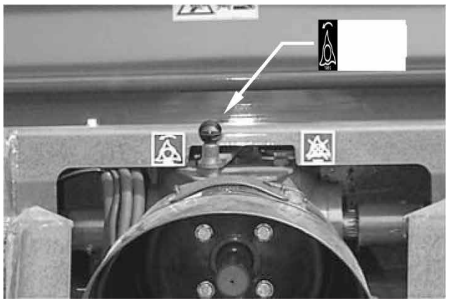
Good seating of replacement blades

c) When finished, engage the blades by shifting the lever ***M*** to the **Blades Locked** position (the lever ***M*** is up).
d) Switch the rotor coupling lever **L** to drive.

(c)



(d)



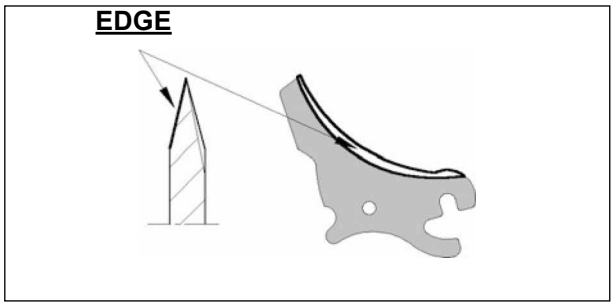
Lever M lifted to BLADES LOCKED

9.9.3 SHARPENING THE BLADES

The blades shall be sharpened with proper tools and whenever necessary.
Note that well-sharpened blades reduce the power demand and improve the cutting performance.

IMPORTANT!
Do not overheat the blades when sharpening, otherwise their wear resistance will be reduced.

- **Sharpen one side of the blade edge only.**



DANGER!
- **Proceed with caution at all times. Follow the safety standards.**
- **The blades are sharp. Proceed with caution and wear cut-resistant gloves or use other sufficient safety measures.**

9.10 WHEELS AND TYRES

Periodically measure the tyre pressure and check that it is correct for the tyre type in use by comparing the measured pressure value with the ratings in Table 11.5 "Tyre pressure values".

- Periodically check the tightness of nuts on stud bolts of the wheels and verify that the value is **250 Nm**.
- Have the wheels and tyres repaired by properly qualified personnel with the right tools.

9.11 TIGHTNESS OF BOLTS

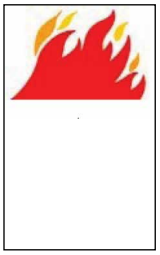
Periodically check the tightness of the fastening bolts and nuts and retighten them as necessary by following the Table 11.4 "Tightening torques".

- Check the tightening of all nuts and bolts after the first 3 operating hours.
- Check the tightening of all nuts and bolts after the first 10 bales made with the brand-new machine.

9.12 WELDING

CAUTION ! FIRE HAZARD.

- **NEVER weld the machine with a bale in the baling chamber.**



Before attempting any welding on the baler:

- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Disconnect all electrical and electronic equipment.**
- **Turn off the control system.**

See Chapter 4.2 "Safety warning". Be careful when welding.

9.13 LUBRICATION

Regular lubrication helps preventing failures and repairs. Relubricate periodically with quality lubricants and greases.

IMPORTANT!

- **Recommended general-purpose grease: AGIP GR MU EP0**
- **Recommended transmission gearbox oil: AGIP BLASIA EP 150**
- **Oil for the automatic chain lubrication tank: AGIP OSO 100**

- Relubricate all rotating parts: wheel toothed rims, bearings, chains, pivot pins and shafts.

DANGER!
When relubricating or regreasing follow all relevant safety standards explained in Chapter 4 "General safety standards".

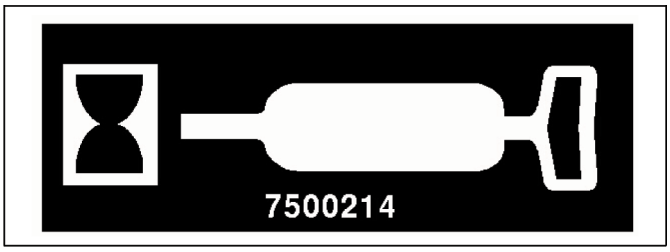
CAUTION ! Before attempting to relubricate or regrease:

- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Turn off the control system.**

***Note*: If access to the parts to be relubricated requires requires opening or removing a guard (panel), reinstall it completely when done servicing.**

9.13.1 REGREASING

Lubricate and grease all required points which are identified with the special sticker P/N **7500214** on the machine ever 30 operating hours.



- Before feeding grease to the lubricator thoroughlyclean all lubricator connections to prevent mud, dirt and foreign bodies from mixing with the grease which would reduce or eliminate the lubricating effect altogether.
- Feeding too much grease at high pressure may damage the bearing protection. Regrease carefully.
- Lubricate and grease the PTO drive shaft as required in the PTO drive shaft Operating and Maintenance Manual.

9.14 HYDRAULIC OIL

Hydraulic actuators are precision components and require clean and filtered oil:
- Periodically check the oil level and contamination.
- Check the tightness of hydraulic hoses and their coupling locks, and look for any potential oil leaks.
- Check the level and refill (if necessary) the transmission gearbox oil and the automatic lubrication tank oil.

IMPORTANT!
Use the oils recommended by METAL-FACH in Chapter 9.13 "Lubrication"; non-recommended oil types may cause problems with pumping.

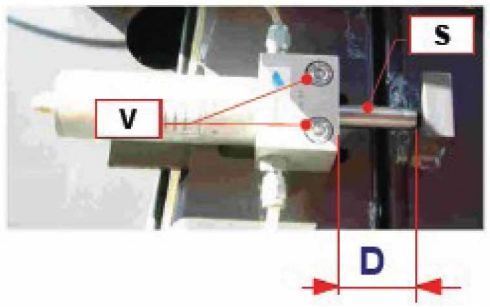
9.14.1 AUTOMATIC CHAIN LUBRICATION

The baler features an automatic chain lubrication system.
The system is actuated each time the gate is closed, the motion which actuates the lubricating pump.

The oil flow rate can be adjusted by directly adjusting the travel of the piston ***P***, located on the pump.

If the oil flow rate is insufficient or excessive, adjust the distance ***D*** to increase or decrease the pump piston travel:

D = 1÷3 mm



- Open the left-hand side guard panel and stand to reach the automatic lubrication pump located directly below the panel hinge.
- Loosen both screws ***V*** and move the pump to increase or reduce the distance ***D***:

INCREASING the distance ***D*** increases the oil feed rate from the automatic chain lubrication unit.

REDUCING the distance ***D*** reduces the oil feed rate from the automatic chain lubrication unit.

- Next retighten both screws.
  The maximum lowest travel is 10 mm.

- When finished adjusting, close the left-hand side guard panel.

9.14.2 OIL TANK

Check the level and refill (if necessary) the automatic lubrication tank oil.

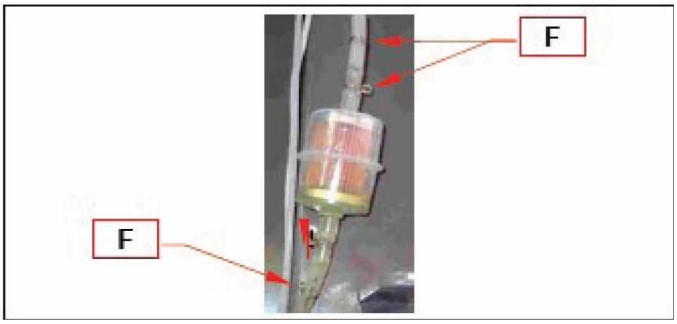
- Open the left-hand side guard panel.
- Open the filler cap ***T***, refill the tank with oil and screw the filler cap ***T*** back in.
- Close the left-hand side guard panel.

The oil tank capacity is 1.5 litres.

9.14.3 FILTER

Check and periodically inspect the condition of the automatic lubrication filter.

- Open the left-hand side guard panel.
- Undo the clip bands ***F*** and replace the filter with an identical new one.
- Retighten the clip bands ***F***.
- Close the left-hand side guard panel.



9.14.4 MANUAL CHAIN LUBRICATION

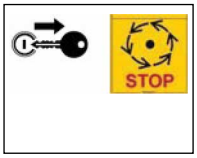
<u>DANGER!</u> Do not attempt this maintenance procedure with the machine running:

- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Turn off the control system.**

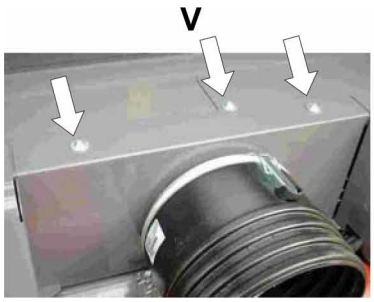
All chains not lubricated by the automatic lubrication system shall be lubricated by hand with an oil and grease mixture.

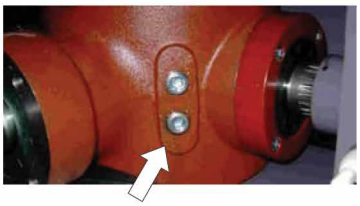
9.14.5 GEARBOX

DANGER! Do not attempt this maintenance procedure with the machine running:
- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Turn off the control system.**



Check and periodically inspect the oil level in the transmission gearbox.

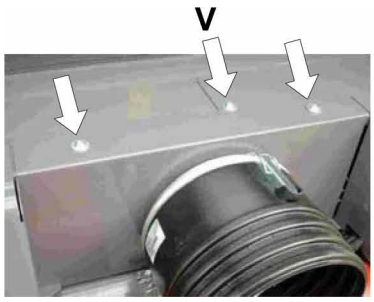


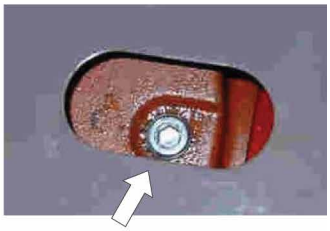


- Remove the bolts ***V*** and the transmission gearbox guard.
- Unscrew and remove the plug ***VT*** to inspect the oil level in the gearbox.
  If the oil level flows over or is at the plug screw ***VT*** hole, the oil level is good.
- Reinstall the guard and retighten the bolts ***V***.

IMPORTANT!
1) **Check and periodically inspect the oil level in the transmission gearbox every 1000 bales and/or 50 operating hours.**
2) **Use the oils recommended by METAL-FACH in Chapter 9.13 "Lubrication".**

If the gearbox oil level is insufficient, refill:





- Remove the bolts ***V*** and the transmission gearbox guard.
- Undo and remove the plug screw ***VT*** located on the gearbox top, accessed through the front guard panel opening, and refill the oil level.

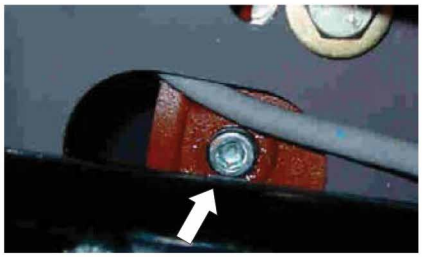
The required oil volumes are:
- **0.9 l per gearbox = Z589 with collector (Z589-3)**
- **1.2 l per gearbox = Z589 with cutting assembly (Z589-2)**

Check that the gearbox oil level is correct by following the procedure explained above.

- When finished, retighten the plug screw ***VT***.
- Reinstall the guard and retighten the bolts ***V***.

If the gearbox oil level must be reduced:

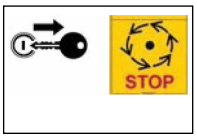
- Have a suitable container at hand to catch the drained oil.
- Place the contained under the machine where the oil will be flowing and undo and remove the plug screw ***VT*** located on the gearbox bottom, accessed through the machine chassis frame opening.
- Drain the gearbox oil into the container.
- Reinstall and retighten the plug screw ***VT***.



VT

IMPORTANT!
Follow the waste lubricant and/or oil disposal regulations valid in your country.

9.15 CLEANING



DANGER! Before attempting to do ANYTHING to clean the machine:
- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Turn off the control system.**

IMPORTANT!
- **Do not use abrasive products, solvents or alcohol.**
- **Do not clean with high pressure water jets, especially not the lines, cables or wiring.**

- Keep the drive transmission components clean to prevent damage to bearings and seals. Keep all gear wheels and chains clean.
- Do not expose cylinders with corrosive chemicals to avoid damage to the piston surface.
- Keep all sockets, plugs, cables and sensors clean of mud, earth or collected material. Clean them with damp cloths.
- Clean the control terminal screen with a damp cloth and a mild detergent to prevent wear of the stickers.

9.16 MAINTENANCE AFTER FIRST 30 OPERATING HOURS

DANGER! Before attempting to do ANYTHING to inspect or check the machine:
- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Turn off the control system.**

IMPORTANT! Every brand new machine must be inspected after the first 30 operating hours. The scope of inspection includes:
- **Proper tightness of bolts and nuts.**
- **Tension of all drive chains.**
- **No oil must leak from any hydraulic system component.**
- **Tyre pressure.**
- **Proper lubrication of drive / transmission components.**

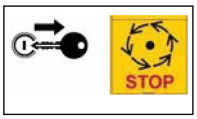
- Follow the guidelines for oil and lubricant use.

All spare parts shall meet the requirements of **METAL-FACH**.

USE ORIGINAL SPARE PARTS ONLY.

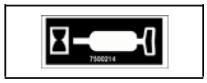
9.17 DAILY CHECKS

DANGER! Before attempting ANY daily inspection or check:
- **Stop the tractor, remove the ignition key and wait until all machine parts stop completely.**
- **Turn off the control system.**



Daily check the overall technical condition of the machine, i.e. the wear of wheel toothed rims, bearings, chains, pivot pins, shafts and all other moving or rotating machine parts.

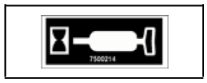
Fully relubricate.



IMPORTANT!
Before using the machine again make sure that there are no oil stains on the ground below. If you find any oil stains, DO NOT start the machine.

Find the oil leak source, identify the damage and call your nearest Authorised Service Centre.

Do the following periodic and regular checks (which are obligatory when the work season starts) and follow the Manual procedures:
- Check the oil level and condition, and change if necessary.
- Check the tightening of all nuts and bolts.
- Relubricate all required points.



- Do a functional test of the electrical system.
- Check the tyre pressure.
- Before leaving for the field, verify proper performance of the machine and that there is no abnormal vibration or noise.

9.18 EMERGENCY MAINTENANCE

IMPORTANT!
In the case of a failure or malfunction of the machine, consult your nearest Dealership of METAL-FACH directly.

9.19 STORAGE

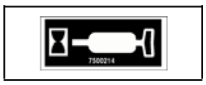
IMPORTANT!

- **If the aforementioned procedures are performed correctly, your machine will be in good technical order before work.**
- **When dismantling the machine, follow all applicable environmental protection and lubricant disposal regulations of your country.**

9.19.1 MACHINE STORAGE

Follow these procedures at the end of the work season or before each planned standstill:

- Make sure that the machine is completely empty.
- Depressurize the hydraulic system.
- Park the machine in a sheltered and safe place protected against unauthorised access.
- The storage parking of the machine must be dry, sheltered from weather and surfaced to allow storage of this machine type.
  Chock the machine wheels to prevent accidental movement.
- Verify that all safety equipment of the machine is correctly set.
- Clean the machine thoroughly. Dirt attracts moisture, which may corrode metallic parts.
- Inspect the machine thoroughly and replace all damaged and worn out parts if necessary.
- Thoroughly lubricate all required lubrication points. Use an anti-corrosion agent (e.g. a rust-preventer lubricant) to preserve all bare metal parts or exposed metal parts.



- Lubricate the wrapper blade.
- Clean and lubricate all chains.
- Grease all exposed parts of cylinder rods and electrical actuators.
- Clean all belts and check the condition of belt staples.
- Cover the baler with a plastic tarpaulin.

9.19.2 SECURING THE F Bus SYSTEM

- Remove the control terminal.

Keep the control terminal in a room sheltered from weather, dust, humidity and vermin.

9.19.3 PTO DRIVE SHAFT STORAGE

- Decouple the PTO drive shaft and keep it in a dry sheltered room.

See the enclosed PTO drive shaft Operating and Maintenance Manual for more information.

9.19.4 STORING THE CORD, NET AND PLASTIC SHEET

Remove all cord hanks, net reels and plastic sheet from the machine and store the materials in suitable containers in a sheltered dry room.
Keep the containers secure from vermin.

IMPORTANT!

- **Handle cord hanks, net reels and plastic sheet with care to prevent their damage.**
- **Sunlight can damage plastic sheets.**

9.20 BEFORE RESTARTING THE MACHINE AFTER STORAGE

Before operating the machine again thoroughly check the technical condition of the baler and do all maintenance procedures explained in Chapter 9 "Maintenance and adjustment".

- Read this Manual again.
- Follow all safety standards explained in Chapter 4 "General safety standards".

9.21 SPARE PARTS

USE ORIGINAL SPARE PARTS ONLY.

You can order any original spare part by contacting the METAL-FACH Spare Parts Centre. Specify the following when ordering:

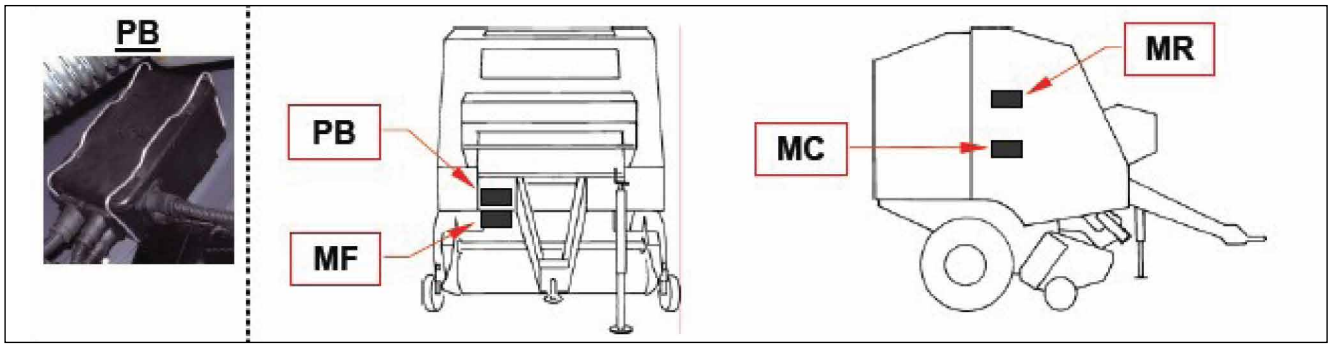
- Machine model
- Machine serial number
- Year of construction
- Spare part number (code) (find the part numbers in the Spare Parts Catalogue), designation and quantity.

10 F Bus CONTROL SYSTEM

This Chapter presents the F Bus electronic control system.
The control terminal enables the operator to set and monitor individual work stages of the machine: loading the baling chamber with the product, increasing the bale diameter, the wrapping stage, bale release and closing the machine to start the new work cycle.

10.1 F Bus SYSTEM COMPONENTS

The control system comprises the control modules which communicate with one another over F Bus and the control terminal.



The control modules and their wiring are installed on the machine and available according to the machine configuration:
- **PB** = POWER BOX
- **MF** = CORD module
- **MC** = CUTTING module
- **MR** = NET module

This **F Bus** electronic control system works with the following control terminal types:

EASYTRONIC control terminal

The control terminal is installed in the tractor cabin. The LEDs, light indicators and display on the terminal are the operator interface who operates the terminal to command the machine over its control modules.

Check what control terminal type will be used and follow the applicable operator's instructions below:
- Chapter **10-ET "EASYTRONIC CONTROL TERMINAL"**

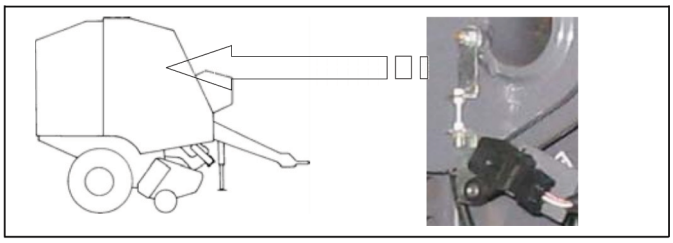
10.1.1 FUSES

The POWER BOX module PB houses the fuses, type RL MINI LAMA FASTON 2.8 mm, DIN 72581/3F.
See Chapter 11.9 "Fuses" for more information.

10.2 COMPONENTS

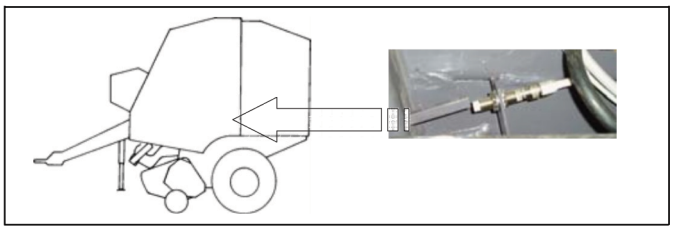
10.2.1 BALE DIAMETER SENSOR (right-hand)

It is a rotating potmeter coupled with the levers on the belt tension main arm and relays the instantaneous bale diameter value.



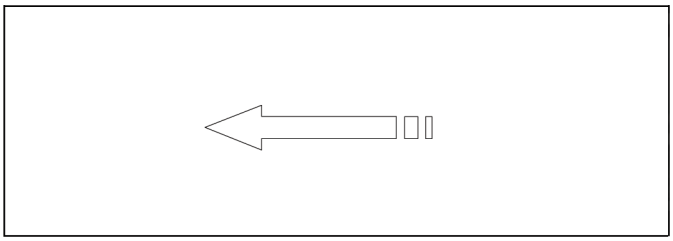
10.2.2 GATE CLOSURE SENSORS (BOTH SIDES)

Two active sensors, each on one side of the machine, which monitor closure of the gate before and during each work cycle.



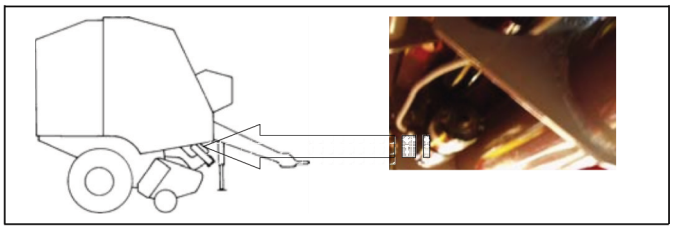
10.2.3 PTO SENSOR

An active sensor which transmits the PTO RPM, which is used to control the wrapping process.



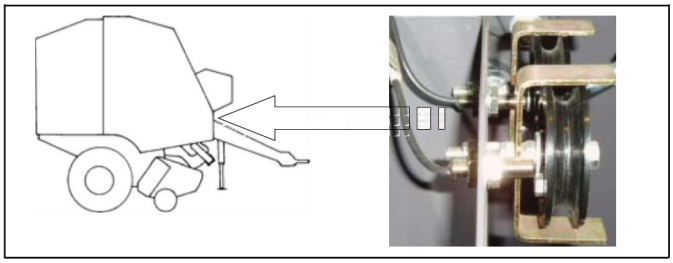
10.2.4 CORD WRAPPER ACTUATOR

The cord wrapper is controlled by a linear electric actuator with a position control potmeter.



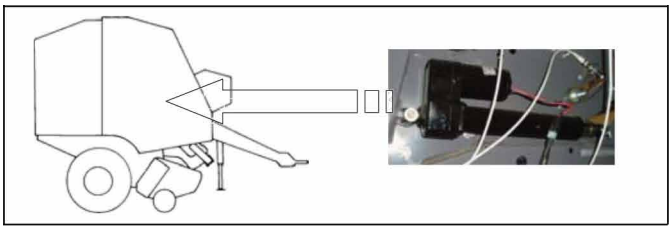
10.2.5 CORD RUN SENSORS (right-hand)

Two proximity switch sensors, with one per pulley, which monitor the cord run during the wrapping cycle to warn of all faults.



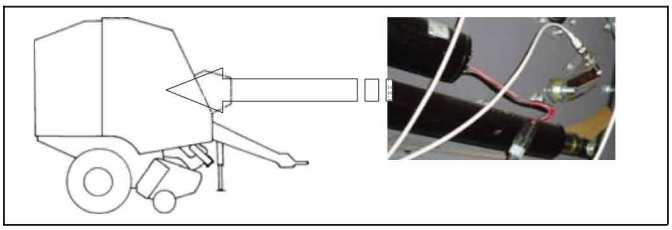
10.2.6 NET WRAPPER ACTUATOR (right-hand)

A linear electric actuator which governs the translation of the net feeding arm both at the net feeding stage and the following net cutting stage.



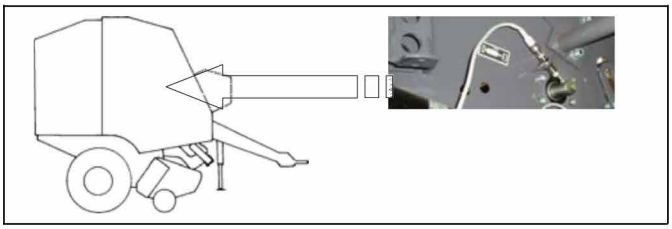
10.2.7 NET FEEDING ARM HOLD SENSOR (right-hand)

This proximity switch sensor stops the net wrapping actuator to make the required net winds.



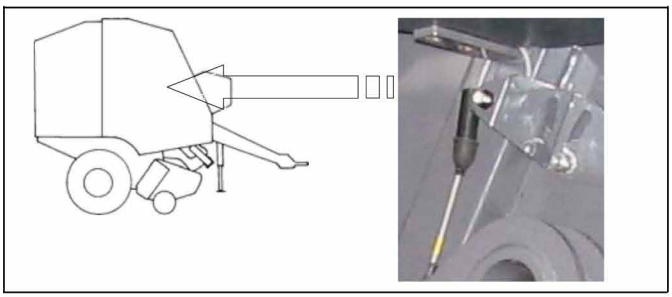
10.2.8 NET COUNT SENSOR (right-hand)

The proximity switch sensor detect the number of revolutions of the net spreading roller. The control system converts the count signal into the metres of net preset in the program and releases the actuator for the next net cutting stage.



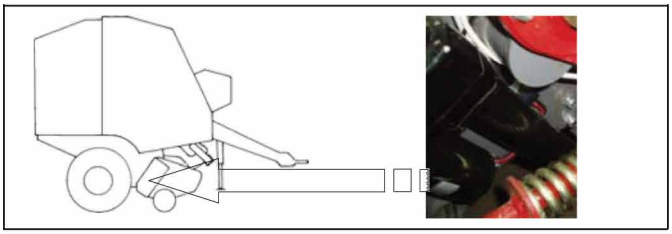
10.2.9 MAXIMUM CHAMBER FILL SENSOR

An active sensor which detects when the baling press chamber is full.



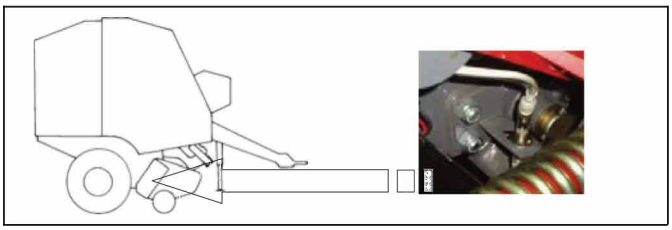
10.2.10 BLADE ACTUATOR (right-hand, Z589-2 only)

The linear electric actuator governs the extension and withdrawal of the blades when the product is being cut.



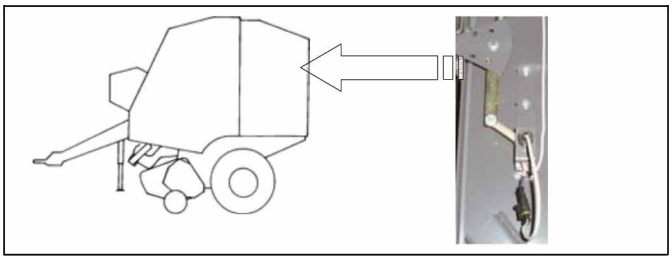
10.2.11 BLADE EXTENDED SENSOR (right-hand, Z589-2 only)

The proximity switch sensor indicates when the cutting assembly is extended.



10.2.12 BALING CHAMBER CHARGING SENSOR KIT (both sides)

Two active sensors are connected to two arms which monitor the movement of the belts and indicate the driving direction to assure uniform charging of the baling chamber.



10-ET EASYTRONIC CONTROL TERMINAL

10-ET.1 INSTALLATION

Check that the control terminal box delivered with the machine contain the following product parts:

1) Power supply cable
2) Control terminal

10-ET.1.1 POWER SUPPLY CABLE

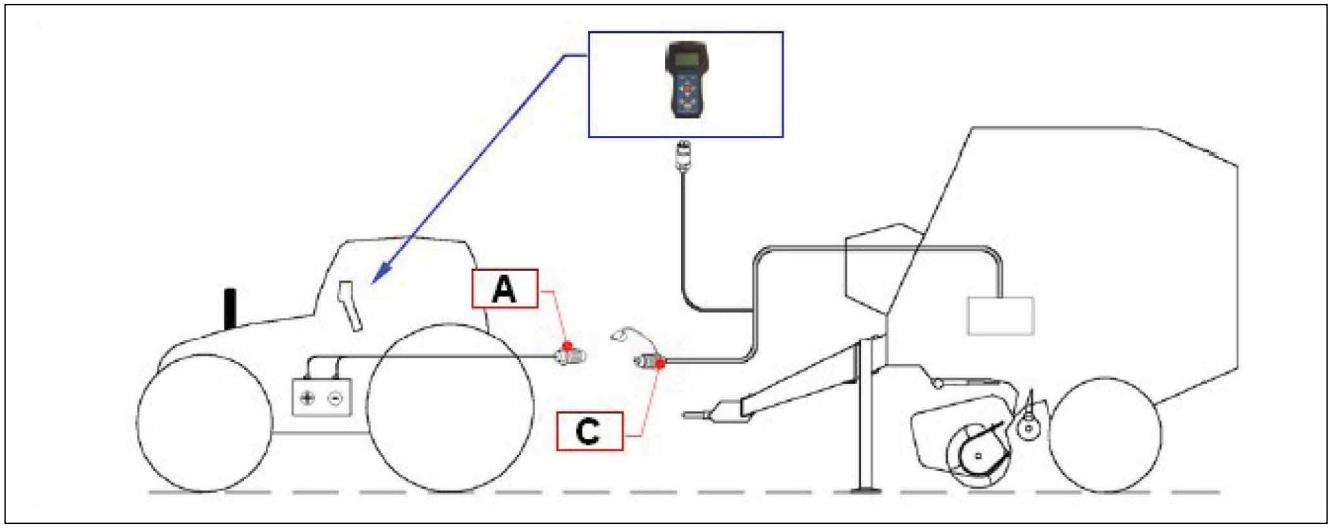
Stop the tractor engine, disconnect the battery common cable, connect the power supply cable to the 12 battery terminals by connecting the red cable (+) to the positive terminal and the black cable (-) to the negative terminal. Reconnect the common cable.

DANGER!
Some power supply cables can be brown and blue instead.
The brown cable is positive (+), the blue cable is negative (-).

Route the power supply cable through the tractor to have the COBO connector in a position handy to the operator, but always in the rear of the tractor.

CAUTION!
- Mind the correct polarity.
- Clamp the power supply cable terminals firmly on the tractor battery terminals. Otherwise the control terminal may not function properly.

Connect the power supply cable ***C*** to the power supply cable ***A*** which you have installed on the tractor.
Make sure that the COBO female connector tab on the power supply cable ***C*** fits the COBO male connector groove on the power supply cable ***A***. This will prevent accidental breaking of the cable connection, resulting in power outage.



Locate the control terminal in a place within the operator's reach in the tractor cabin.

10-ET.1.2 DATA CABLE

Connect the data cable with the 8-pin connector supplied with the control terminal and secure the connection by tightening the counternut.

DANGER!
Check that the wiring does not obstruct the driving manoeuvres and are clear from any moving parts.

Press the **ON-OFF** button on the control terminal and check that the device is turned on!

10-ET.2 EASYTRONIC CONTROL TERMINAL FUNCTIONS

10-ET.2.1 CONTROL TERMINAL OVERVIEW

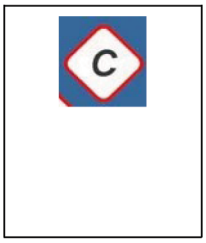
Control terminal features:

1) **DISPLAY** – displays work stages with messages and alarms of the individual machine functions.
2) **BUTTONS** – enable selection of functions and settings.

10-ET.2.2 BUTTON FUNCTIONS

ON-OFF
Turns the control system on and off.

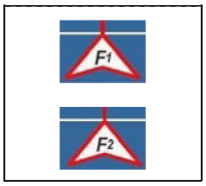
CANC
Pressing this button does one of the following, depending on the current program parameter:
- Cancels the last data entered;
- Cancels the selected function;
- Returns to the higher menu structure.



START-STOP
- Starts and stops the wrapping process.

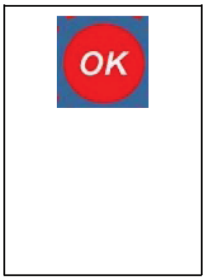
Red indicator light:
- Off when the bale is wrapped in the Operator mode;
- Flashes when the bale is wrapped in the Automatic mode;
- On during the wrapping phase.

Function buttons / soft keys:
F1 and ***F2***
Do the function displayed in the 1st row of the display (bottom right for ***F2*** and bottom left for ***F1***) over the buttons.



Navigation buttons:
Move the cursor around the display screen and enable selection of icons or text items in the menu:

OK
Pressing this button does one of the following, depending on the current program parameter:
- Confirms the last data entered;
- Confirms selection (of an icon or menu item) on the screen;
- Confirms the user input;
- Opens the selected menu.

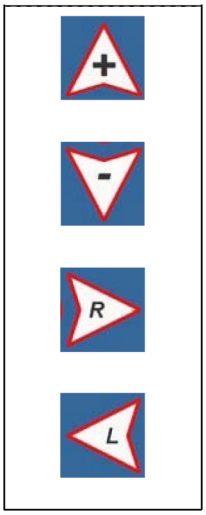


UP, +
- Increases the numerical data value;
- moves the cursor up.

DOWN, -
- Decreases the numerical data value;
- moves the cursor down.

RIGHT, R
- scrolls the menu pages to the right;
- moves the cursor to the right.

LEFT, L
- scrolls the menu pages to the left;
- moves the cursor left.



10-ET.3 COMMISSIONING

When the machine has been coupled to the tractor and all wiring is connected, you may commission the control system.

- Press the ***ON-OFF*** button and wait for the data to boot.

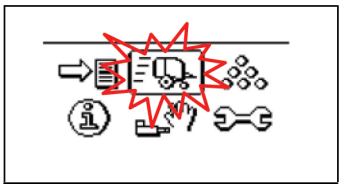
EasyTronic prompts to select the language during the first commissioning only:

- Use the navigation buttons **+**, **-**, ***R*** and ***L*** to select the language and confirm by pressing ***OK***.

EasyTronic will now display all messages in the selected language, also after cycling the power.

Once the data boot is complete, the Home screen appears with the cursos on the Work icon.

If the Work icon is not flashing (i.e. not selected), navigate to the icon by pressing **+**, **-**, ***R*** and ***L***.



10-ET.4 MENU

This Chapter explains the individual menus of the EasyTronic program and the individual button functions.

10-ET.4.1 PROGRAM MENU

DANGER!
The program menu descriptions may vary with the equipment configuration of your machine.

Select the Program icon and confirm with ***OK***.

EasyTronic has a program with a number of default settings which the user may edit.
Here you can select the following items to be displayed and modified (depending on the actual machine configuration):

- Bale diameter
- Wrap type (only with the cord and net wrappers installed);
- Number of net winds (if the net wrapper is installed);

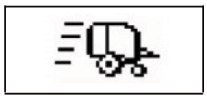
With the net wrapper installed only:

- Number of winds in the bale centre;
- Number of winds at the bale edges;
- Cord distance from the bale edge.

10-ET.4.2 WORK MENU

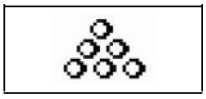
Select the Work icon and confirm with ***OK***.

This menu shows the actions of the machine when collecting the product and enables managing the stages of collection, wrapping and bale unloading. This menu also shows the warning messages, if any.



10-ET.4.3 COUNTERS MENU

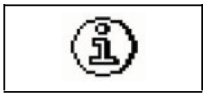
Select the Counters icon and confirm with ***OK***.



This menu allows counting the bales made by the machine.

- EasyTronic counts the net wrapped bales and the cord wrapped bales separately.
- EasyTronic manages nine independent counters and one master counter, which reads the total of results from all other counters.

10-ET.4.4 MACHINE STATUS MENU



Select the Machine Status icon and confirm with ***OK***.
This menu enables read-only selection and display of the machine status information.
The menu has four submenu items:

- Info
- Warnings
- Machine Test
- Settings Check

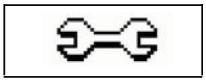
10-ET.4.5 MANUAL MOTOR CONTROL MENU

Select the Manual Motor Control icon and confirm with ***OK***.

The operator can use the **+** and **-** to control the actuators of the machine.

10-ET.4.6 SETTINGS MENU

Select the Settings icon and confirm with ***OK***.



This menu enables selection, display and editing of the main machine settings:

- General
- Handset
- Machine
- Miscellaneous

IMPORTANT!
Some Settings menu parameters are password protected.

10-ET.5 SETTINGS MENU

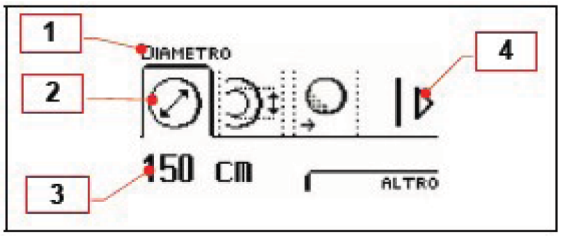
10-ET.5.1 PROGRAM MENU

Use **+**, **-**, ***R*** and ***L*** to select the Program Menu icon from the Home screen and confirm with ***OK***.

The display will show the data (according to the actual machine configuration) which the operator can read and/or modify:

1) Icon description, 1
2) Icon, 4
3) Icon value, 2
4) Menu icon scroll arrows.

The scroll arrows indicate if there are more icons, which are not displayed due to the screen size.



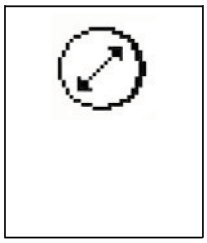
Use **+**, **-**, ***R*** and ***L*** to scroll and display all menu icons.

Use ***R*** and ***L*** to select the icon (which will cause it to flash) to display the respective value:

Bale diameter

Use **+** and **-** to set the target bale diameter to be produced:

- **Minimum diameter = 60 cm**
- **Maximum diameter = 165 cm**
- **Increment = 1 cm**

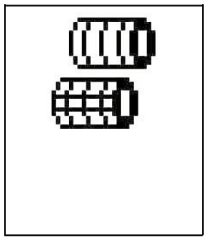


Wrapper

Use **+** and **-** to select the wrapper type to be used:

- **CORD**
- **NET**

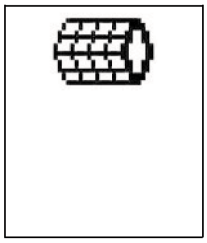
The display will indicate the active wrapper type.



Net winds

Use **+** and **-** to set the number of net winds for the target bale diameter:

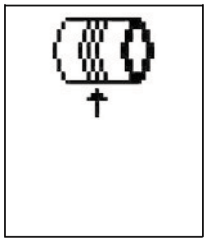
- **Minimum net winds = 1.6**
- **Maximum net winds = 5**
- **Increment = 0.2 of wind**



Cord winds at centre

Use **+** and **-** to set the number of cord winds at the bale centre for the target bale diameter:

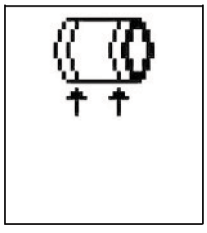
- **Minimum centre winds = 4**
- **Maximum centre winds = 20**
- **Increment = 1 wind**



Cord winds at edges

Use **+** and **-** to set the number of cord winds at the bale edges for the target bale diameter:

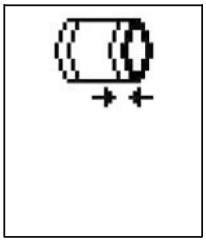
- **Minimum winds at the edge = 1**
- **Maximum winds at the edge = 5**
- **Increment = 0.5 of wind**



Distance to edge

Use **+** and **-** to set the distance of the cord winds from the bale edge for the target bale diameter:

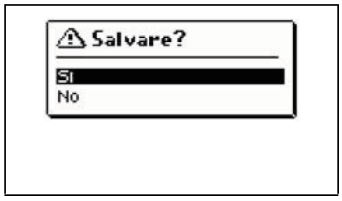
- **Minimum distance to bale edge = 8 cm**
- **Maximum distance to bale edge = 18 cm**
- **Increment = 1 cm**



You can modify all and individual parameters in the Program Menu or read them only.
You do not need to confirm the input with ***OK*** every time a parameter is edited; you can still navigate within the menu with ***L*** and ***R***.

EasyTronic will prompt you to select whether you want to save (choose ***YES***) or discard (choose ***NO***) the changes only when you want to exit the Program Menu (by pressing ***OK*** or ***CANC***).
Use **+** or **-** to select the answer and confirm with ***OK***.

EasyTronic will return to the Home screen.

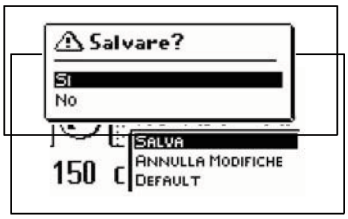


Note: If you leave ***Program Menu*** without editing any parameter, EasyTronic will return to the Home screen.

You can also save the data edited in ***Program Menu*** by pressing ***F2***.
This will open a new window with the following items:

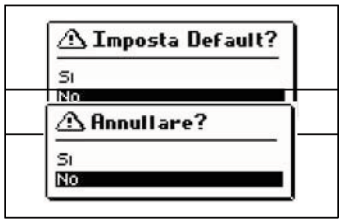
Save: saves the edited data.

Cancel changes: discards the changed data.



Default: restores the factory settings in ***Program Menu***.

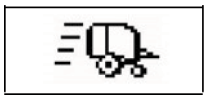
Use **+** or **-** to select the item and confirm with ***OK***.



Note: This will not exit ***Program Menu***.

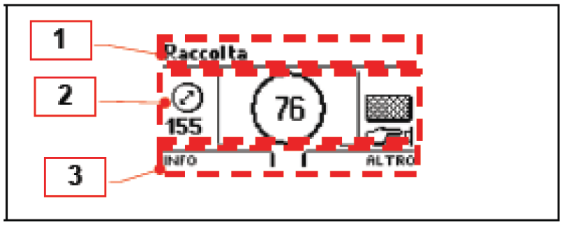
10-ET.5.2 WORK MENU

Use **+**, **-**, ***R*** and ***L*** to select the ***Work Menu*** icon from the ***Home*** screen and confirm with ***OK.***



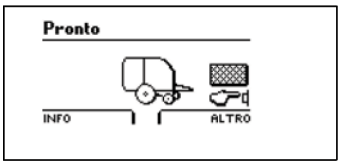
The ***Work Menu*** screen has three main sections:

1) The description of the current work stage;
2) The graphical visualisation of the current work stage (with or without data);
3) the soft key functions for ***F1*** and ***F2***.



When you select the ***Work Menu*** icon with the baling chamber empty, EasyTronic displays a message window that the machine is ready for work.

- ***Machine Ready* screen**



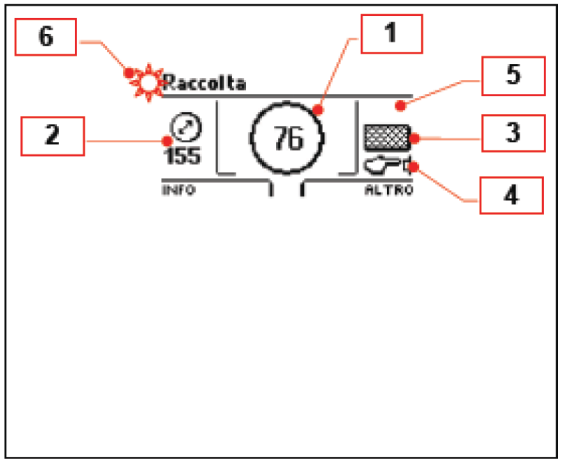
Other screens will be displayed at work to indicate the current operations of the machine:

- ***Collect*** screen

This screen shows that the machine has begun to collect the product and bale it in the chamber.

The display will show all data (according to the actual machine configuration) which the operator can read and/or modify:

1) Actual bale diameter;
2) Target bale diameter to be made;
3) Active wrapper type (Net wrapper shown);
4) Wrapping mode:



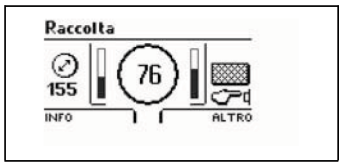
- Manual = the ***Finger pressing button*** icon
- Automatic = ***AUTO*** (Manual mode shown).

5) Cutting assembly:
- Active = text indication
- Inactive = **no** text or icons (Inactive shown).

6) Warning: the Warning icon (if displayed) indicates a fault.

See Chapter "***Warning messages***" at the end of this Chapter.

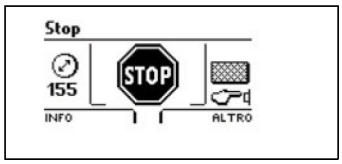
If the baler is equipped with the optional load indicators and the load indication function is on, you can monitor how the product is charged into the baling chamber. See Chapter 10-ET.7 "Work stages" for more information.



- **Stop screen**

This screen indicates that the machine has completed collecting and baling the product in the chamber since the target bale diameter is achieved.

Unlike on the Collect screen, the display replaces the bale icon with the ***STOP*** symbol.



<u>Note</u>:
Stop the tractor and start the wrapping cycle now.

- **Wrapping screen**

Depending on the wrapping cycle settings input to the work program, the baler will start to wrap the bale in the chamber.

IMPORTANT!
Each time EasyTronic is powered on, the default wrapping mode is Manual (the Hand icon).

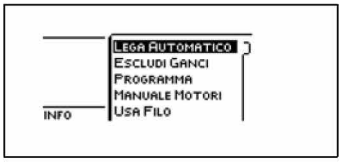
Switching the Hand wrapping mode to Auto wrapping mode:

Method 1:
Use **+**, **-**, ***R*** and ***L*** to select the ***Settings Menu*** icon from the ***Home*** screen and confirm with ***OK***.

Scroll the icons with ***R***, select the ***Machine*** icon (here the Start Wrapping command is shown as already selected) and confirm with ***OK***.

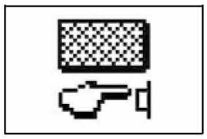
- Use **-** to select ***Auto*** and confirm with ***OK***.
- Press ***CANC*** to exit the menu.

Method 2:
Press ***F2*** in the ***Work*** menu to open the ***Other*** submenu (here the ***Auto Wrapping*** function is shown as already selected).



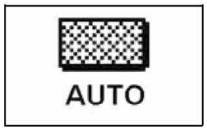
- Confirm with ***OK***.

If the wrapping is in the Manual mode, i.e. the display shows the ***Hand*** icon, EasyTronic will prompt you to start the wrapping cycle manually.



- Press ***START*** to start wrapping the bale.

If the wrapping is in the Auto mode, i.e. the display shows ***AUTO***, the bale wrapping stage will begin automatically once the bale is formed.



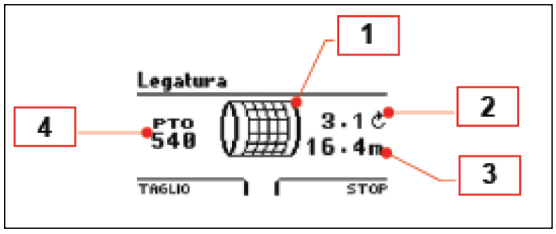
Quick change from the Manual to the Auto wrapping mode:
Work screen --->> ***F2*** --->> ***Auto Wrapping*** --->> ***OK***

Two wrapping screens may be displayed (depending on the installed wrappers):

- ***Net Wrapping screen***

The display will show all data (according to the actual machine configuration) which the operator can read and/or modify:

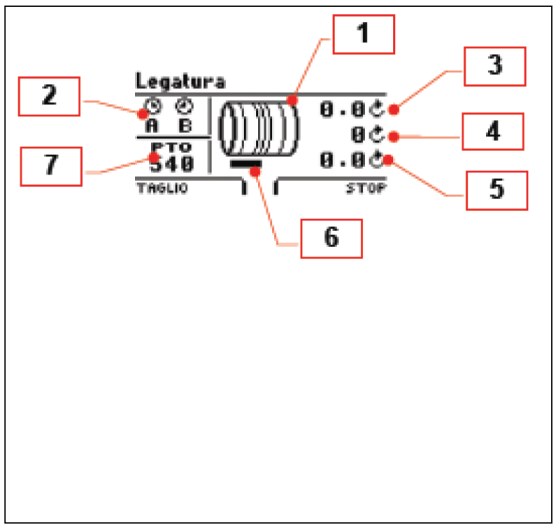
1) Wrap type in use (Net shown);
2) Number of net winds (zero to the preset target value);
3) Number of net metres the bale is wound in relative to the preset number of winds;
4) PTO RPM.



- ***Cord Wrapping screen***

The display will show all data (according to the actual machine configuration) which the operator can read:

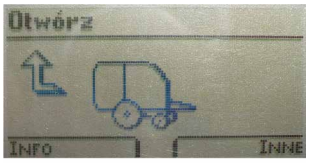
1) Wrap type in use (Cord shown);
2) Pulleys.
If the pulleys do not turn, EasyTronic will display a warning message.
3) Number of cord winds at the bale edge.
4) Number of cord winds in the bale centre.
5) Number of cord winds at the bale left-hand edge (cutting side);
6) Cord wrapper arm position relative to the bale.
The black bar is filled from left to right (the cutting side) as the arm moves.
7) PTO RPM.



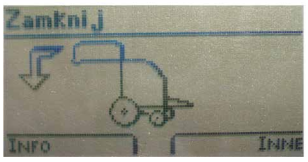
- ***Bale Release screen***

When the wrapping and cutting cycles are complete, the bale release stage begins:

- Now the EasyTronic will prompt you to open the machine gate.



- Open the gate to release the bale from the baling chamber. Next, close the gate and follow the on-screen instructions.



Note:
Now the machine is ready the next work cycle.

Nearly all individual cycle stage screens have a submenu. The submenu is accessed with the following soft key:

F1 = INFO

The ***Info*** submenu displays the machine status.
Press ***R*** to scroll the pages and ***CANC*** to go back.
F2 on some ***Info Menu*** pages enables editing the state or data of the selected function.

Leave the menu by pressing ***OK*** or ***CANC***.

If you have made any modifications, EasyTronic will prompt you to save (***YES***) or cancel (***NO***) the changes.

Use **+** or **-** to select the item and confirm with ***OK***.

F2 = OTHER

The ***Other*** submenu enables direct modification of status of certain machine functions. Use **+** or **-** to select the function, change its status (to active or inactive) and confirm with ***OK***.

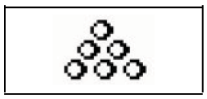
IMPORTANT!
EasyTronic will save changes without confirmation.

Note: **If a setting is displayed only and no changes are made, EasyTronic will automatically leave the Info and Other menus after a defined time.**

The machine may be equipped with other optional functions.
EasyTronic will display the data of those optional functions at individual work stages.

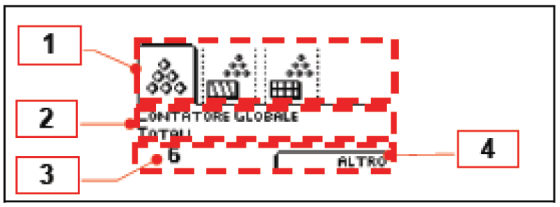
10-ET.5.3 COUNTERS MENU

Use **+**, **-**, ***R*** and ***L*** to select the ***Counters Menu*** icon and confirm with ***OK***.



The ***Counters Menu*** screen has four main sections:

1) Counter type icon;
2) Counter description (general or from 1. to 9.);
3) Number of bales counted by the selected counter;
4) the soft key command to reset the counters, which is done by pressing ***F2***.



F2 soft key functions depend on the context. EasyTronic has nine counters:

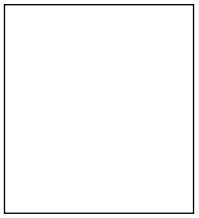
The first counter on the list selected when you open the Counters Menu, is the ***Master Counter***, followed by ***numbered counters*** identified from 1 to 9.

Each counter has three subcounters:

MASTER counter:
The number of made bales irrespective of the wrapper type.

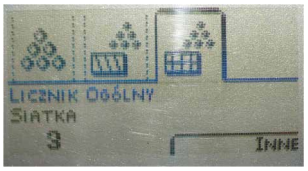
CORD counter:
The number of bales wrapped with cord only.

NET counter:
The number of bales wrapped with net only.



- Use ***R*** and ***L*** to navigate the subcounters.
- Use **+** and **-** to cycle through the ***Master Counter*** and the ***numbered counters***.

Opening a numbered counter:
- Use **+** and **-** to select the counter number and press ***F2*** for ***Use***.
- Confirm with ***OK***.



The open counter will be highlighted with a dark background and titled ***In Use***.

Resetting the counters:
Press ***F2*** and select **Reset**:

DANGER! Resetting the Master Counter will reset all other cord and net counters present in the program.

- Press ***OK*** to confirm resetting the selected counter. Press ***F2*** to reset the ***CORD counter***.

DANGER! Resetting the Total CORD counter will reset all other 9 subcounters present in the program.

- Press ***OK*** to confirm resetting the selected counter. Press ***F2*** to reset the ***NET counter***.

DANGER! Resetting the Master NET Counter will reset all numbered counters present in the program.

- Press ***OK*** to confirm resetting the selected counter.

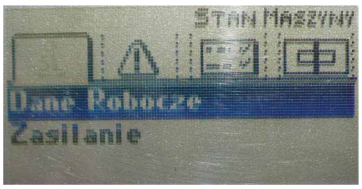
10-ET.5.4 MACHINE STATUS MENU

Use **+**, **-**, ***R*** and ***L*** to select the ***Machine Status Menu*** icon from the Home screen and confirm with ***OK***.

The ***Machine Status Menu*** screen has three main sections:
1) Icon;
2) Icon description;
3) Data display.

Use ***R*** and ***L*** to select an icon and then use **+** and **-** to select the menu text item and confirm with ***OK***.
You can display different screens and read the data from various lists thereof:

- **Info**



Operating data: total number of bales made by the machine and the total operating hours.

Power: Reads the voltage at which specific modules of the machine work.

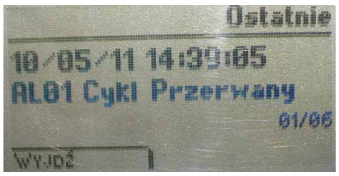
Press ***CANC*** or ***F2*** (Exit) to exit the menu.

- **Precautions**

Recent: Shows the list of recent warnings displayed and stored by the machine (with the warning type and date and time of display).
Use **+** and **-** to scroll the warning messages on the list (the numbers show the total number of listed messages e.g. 03/15 is the third message of fifteen).

All: Displays the whole list of EasyTronic warnings.
Each list page shows the warning type and the number of its actual instances, if any.

You can reset the number of display instances of specific warnings:
- Press ***F2*** and use **+** and **-** to select the item:



Reset = this will reset only the number of warning display instances shown on the screen.

Reset all = this will reset all warning instances in the ***All*** list.
To reset the selected item, press ***OK***.

Press ***CANC*** or ***F1*** (Exit) to exit the menu.

- ***Machine Test***

This function tests the performance of sensors, proximity switches and potmeters installed on the machine.

Press ***CANC*** or ***F2*** (Exit) to exit the menu.

- ***Settings Check***

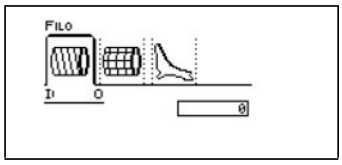
This function tests the factory defaults of the machine settings.
The items on the list may vary with the machine configuration. Use **+** and **-** to select an item and confirm with ***OK***.

Press ***CANC*** or ***F2*** (Exit) to exit the menu.

10-ET.5.5 MANUAL MOTOR CONTROL MENU

Use **+**, **-**, ***R*** and ***L*** to select the ***Manual Motor Control Menu*** icon from the ***Home*** screen and confirm with ***OK***.

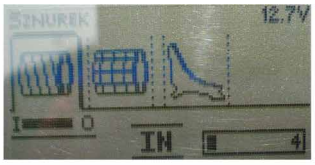
The EasyTronic ***Manual Drive Control Menu*** enables you to manually control the actuators installed on the machine. (The available icons vary with the installed accessories.)



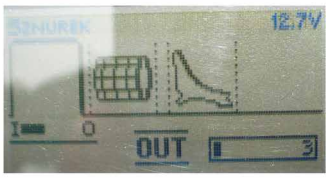
Use ***R*** and ***L*** to select an actuator icon.

- ***Cord***

Press and hold **+** to drive the cord wrapper arm into the baling chamber.

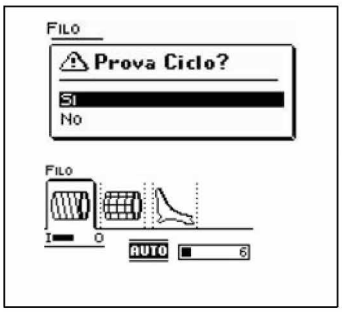


Use **-** to return the arm to its home position.

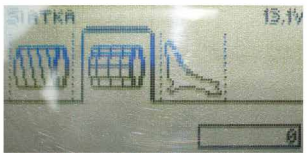


EasyTronic also enables simulating the cord wrapping cycle:

- Press the ***START-STOP*** button.
- Use **+** or **-** to select ***YES*** and confirm with ***OK*** to start the cord wrapping simulation.



- ***Net***
- Press and hold **+** to drive the net wrapper arm into the baling chamber.
- Use **-** to return the arm to its home position.



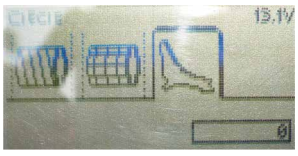
EasyTronic also enables simulating the net wrapping cycle:

- Press the ***START-STOP*** button.
- Use **+** or **-** to select ***YES*** and confirm with ***OK*** to start the net wrapping simulation.

- ***Blades***

This function enables modifying the status of the cutting assembly blades:

- Press and hold **+** to drive the blades into the baling chamber (the cutting assembly is engaged).
- Use **-** to withdraw the blades from the baling chamber to their home position (the cutting assembly is disengaged).

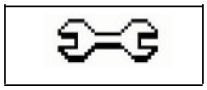


EasyTronic also enables simulating operation with the engaged cutting assembly:

- Press the ***START-STOP*** button.
- Use **+** or **-** to select ***YES*** and confirm with ***OK*** to start simulating a work cycle with the cutting assembly engaged.

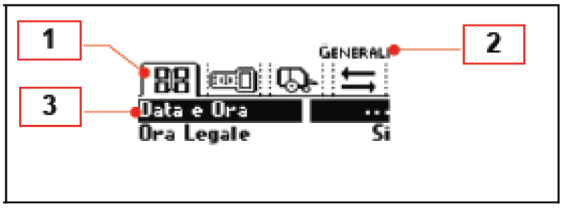
10-ET.5.6 SETTINGS MENU

Use **+**, **-**, ***R*** and ***L*** to select the ***Settings Menu*** icon from the ***Home*** screen and confirm with ***OK***.



The display will show the data (according to the actual machine configuration) which the operator can read and/or modify:

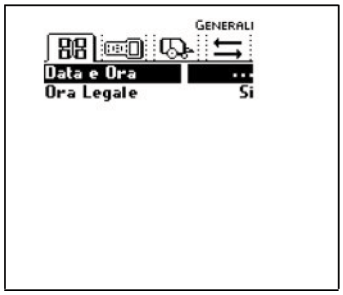
1) Icon;
2) Icon description;
3) Data to be displayed and/or edited.



Use ***R*** and ***L*** to select an icon and then use **+** and **-** to select the menu text item and confirm with ***OK***.

You can display different screens and read the data from the individual lists thereof:

- **General**



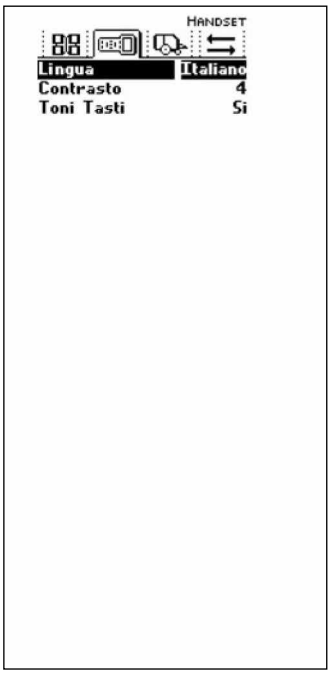
Date and time: Use ***R*** and ***L*** to select the parameter to be modified (hours/minutes/seconds - day/month/year), then use **+** and **-** to modify the value.

Confirm with ***OK*** or ***F1*** (OK).

Daylight savings time: Use **+** and **-** to choose the item (***YES*** or ***NO***).
Confirm with ***OK*** or ***F1*** (OK).

Press ***CANC*** or ***F2*** (Exit) to exit the General list without saving any changes.

- ***Handset***



Language: Use **+** or **-** to select the language and confirm with ***OK*** or ***F1*** (OK).

Contrast: Use **+** or **-** to increase or decrease the display contrast, and confirm the setting with ***OK*** or ***F1*** (OK).

Key tones: Use **+** or **-** turn on or off the tones (sound) of the EasyTronic buttons. Confirm with ***OK*** or ***F1*** (OK).

Alarm Volume
The volume of the major function buzzer.
Use **+** and **-** to adjust the buzzer volume:
- Value = 5 = minimum volume
- Value = 10 = maximum volume

Confirm with ***C***, ***OK*** or ***F1*** (OK) or ***F2*** (Exit).

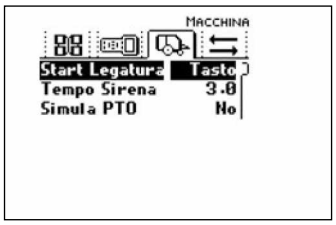
Aux Volume
The volume of the auxiliary function buzzer.
Use **+** and **-** to adjust the buzzer volume:
- **Value = 0 = mute**
- **Value = 10 = maximum volume**

Confirm with ***C***, ***OK*** or ***F1*** (OK) or ***F2*** (Exit).

Press ***CANC*** to exit the ***Handset*** list without saving any changes.

- ***Machine***

Wrapping start: Use **+** and **-** to select the wrapping mode from Manual (the ***Button*** text) to Automatic (the ***Auto*** text) or vice versa.
Confirm with ***OK*** or ***F1*** (OK).



Sound rate: Use **+** or **-** to increase or decrease the rate of the EasyTronic sound alarm (in seconds).
Confirm with ***OK*** or ***F1*** (OK).

PTO simulation: If the cable or the PTO indicator was interrupted, you can use temporary simulation of the reading:
Use **+** and **-** to activate (***YES***) or deactivate (***NO***) the option. Confirm with ***OK*** or ***F1*** (OK).

Note:
The simulation will start at 540 RPM.

IMPORTANT!
This function is deactivated when EasyTronic is turned off.

Disable hooks: You can also simulate the status of both gate closure sensors with their control disabled if their signal is interrupted:

- Use **+** and **-** to activate (***YES***) or deactivate (***NO***) the option. Confirm with ***OK*** or ***F1*** (OK).

Note:
Certain other functions are also disabled with the hooks.

IMPORTANT!
This function is deactivated when EasyTronic is turned off.

Disable diameter: If the DI potmeter of the maximum bale diameter fails, you need to disable it in order to continue working with the machine.

- Use **+** and **-** to disable the DI potmeter (select ***YES***).
- Use **+** and **-** to enable the DI potmeter (select ***NO***). Confirm with ***OK***.

Auto save diameter:

To disable this function, close the machine gate and engage the PTO for a few seconds to tension the belts.

This function is password protected, enter the PIN: 00001.

- Use ***R*** and ***L*** to choose a digit.
- Use **+** and **-** to modify the digit.
- Confirm with ***OK***.

The display will show ***Follow on-screen instructions***.

- Use **+** or **-** to select the item and confirm with ***OK*** (the system will prompt you to open and close the gate).

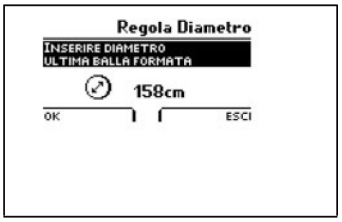
Press ***C*** to exit the function and return to the **Home screen**.

Diameter adjustment: This function allows you to compare the target bale diameter set in the program with the actual bale diameter made by the machine.

IMPORTANT!
You need to make at least one bale to use the function, otherwise EasyTronic will display a warning message.

***Note*:** Make 150 mm bales and measure the actual diameter of the bales.

Use **+** and **-** to increase or decrease the bale diameter value. Example:



- Target bale diameter = 150 cm
- Actual bale diameter produced = 158 cm
- Set ***Diameter Adjustment*** to 158. Confirm with ***OK*** or ***F1*** (OK).

Now EasyTronic will automatically adjust the target bale diameter.

Spools: If one or more cord run sensor wires are interrupted, you can temporarily disable the spool control:
- Use **+** and **-** to activate (***YES***) or deactivate (***NO***) the option. Confirm with ***OK*** or ***F1*** (OK).

Auto save cord distance from edge:

Start the tractor to use this function.

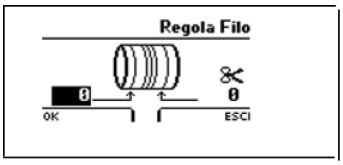
This function is password protected, enter the PIN: 00001.
- Use ***R*** and ***L*** to choose a digit.
- Use **+** and **-** to modify the digit. Confirm with ***OK***.

The display will show ***Initiating***.
- Use **+** or **-** to select ***YES*** and confirm with ***OK***. Wait until the control system completes saving the cord distance from the bale edge.

Press ***C*** to exit the function and return to the Home screen.

Cord adjustment: This function allows adjusting the cord run at the bale edge.
- Use ***R*** and ***L*** to select the bale edge at which you want to correct the cord run (the cutting right-hand side is shown with the Scissors icon).

Next use the navigation buttons:
- **-** = the button moves the cord wrapper arm to the edge (to the bale outside);
- **+** = the button moves the cord wrapper arm to the bale centre;
- ***0*** is the default value to be adjust or leave the factory default cord adjustment.



Confirm with ***OK*** or ***F1*** (OK).

Increment = approx. 1 cm

Loading adjustment: This function allows adjusting the work and sensitivity of the loading sensors:

- Use ***R*** and ***L*** to select the value to modify;
- Use **+** and **-** to modify the value.
- If the shifting bar is to be activated already at a minimum shift of the belt, reduce the **START SEGN** value.

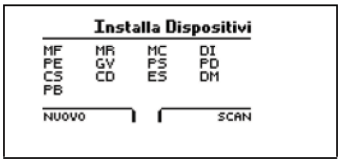
- If the shifting bar is to be activated with a delay from the shift of the belt, increase the **START SEGN** value.
- If you need to increase the bar sensitivity (i.e. to make it fill up faster), reduce the **SENSITIVITY** value.

Confirm the changes with ***OK*** or ***F1*** (***OK***).

Automatic saving of loading levels: Access to this function is restricted to the Dealership only and password protected!

Devices: Depending on the machine configuration, the function may allow displaying what devices are installed and properly connected to the F Bus system.

- Press ***F2*** (***Scan***) to find the devices. Once finished scanning, EasyTronic will display the found devices.



IMPORTANT!
New equipment installation with *F1* (*New*) is restricted to the Dealership only!

Cord status delay: This function enables adjusting the cord wrapper arm movement following the ***STOP*** signal, which indicates that a bale is complete.

- Use **+** to increase the delay of the cord wrapper arm movement.
- Use **-** to increase the delay of the cord wrapper arm movement.
- Increment = 0.1 cm
- Factory default = ***0.1 second***

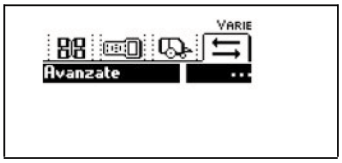
Net status delay: This function enables adjusting the net wrapper arm movement following the ***STOP*** signal, which indicates that a bale is complete.

- Use **+** to increase the delay of the cord wrapper arm movement.
- Use **-** to increase the delay of the cord wrapper arm movement.
- Increment = 0.1 cm
- Factory default = ***0.1 second***

Press ***CANC*** to exit the ***Machine*** list without saving any changes.
Depending on the open menu item, you may also exit the ***Machine*** list (without saving any changes) with the ***F2*** soft key.

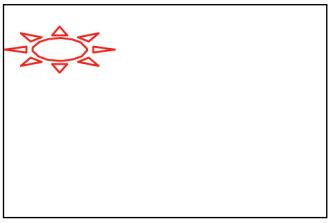
- ***Miscellaneous***

Advanced: The function directly affects the machine settings.



IMPORTANT!
This function is password protected!

This menu section is restricted to **METAL-FACH** Dealerships and Service Centres.



IMPORTANT!

- **The following troubleshooting operations and machine settings modifications shall be made in close coordination with the METAL-FACH Dealership and Service Centre.**
- **DO NOT attempt any of those operation on your own!**

METAL-FACH disclaims any liability for damage caused by failure to comply.

10-ET.6 PREPARING FOR WORK

10-ET.6.1 INSTALLING THE CORD

In order to install the wrapping cord correctly, read Chapter 7.6.1 "Installing the cord".

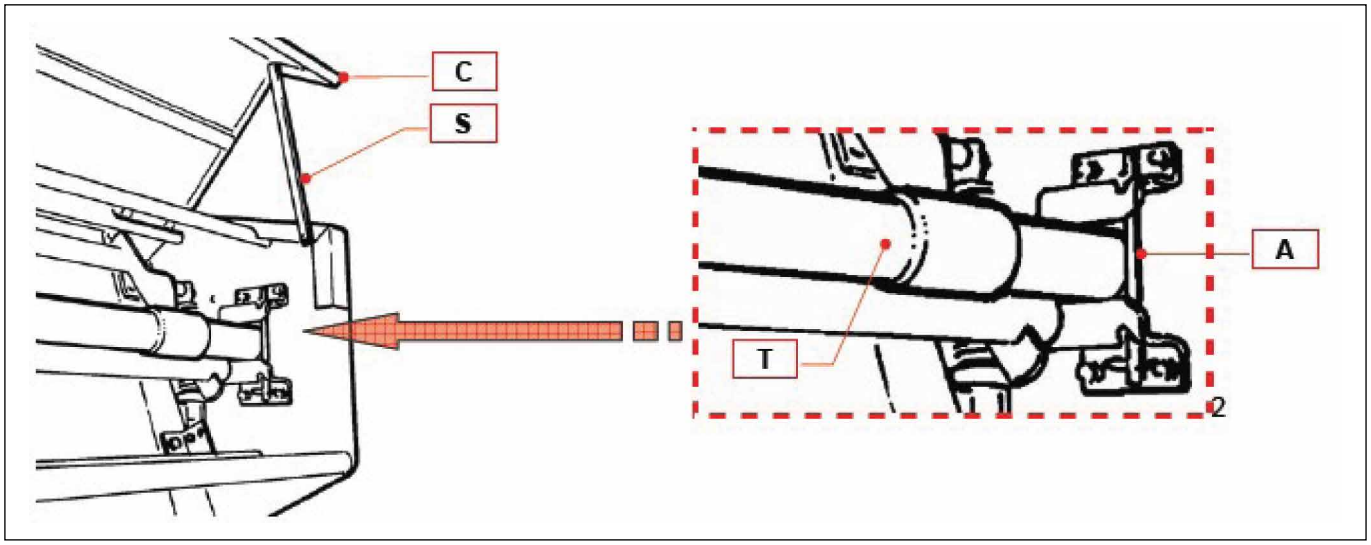
10-ET.6.2 INSTALLING THE NET

- The baler can use net reels 2000 to 3000 m long.
- The inner hole of the net reel cardboard core should be 75÷78 mm wide.
- Use 14÷16 (g/m) rated nets to assure proper performance of the net wrapper.

Press ***ON-OFF*** to turn on the control system before attempting the procedures explained below.

When the ***Home screen*** is displayed, use **-** to select the ***Motors*** icon and confirm with ***OK***.

- Use ***R*** to select ***NET wrapper***.
- Use **+** to move the inner wrapper arm (towards the belts) until ***STOP*** is displayed.

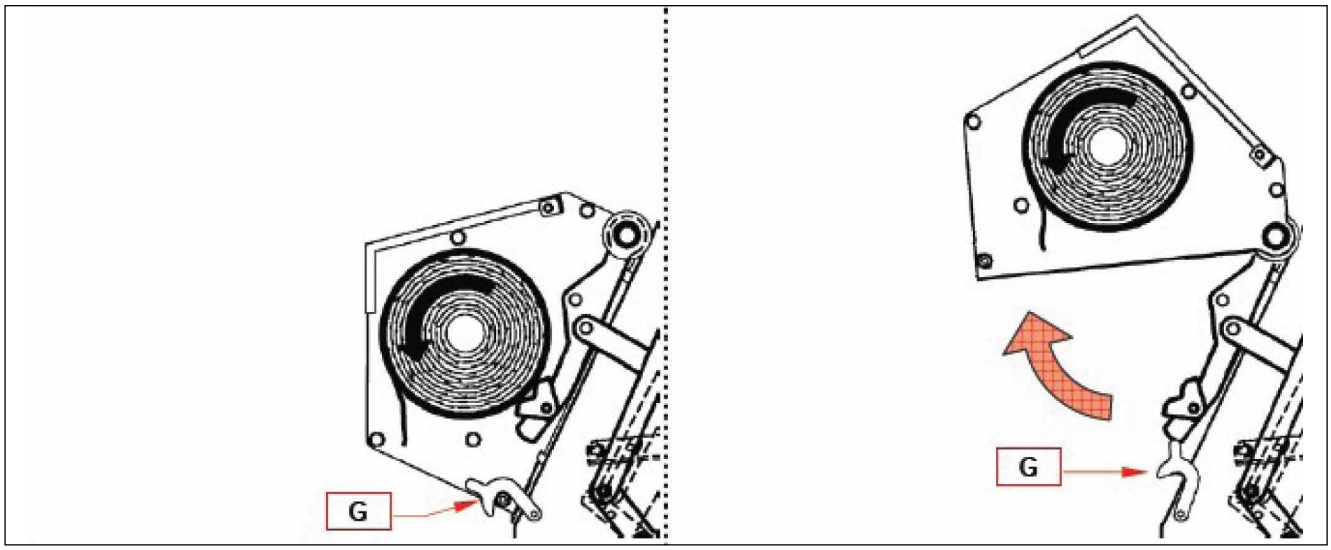


- Lift the guard panel ***C*** and place it on the support ***S***.
- Remove the tube ***A*** which is the net reel mount and remove the tube ***T*** to install the reel.
- Put the net reel on the tube and secure the tube in the original position with the tube ***A***.
- Close the guard panel ***C***.

IMPORTANT!

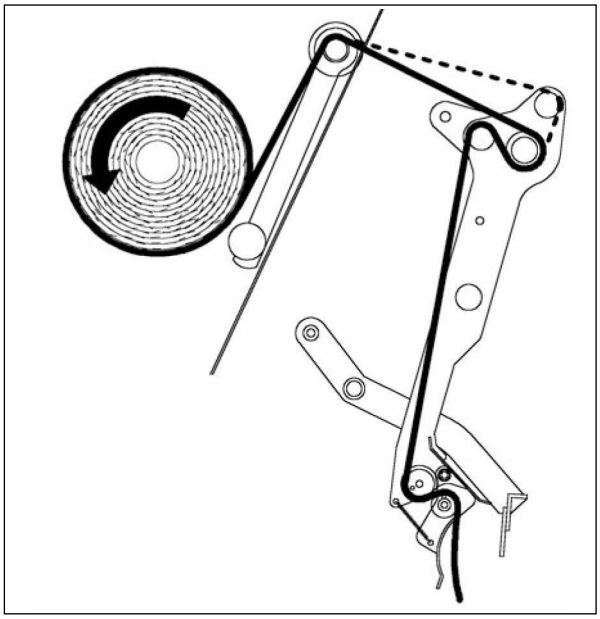
- **Place the net reel properly and carefully on the tube mount.**
- **Keep the correct direction of rotation of the net reel, as shown on the relevant sticker.**

Use **-** to move the net wrapper arm in the middle and install the net in the jaws.



Remove both safety hooks ***G*** (on the left and right-hand sides) and lift the net box.

- Make sure that the net runs according to the direction of movement shown on the sticker in the machine.
- Route and fasten the net at the bottom of its run and leave the net end hanging loose.



<u>IMPORTANT!</u>
Once the net has been properly installed, set the net wrapper in its original position by pushing - before starting the machine to work.

- Press ***CANC*** to exit the program.
- Lower the net box and secure both safety hooks ***G***.

<u>CAUTION</u>!
Be careful when working close to the blade on the wrapper.

<u>IMPORTANT!</u>
Make sure that the cutting assembly is released (i.e. the wrapper must be in the original run limit position).

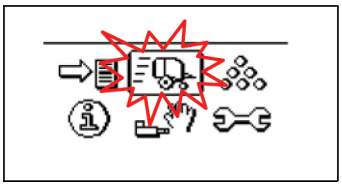
10-ET.6.3 CUTTING ASSEMBLY

If the machine is equipped with the cutting blades (Z589-2 only), you can extend and withdraw the blades.

You may extend and withdraw the blades in two ways:

Press the ***ON-OFF*** button and wait for the data to boot.

When the Home screen is displayed, the ***Work*** icon will be flashing.



IMPORTANT!: If the Work icon is not flashing (i.e. not selected), navigate to the icon by pressing +, -, *R* and *L*.

Method 1:
Extending the blades

- Use ***OK*** and ***F2*** to select ***Other***, then use **-** to select the **Active CUT** item. Confirm with ***OK***.
- Wait for the blades to extend, and the ***CUT*** message will be displayed on the screen.
- Visually inspect to confirm that the blades are extended.

Retracting the blades

- Use ***OK*** and ***F2*** to select ***Other***, then use **-** to select the ***Inactive CUT*** item. Confirm with ***OK***.
- The blades will be withdrawn and the ***CUT*** message will be cleared.

Method 2:
Extending / withdrawing the blades

- Use ***OK*** and ***F1*** to select the ***Info***, then use ***R*** to open the blade status window (Active or Inactive).
- Use ***F2*** to switch the blade status and confirm with ***OK***.
- Once the blades have been extended, the ***CUT*** message will be displayed. (Visually inspect to confirm that the blades are extended).
- The blades will be withdrawn and the ***CUT*** message will be cleared.

If there is a fault, the display will show CUTTING CYCLE ERROR. Follow the instructions in Chapter 12 "Troubleshooting".

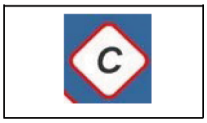
The cut-off spacing is:

- 77 mm

If the product is to be cut into longer pieces, some blades need to be removed.
See Chapter 9.9 "Cutting assembly maintenance and adjustment" for more information about adjusting, replacing and maintaining the blades.

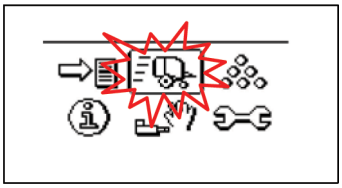
10-ET.7 WORK STAGES

Once the machine has been prepared according to Chapter 7 "Operating Manual", you may start working with the machine.



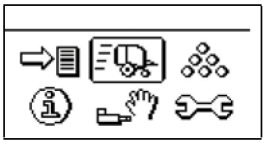
Press the ***ON-OFF*** button to start the control system.

EasyTronic will boot the data and display the Home screen.

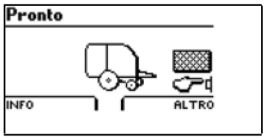


If the ***Work*** icon is not flashing (i.e. not selected), navigate to the icon by pressing **+**, **-**, ***R*** and ***L***.

One of the screens must be displayed by EasyTronic for you to be able to start your work:



Home



Ready

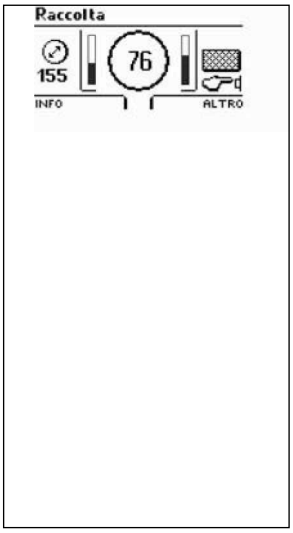
Park the tractor with the machine in front of the row end, open the pickup cut-off valve, lower the pickup, engage the PTO and start collecting.

Loading

If the baler is equipped with the load indicators and the load indication function is on, you can monitor how the product is charged into the baling chamber.

The machine shall be loaded from the side indicated by the Work screen bar in black.

Monitor the EasyTronic terminal display while sitting in the driver's seat in the tractor cab while the product is charged to the baling chamber, and steer the tractor according to the shifting bar black fill to properly load the baler with the product.



Left-hand shifting bar is filled in black:
This bar, when filled in black, indicates that the product should be loaded from the left-hand side of the pickup – steer the tractor to the left.

Right-hand shifting bar is filled in black:
This bar, when filled in black, indicates that the product should be loaded from the right-hand side of the pickup – steer the tractor to the right.

Both shifting bars filled in black:
The display shows that the baling chamber can be optimally loaded by driving along a zigzag, i.e. turning left and right alternately until both shifting bars are empty.

Both shifting bars empty (not black):
The baling chamber is properly charged, continue driving straight.

IMPORTANT!
The darker a bar gets, the harder is the turn you need to make in the direction shown by the bar.

Baling

EasyTronic allows monitoring the individual baling stages.

When the baler starts running, on the Work screen EasyTronic will display the bale diameter incremental value, which is the actual bale diameter made.

The *Work* screen also shows the following displays:
- Target bale diameter (i.e. the actual bale diameter to be made)
- Active wrapper type
- Wrapping mode

See Chapter 10-ET.5.2 "Work menu" for more information about the baling screens.

Machine with cutting assembly (Z589-2 only):
- Blade status (extended/withdrawn)

Two screens will be displayed alternately at work to indicate the current operations of the machine.

EasyTronic warns the operator with an intermittent sound (which cannot be deactivated) when the bale is finished, i.e. the preset target bale diameter is produced.

When the target bale diameter is reached, the display will read ***STOP*** and sound a continuous warning (which cannot be deactivated).

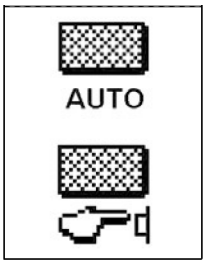
The sound means that you need to immediately stop driving so that the wrapper may start wrapping the bale.

Wrapping

EasyTronic may start and complete the wrapping cycle in the manual or automatic mode once a bale has been formed:

Automatic wrapping mode:

When ***STOP*** is displayed, the wrapper will start automatically.



Manual wrapping mode:

When ***STOP*** is displayed, press ***START-STOP*** to start wrapping.

You can switch between Manual and Auto wrapping modes on the ***Work*** screen by pressing ***F2 --->> Auto Wrapping --->> OK***.

CORD wrapping

When ***STOP*** is displayed, stop the tractor and keep the PTO speed at 350 RPM minimum.

If the PTO speed falls below the minimum value, a fast intermittent sound will warn the operator.

The wrapper arm will move in the baling chamber to a programmed distance and start wrapping the bale right-hand edge with the programmed winds.

Next the arm will reverse towards home to wrap the bale centre.

Next the arm will stop to wrap the bale left-hand edge and then go home to trigger the cord cutting system.

If the cord is not cut or gets jammed during the wrapping cycle, EasyTronic will issue a display and sound warning. However, the wrapping cycle will be continued until complete.

You can restart the cycle by pressing ***START-STOP***.

If both cords break or get stuck, the wrapping cycle is automatically halted and the wrapper arm will stop. The display will read **Incorrect bale wrapping**.

NET wrapping

When ***STOP*** is displayed, stop the tractor and keep the PTO speed at 350 RPM minimum and do not exceed 500 RPM.

If the PTO speed falls below the minimum value, a fast intermittent sound will warn the operator.

The wrapper arm will move into the baling chamber and return home to unwind the length of the net required to make the programmed winds. Next, the wrapper arm will return home to trigger the net cut.

If the net is not picked up or gets jammed during the wrapping cycle, EasyTronic will issue a display and sound warning.

The wrapping cycle is automatically halted and the wrapper arm will move home.

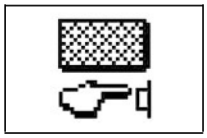
EasyTronic allows you to monitor all stages of both wrapping cycles (with net or cord) directly on the terminal display.

See Chapter 10-ET.5.2 "Work menu" for more information about the wrapping screens.

You can restart the wrapping cycle by pressing ***START-STOP***. The wrapping cycle will start with the wrapper type and settings previously selected.

You can switch to another wrapper without modifying the program settings:
Work screen --->> F2 --->> Select Wrapper --->> OK

IMPORTANT!
Each time EasyTronic is powered off and on, the default wrapping mode is Manual.



You can start wrapping the bale by pressing ***START-STOP*** at any bale diameter and moment.

Bale unloading

Once the wrapping is finished, the EasyTronic display will prompt you to open the machine gate to release the bale.

DANGER! Before opening the gate:
- **Make sure that you are parked on a flat ground or, when parking on a slope, the machine gate is directed down the slope.**
- **Remove all persons clear from the direct vicinity of the machine and from behind the gate.**

Open the gate with the hydraulic DCV lever of the tractor. Wait until the bale clears the baler and close the gate.

The Home screen appears on the display. Now the machine is ready the next work cycle.

If the gate is not closed properly, EasyTronic will warn you with a display and sound warning indicating which side of the gate has not been locked (or that both locks failed to engage, as applicable).

IMPORTANT!
Do not begin collecting with the gate open or one of its hooks not locked!

The gate opening time is automatically controlled by EasyTronic. Once the bale has been released, EasyTronic will wait for the operator to shut the gate.

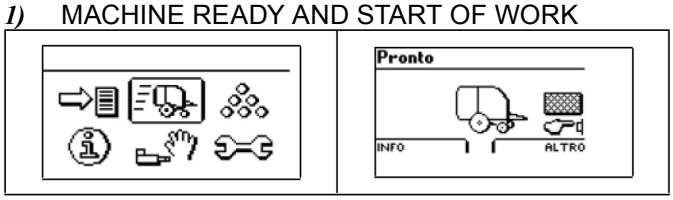
10-ET.8 ABBREVIATIONS

Depending on the installed device configuration, some screens displayed on the EasyTronic terminal will read the following abbreviations:

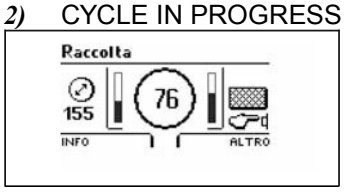
CD = right-hand side loading
CS = left-hand side loading
DI = bale diameter potmeter
ES = ejector module
MC = CUT module
MF = CORD module
MR = NET module
PB = POWER BOX
PD = gate right-hand lock hook
PS = gate left-hand lock hook
PT = PTO module
DM = max. chamber fill

WORK CYCLE

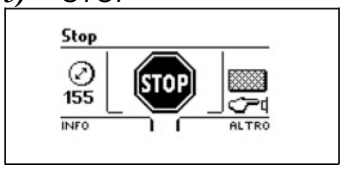
1) MACHINE READY AND START OF WORK



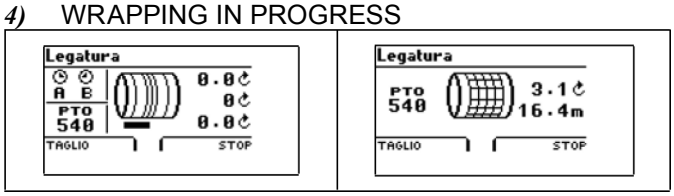
2) CYCLE IN PROGRESS



3) STOP

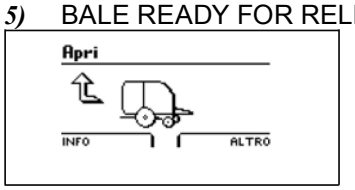


4) WRAPPING IN PROGRESS

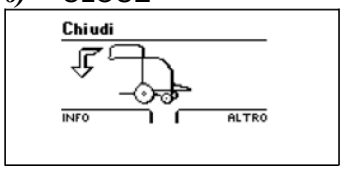


Cord *Net*

5) BALE READY FOR RELEASE



6) CLOSE



11 TABLES AND DIAGRAMS

11.1 TYPES OF OIL AND GREASE

USE	TYPE
Gearbox	AGIP BLASIA EP 150
Lubrication points	AGIP GR MU EP0
Automatic chain lubrication tank	AGIP OSO 100
Manual chain lubrication	Oil and grease mixture

11.2 LUBRICATION PROCEDURES

The procedures explained below must be completed in the beginning and at the end of each work season.
When relubricating or regreasing follow all the procedures explained in Chapter 9 "Maintenance and adjustment".

PROCEDURES	DAYS	MONTHS
Relubricate all points shown with the sticker P/N 7500214.	**10**	
Relubricate the gate hinges.	**2**	
Relubricate the lift pivot pins.	**2**	
Relubricate the main and side belt tensioning arms.	**2**	
Relubricate the collector link (Z589-3 only).	**2**	
Relubricate the rotor right-hand bearing (Z589-2 only).	**2**	
Relubricate the pickup cam raceways.		**1**
Relubricate the PTO drive shaft.	*	**12**
Change the transmission oil.		**12**
Manually relubricate the pickup drive chains.	**1**	

(*) See PTO drive shaft manual for more information about maintaining the PTO drive shaft.

11.3 MAINTENANCE

The procedures explained below must be completed in the beginning and at the end of each work season. When relubricating or regreasing follow all the procedures explained in Chapter 9 "Maintenance and adjustment".

PROCEDURES	DAYS	MONTHS	BALES
Check the condition of bearings, (pivot) pins and shafts.	7		
Check the chain tension.	3		
Check the frame bearings and the frame leaf spring bushings.	7		
Check the pickup cam and prongs.		1	
Check the roller fastening bolts of the main and side belt tensioning arms.	7		
Check the belts and their tensioners.		1	
Check the tyre pressure.		1	
Check that no lift, hydraulic hose or connectors leak.	7		
Check the transmission oil level.		1	1000
Check the oil filter of the automatic lubrication system.		12	
Check the blade sharpness, sharpen if necessary (Z589-2 only).			300
Do a functional test of the road light electrical system.	1		
Check all sensors and wiring.		6	
Check the proper tightening of bolts and nuts.		1	
Check all welded joints.		12	
Check the condition of all warning stickers (symbols).		1	
Check the guard panels and safety equipment.		1	

- Relubricate according to the schedule listed in Table 11.2 "Lubrication procedures".
- Thoroughly clean the machine in the beginning and at the end of each work season.

11.4 TIGHTENING TORQUES

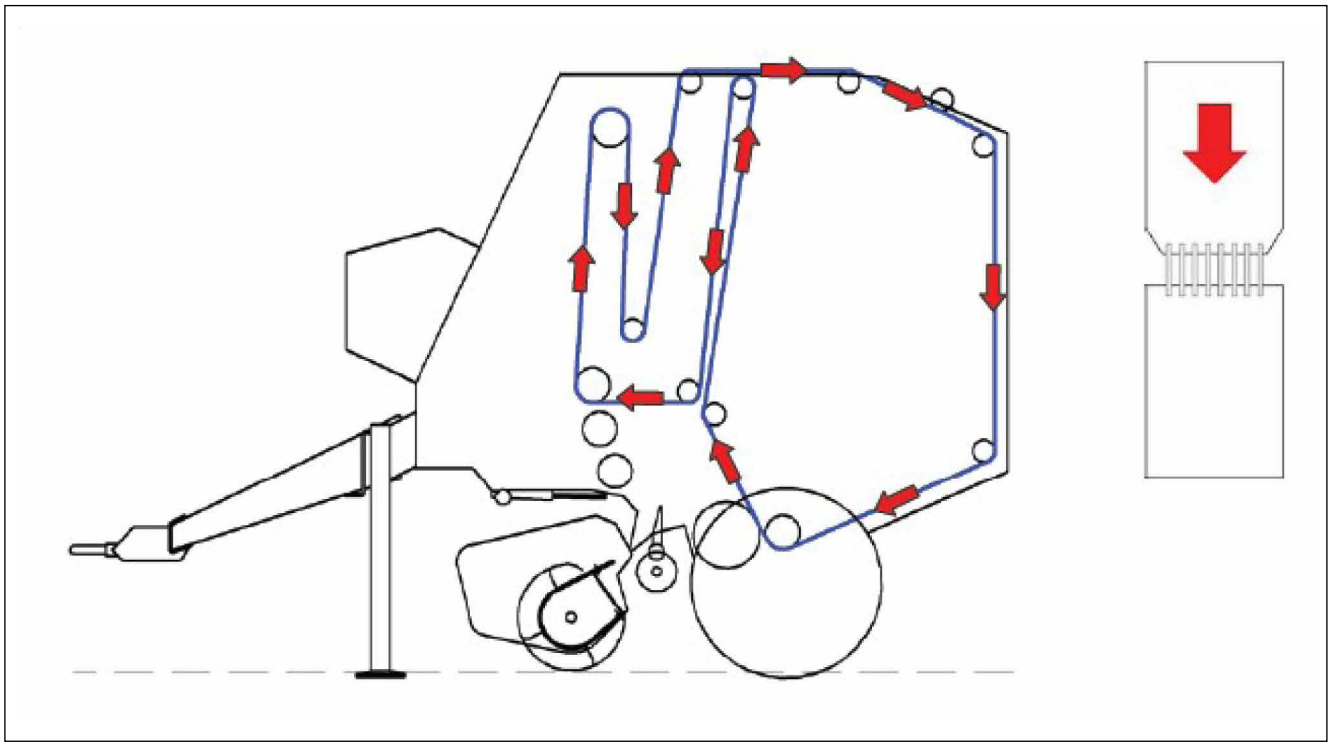
	R = 8.8		R = 10.9		R = 12.9			
	Nm	ft-lb	Nm	ft-lb	Nm	ft-lb	mm	in
M3	1.3	(11.5)-*	1.8	(16)*	2.1	(18.6)*	6	1/4
M4	2.9	(25.5)*	4.1	(36.5)*	4.9	(43.5)*	8	5/16
M5	5.7	(50.5)*	8.1	(71.5)*	9.7	(86)*	9	23/24
M6	9.9	7.3	14	10.3	17	12.5	10	13/22
M8	24	17.7	34	25	41	30.3	13	9/16
M10	48	35.4	68	50.2	81	59.8	17	11/16
M12	85	62.7	120	88.6	145	107	19	3/4
M14	135	99.6	190	140	225	166	22	7/8
M16	210	155	290	214	350	258	24	121/128
M18	290	214	400	295	480	354	27	1.9/128
M20	400	295	570	421	680	502	30	1.3/16
M22	550	406	770	568	920	679	32	1.17/64

Note: The values in brackets are in-lb.

11.5 TYRE PRESSURE

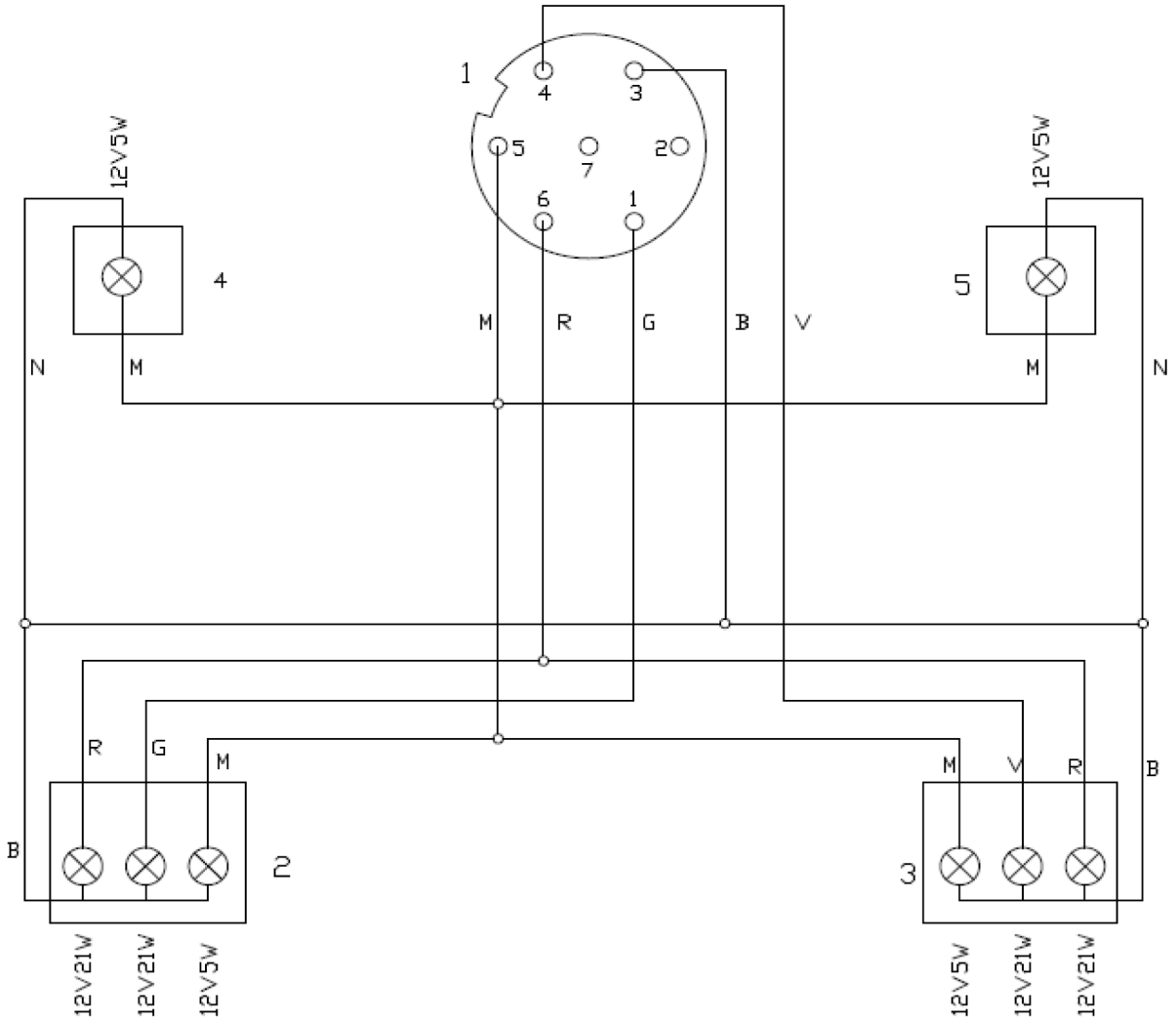
TYRE	bar
400/60-15.5	3.15

11.6 BELT RUNNING



***Note*:** The arrows show the direction of belt movement.

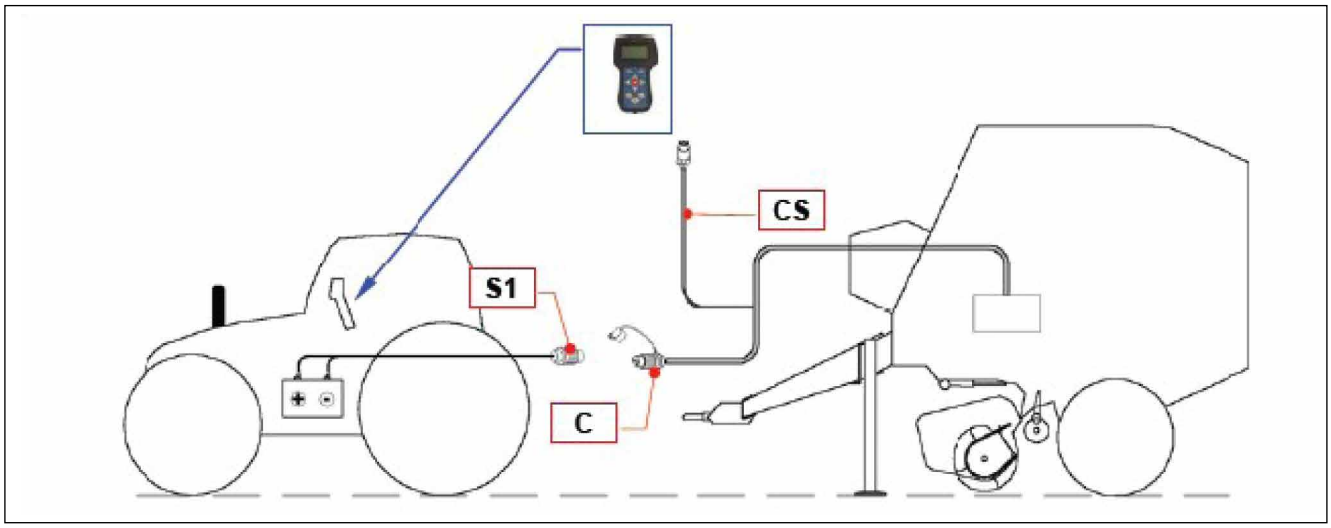
11.7 ELECTRICAL SYSTEM



1) 7-pin plug
2) Tail lamp, left-hand
3) Tail lamp, right-hand
4) Front lamp, left-hand
5) Front lamp, right-hand

G = YELLOW
B = WHITE
V = GREEN
M = BROWN
R = RED
N = BLUE

11.8 CONTROL LINES

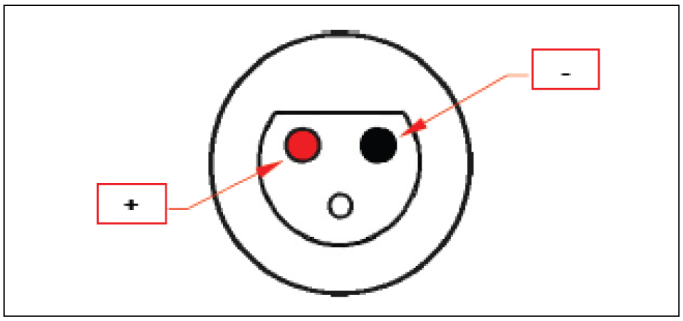


Power supply cable, tractor side

***S1* = COBO female connector (rear view):**

(+) Red: positive, 12 V

(-) Black: negative

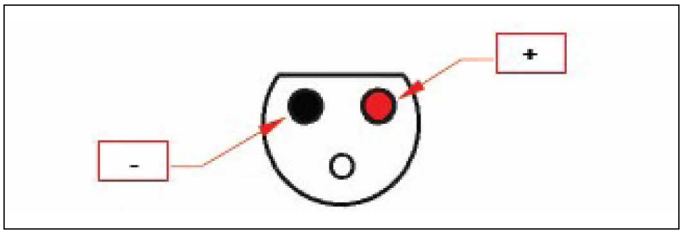


Power supply cable, machine side

***C* = COBO male connector (rear view):**

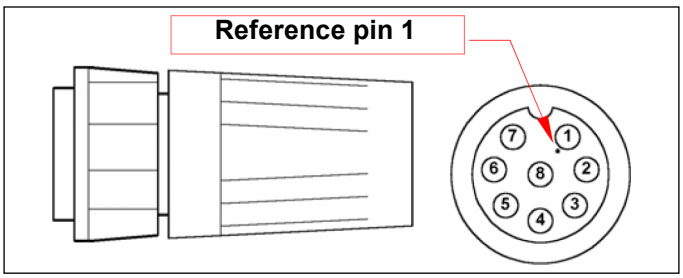
(+) Red: positive, 12 V

(-) Black: negative



Control cable

***CS* = LTWBD-08BFFA-L180 8-pin connector (front view)**

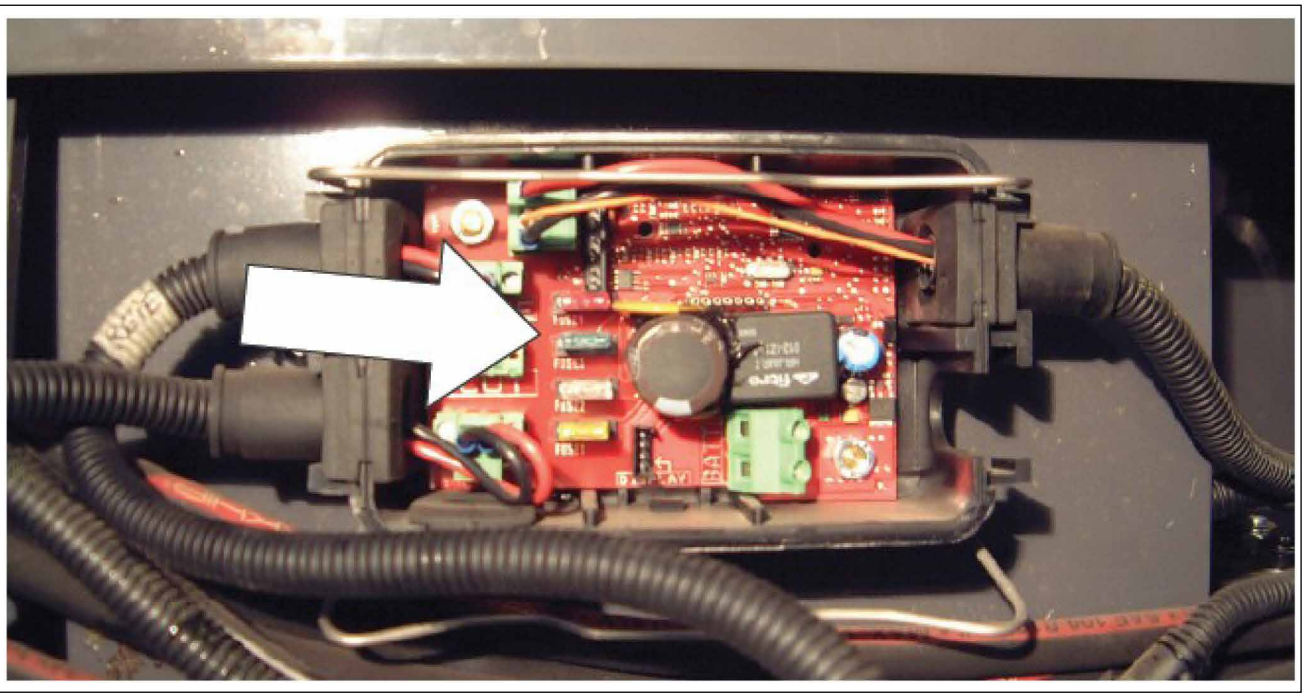


11.9 FUSES

The installed fuse type is RL MINI LAMA FASTON 2.8 mm acc. to DIN 72581/3F.

Fuses of the POWER BOX PB:

- FUSE 1: yellow, 20 Amps Cord drive fuse (MF)
- FUSE 2: white, 25 Amps CUT drive fuse (MC)
- FUSE 3: green, 30 Amps Net drive fuse (MR)
- FUSE 4: red, 10 Amps Accessories, electrovalve, lamps, etc. fuse



The text FUSE 1, FUSE 2, etc. are indicated on the fuse plaque below the fuses.

12 TROUBLESHOOTING

The following tables lists the most common problems you may encounter when operating the machine.
If the proposed solutions do not solve the problem, contact your nearest Distributor or Authorised Service Centre for technical advice.

12.1 PTO JOINT

PROBLEM	PROBABLE CAUSE	SOLUTION
The coupling is slipping.	The bale is too heavy or its diameter is too large.	Reduce bale weight or diameter.
	Worn out clutch plates.	Replace the plates (follow the PTO drive shaft Manual).
Safety bolt shorn.	The bale is too heavy or its diameter is too large.	Reduce bale weight or diameter.
The cam safety gives way.	The loading bar indications are wrong.	Increase the working speed.

12.2 FEEDING

PROBLEM	PROBABLE CAUSE	SOLUTION
The pickup prongs throw out the product.	The pickup speed is too high relative to the working speed.	The gate sensor is misaligned.
		Reduce the PTO speed.
The pickup prongs are missing the product.	The pickup speed is too low relative to the working speed.	Increase the working speed.
		Increase the tractor PTO speed. Make the product row more narrow.
The pickup does not collect the whole row.	The row is too wide.	Reduce the working speed.
The pickup does not collect the product from flat rows.	The pickup is too high.	Lower the pickup by switching the tractor DCV.
		Readjust the pickup wheels on the ground.
The pickup slips and stops.	Safety bolt shorn.	Reduce the product row volume by splitting it into smaller rows.
		Lift the pickup by readjusting the support wheels.
		Clear the foreign body and replace the safety shear bolt.
Too little product is collected.	The pickup prongs are worn out or missing.	Replace the prongs
The loading bar indications are wrong.	The gate sensor is misaligned.	Readjust the sensor sensitivity.

12.3 BALING START & BALING PROGRESS

PROBLEM	PROBABLE CAUSE	SOLUTION
Insufficient bale density.	Low baling pressure.	Increase the work pressure.
	Irregular feeding of the pickup.	Feed the baling chamber even on both sides.
	The bale lift seals are not tight enough.	Replace the lift seals and retighten the hydraulic couplings.
	The belts vary in length.	Remove the belts and check that their length is the same.
	The tractor driving speed is too high.	Reduce the tractor driving speed.
The bales are barrelled or tapered.	The product is collected in the centre only.	Follow the control terminal guidance when working on single rows on the left and right-hand sided.
	The product row is too narrow.	Widen the product row and make it more uniform and square.
The bale stops rolling.	The PTO drive shaft torque limiter is triggered.	The maximum bale diameter is exceeded.
		Reset the PTO drive shaft torque limiter (see the PTO drive shaft Manual).
	The belt tensioning arm rollers are stuck.	Check the roller bearings.
Excessive product loss from the machine.	The product is very dry and breaks up.	Bale at an increased working speed with the PTO speed reduced.
The product tends to stick to the dancing rollers.	The product is too damp.	Season (condition) the product and start wrapping when it becomes less damp.
	The roller scraper is misadjusted or worn out.	Adjust or replace the scraper.
The baling belts break and the staples give way.	Foreign bodies in the product.	Check and replace (as necessary) or repair the belts.
	The belt runs are misaligned.	Adjust the belt guides and/or the gate rollers.
	The bale exceeds the maximum diameter.	Check the last bale diameter adjustment.
		Check the electrical system, the machine cables and connections thereof with the tractor, the indicator lights and the sound alarm.
The chains slip over the gear teeth.	The tensioners are slack.	Tension the chains and readjust the tensioners.
	The gears and the chains are worn out.	Replace the gears or the chains.

The bale diameter is not the target diameter.	The potmeter is misadjusted.	Contact the Dealership to have the potmeter adjusted.

12.4 WRAPPING

PROBLEM	PROBABLE CAUSE	SOLUTION
The cord is loose at the bale edges.	Too few winds at the bale edges.	Make at least two full winds at both bale edges.
	The cord guiding rollers on the sides are misaligned and run too far out.	Readjust the side stops by shifting the wrapper end run.
Insufficient bale centre wrap.	The cord guiding arm works too fast.	Reduce the wrapper electric actuator speed by reducing the setting.
The bale does not pull out the cords.	The cord ends out of the cord tubes are too short.	Leave at least 20 cm of the cord out of the tubes.
	The cord cannot run free.	Readjust the spring tension on the cord brake and check the cord runs again.
	Dirt, or the product entered the cord runs.	Check and clean all cord runs.
	The cord is not properly cut.	Replace the blade or readjust the guiding arm.
The cord is not cut.	The blade is worn out.	Rotate or replace the cutter blade.
	The cords are not ahead of the cutting assembly.	Readjust the blade guiding arm clamp screw.
The cord does not run over the pulleys.	The cord is tangled up in the hank.	Untangle.
	The cord is not wound around the pulley.	Wind the cord around the pulley.
	The cord run sensor is misaligned.	Readjust the sensor.
	The sensor is defective or has failed.	Replace the sensor.
The net will not start wrapping the bale.	The net edge is not out far enough.	Leave at least 20 cm of the net out.
	The net arm adjustment clamps are not properly adjusted.	Readjust the clamps.
The net is not properly cut.	The blade parts are worn and blunt.	Sharpen the blade parts.
	The net reel braking is insufficient.	Increase the braking force by readjusting the side spring screws.
The net feeding arm does not stop to release the net.	The net feeding arm stop is misaligned.	Readjust the sensor.
	The sensor is defective or has failed.	Replace the sensor.
The net reel metres do not decrease.	The net counter sensor is misaligned.	Readjust the sensor.
	The sensor is defective or has failed.	Replace the sensor.

12.5 CUTTING ASSEMBLY

PROBLEM	PROBABLE CAUSE	SOLUTION
The rotor does not turn.	The cutting assembly control lever is in NEUTRAL.	Switch the lever to DRIVE.
	The safety shear bolts have failed.	Replace the shear bolts.
The blades do not extend to approach the cutting assembly.	The product clogs the slots.	Clear the slots before installing sharp/ blank blades.
	Electrical system fault.	Check the electrical system: the cables, actuators and terminals.
The product is not shred.	The blades are retracted but not in the service position.	Engage the blades.
	The blades are blunt.	Remove and sharpen the blades.

12.6 HYDRAULIC SYSTEM

PROBLEM	PROBABLE CAUSE	SOLUTION
The gate fails to close.	The hydraulic valve is closed.	Open the valve.
	The product is within the gate closing path.	Remove the product.
	The hydraulic system output is disconnected from the tractor.	Check and properly retighten the hydraulic output quick-release coupling.
The hydraulic system does not work.	The hydraulic outputs are inactive.	Activate the hydraulic auxiliary outputs in the tractor cab.
	The hydraulic hoses are not properly connected to the tractor auxiliary line plugs.	Check and properly retighten the quick-release couplings to the hydraulic auxiliary ports.
	Insufficient hydraulic oil flow rate.	Check the relevant hydraulic oil tank level and refill if necessary.
	The pump is worn out or has failed (low output pressure).	Recondition or replace the tractor hydraulic pump.
	The hydraulic circuit is contaminated.	Remove dirt and clean the hydraulic oil filters if necessary.
	The pressure gauge has failed.	Replace the pressure gauge or its capillary tube.
	The lifts leak oil.	Replace the lift seals.
	The hydraulic system leaks.	Check all lines and retighten the couplings if necessary.

12.7 F Bus CONTROL SYSTEM

12.7.1 SYSTEM CONNECTION PROBLEMS

PROBLEM	PROBABLE CAUSE	SOLUTION
The control system does not respond to the ON-OFF button.	The battery supply cable is not connected to the machine side cable.	Plug the COBO male connector on the machine side power supply cable in the COBO female connector on the battery side power supply cable. Make sure that the COBO female connector tab firmly fits the COBO male connector groove.
	The data cable is disconnected from the terminal.	Plug the data cable connector in the control terminal female connector. Tighten to secure.
	Reverse polarity.	Switch the cables on the battery terminals: connect the red cable with the fuse to the positive (+) and the black cable to the negative (-).
	The battery terminals are tarnished.	Clean the terminals and check the battery condition. The minimum voltage level is 12 V.
	The fuse is burnt or missing.	Check the fuses in the POWER BOX module.

12.7.2 EASYTRONIC PROBLEMS

PROBLEM	PROBABLE CAUSE	SOLUTION
The display reads "Left-hand or right-hand hook".	The gate is unlocked.	Close the gate.
	One of the hooks is not locked.	
	The gate closure sensor is misadjusted.	Readjust the sensor.
	The sensor is defective or has failed.	Replace the sensor.
The display reads "Bale jammed".	The bale was not released.	Remove the bale.
	The bale is in the ejector.	
The display reads "Low battery".	Low battery voltage.	Check the battery or the tractor alternator system.
The display reads "Incorrect bale wrapping".	The net/cord is not fed.	Troubleshoot and restart the wrapping cycle by pressing START-STOP.
	The cord/net is broken before the wrapping is finished.	
	The cord/net is out before the wrapping is finished.	
The display reads "PTO jammed" during the wrapping cycle.	The tractor PTO is stopped.	Start the PTO.
	The PTO sensor is misaligned.	Readjust the sensor.
	The sensor is defective or has failed.	Replace the sensor.

13 ACCESSORIES AND KITS (optional equipment)

In order to improve the baler output and performance, you can select a number of accessories and optional kits which are available on separate order.
Contact your nearest Dealership or Spare Parts Centre to learn what accessories and kits are available for your baler model.

13.1 ACCESSORIES

The accessories include optional equipment, which is factory installed on custom order when you buy the machine:
- Net wrapper
- Plastic sheet wrapper
- Extra net reel mount
- Extra cord hank mount

13.2 KITS

The kits include optional equipment which can be purchased and installed at a Dealership. The kits come with the Manuals required for correct installation and removal as required for field work:
- Baling machines
- Extra net reel mounts
- Clamping hook kit
- Spare blades

16-100 SOKÓŁKA, POLAND **UL. KRESOWA 62**

WARRANTY CARD

BALER

Z562

The warranty service is provided on behalf of the Manufacturer by:

.....

filled out by the seller

Date of manufacture ..... Date of sale.....

Serial number ..... Signature of the Seller.....

Customer's name and surname.....

Address .....

CONTENTS

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