





## Symbols in the Operating Manual

Legend:



**NOTICE**

THIS SYMBOL INDICATES ADDITIONAL INFORMATION WHICH ALLOWS OPTIMISING THE PRODUCT OPERATION.



**WARNING!**

THIS IS A WARNING SYMBOL AND REQUIRES SPECIAL ATTENTION TO THE OPERATOR'S AND BYSTANDERS' SAFETY REQUIREMENTS OR SAFE OPERATION REQUIREMENTS.



**ENVIRONMENTAL  
PROTECTION**

THIS SYMBOL INDICATES THAT SPECIAL ATTENTION TO ENVIRONMENTAL CONSIDERATIONS MUST BE PAID.

Thank you for choosing our Z587 baler, a machine designed for efficient operation.

The following Manual will let you use the full advantages of our baler and optimise the bale wrapping process.

The Manual contains a detailed table of contents followed by descriptions which allow easy identification of the machine and how to make the best use of it.

The information regarding safety and comfort of operation, description of coupling with a tractor, operation, servicing and storage conditions are listed on the following pages of the Manual.

A Spare Parts Catalogue with the list of the baler major components for easy ordering is attached to the manual in a digital format on a CD-ROM disc.

A printed version of our Spare Parts Catalogue can be purchased at authorised dealers or directly from the manufacturer.

Both the Manual and the Spare Parts Catalogue contain basic information on the product. The product configuration may vary from the presentation in this Manual.

**The manufacturer reserves the right to introduce changes without notice.**



**IMPORTANT**

The latest Operating Manuals and Parts Catalogues are available on our website:  
<http://www.metalfach.com.pl/en/instrukcje.html>

# 1. BALER IDENTIFICATION. GENERAL SAFETY RULES

## 1.1. BALER IDENTIFICATION

The identification data is found on the baler nameplate, located on the chassis front. The nameplate features the machine identification data, i.e. model code, serial number, year of manufacture and hitch load.

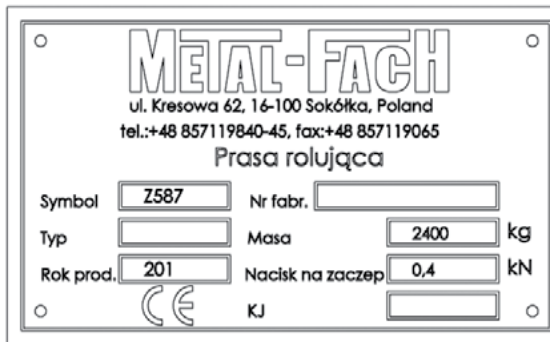


Fig. 1. Nameplate

	It is forbidden to drive the baler on public roads with its nameplate illegible or missing.
<b>WARNING!</b>	

**THE MANUAL IS A PART OF THE BALER ESSENTIAL EQUIPMENT.**

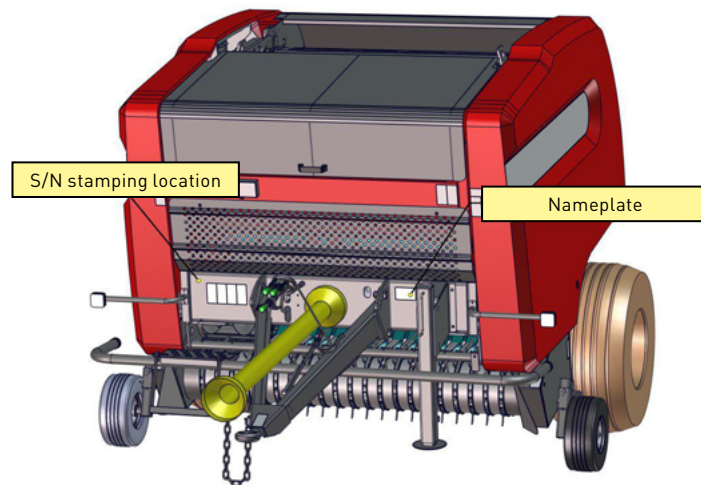


Fig. 2. Nameplate location on the machine

	When purchasing the machine, check the serial number indicated in the Manual and the Warranty Card against the serial number stamped on the nameplate.
<b>NOTICE</b>	

	Keep this Manual for future users of the machine.
<b>NOTICE</b>	

If the machine is sold to another user, it must be supplied with the Operating Manual. It is advised that the supplier has a confirmation stating that the Manual has been transferred together with the machine, signed by the buyer and filed.

Keep the Manual in a safe place that is accessible to the user and the operating personnel throughout the operating life of the machine.

### **Thoroughly read and understand the Operating Manual.**

If the Operating Manual is damaged or lost, give the Manual number or the machine nameplate data to obtain a new copy.

Before starting the machine after a prolonged standstill, thoroughly read the information about operating the machine and the safety rules listed in the Manual.

Read and understand all Sections of this Manual. Should you have any questions, consult your local Metal Fach representative. The addresses of representatives and service stations can be found at our website [www.metalfach.com.pl](http://www.metalfach.com.pl). This machine shall be used, serviced and repaired only by persons who understand its performance characteristics and know the work safety procedures.

The manufacturer will not be responsible for any damage caused by failure to follow the rules contained in this Manual!

### **USE ORIGINAL SPARE PARTS ONLY!**

You can order your spare parts from the local Metal Fach representative or directly from the Metal Fach head office in Sokółka.

## 1.2. INTENDED USE OF THE BALER

**The Z587 round baler is intended for collecting plant material raked in banks and rolling it into bales. The baler can work with hay and silage with the maximum moisture content of 20% and 60% respectively, and harvesting straw.**

All work operations can be performed by one person, i.e. the operator inside the tractor cabin.

**Any use of the machine not specified herein shall be considered as non-intended use. Metal Fach will not be responsible for any damage to persons, animals or property by improper use.**

## 1.3. BALER DESIGN

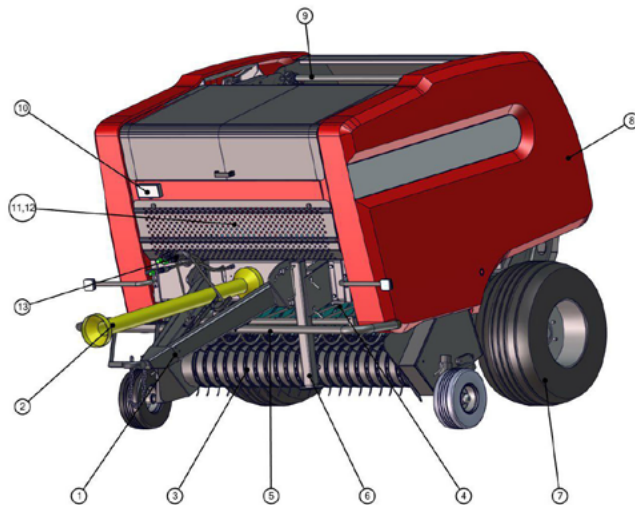


Fig. 3. Structure of the Z587 baler

The Z587 baler consists of the following units:

1. Tow bar
2. PTO drive shaft
3. Pickup
4. Collector
5. Safety railing with platform
6. Support foot
7. Traction wheel
8. Guard
9. Chain and bar conveyor assembly
10. Control panel
11. Net wrapper
12. Cord wrapper
13. Hydraulic supply lines

In the front part of the baler a pickup (3) is located to collect the swath laid in banks. The collector (4) feeds the material into the cylindrical baling chamber. Special rollers driven by a pair of chains move around the circumference of the chamber. The motion of the rollers rolls and compacts the material. When the desired compression level is obtained it is indicated by the control panel (10) in the tractor cab. When the programmed compression level is achieved, the wrapper (11, 12) wraps the bale with cord or net.

The baler is coupled to the tractor using the tow bar (1), the PTO drive shaft (2) and the hydraulic line (13). The support foot (6) supports the machine at rest. It must be raised with the integrated crank and remain up during field work. The baler is equipped with traction wheels (7) for towing the machine behind the tractor.

## 1.4. BALER TECHNICAL CHARACTERISTICS

Table 1 - Baler technical characteristics

Item	Description	
GENERAL DATA		
1.	Machine type	Round baler
2.	Manufacturer	METAL-FACH Sp. z o.o. 16-100 Sokółka, ul. Kresowa 62
3.	Nameplate location	Front beam
4.	S/N stamping location	Front body
5.	Type	Z587
DIMENSIONS		
6.	Length [mm]	3550
7.	Width [mm]	2510
8.	Height [mm]	2100
WEIGHT		
9.	With pickup [kg]	2400
TECHNICAL DATA		
10.	Hitch load [kN]	400
11.	Rolled bale dimensions [diameter/width] [mm]	1200/1200
12.	Bale weight [kg]	100-600
13.	Capacity [bales/h]	20-35
14.	Baling chamber	fixed displacement
15.	Bale density	variable

TRACTOR REQUIREMENTS		
16.	Power demand [kW/HP]	37/50
17.	PTO speed [rpm]	540
18.	Hydraulic system	1 double-action directional control valve + 1 single-action directional control valve
19.	Electrical system [V]	12
20.	Transport (transit) speed [km/h]	20
PICKUP		
21.	Pickup type	4-beam drum with prongs
22.	Pickup width [mm]	1800
23.	Maximum pickup service width [mm]	1520
24.	No. of pickupprongs	44
25.	Service height adjustment	Mechanical gear, 4 height settings
WRAPPING		
26.	No. of cord reels	4
27.	No. of net reels	1
TYRES		
28.	Type	400/60 – 15.5 14 PR
29.	Tyre pressure [kPa]	250
PTO DRIVE SHAFT		
30.	Type/brand	Bondioli Pavesi

31.	Code	7104121CE077098
32.	Transmitted torque [Nm]	1700

### 1.5. GENERAL SAFETY STANDARDS

Read and understand this Operating Manual before operating the baler to avoid danger. Follow the general rules and local regulations related to work safety and machine operation.



The baler has been designed and built to assure maximum safety of use.

Read and understand all Sections of the Manual before starting the machine for the first time. It will be too late to do that once you begin your work!

Metal Fach will not be responsible for any damage caused by failure to follow this Operating Manual.

Metal Fach will not be responsible for any damage caused by non-intended use and/or unauthorised modifications of the machine.





Periodically inspect the technical condition of the machine. Pay particular attention to proper performance of all safety equipment. All safety guards shall be installed according to the manufacturer's instructions.






	This baler may only be operated by qualified personnel who has read and understood this Operating Manual.
<b>WARNING!</b>	
	Check that the machine works properly, it is working properly and its moving parts are properly secured before work.
<b>WARNING!</b>	








Mind the safety signs in this Manual and on the machine. Keep all hazard symbols on the machine visible and legible.







Make sure that the safety signs are always clean and replaced when illegible or damaged. See the list and locations of safety signs in Section "1.5.2. Safety signs".

 <b>WARNING!</b>	Never leave the machine unattended during operation.
 <b>WARNING!</b>	Never leave the tractor unattended when the engine is running.
 <b>WARNING!</b>	Never approach, touch or reach into the moving parts when the machine is working. Keep your face, hands and legs away from all rotating parts. Always keep a safe distance. Do not use the controls, hoses or other protruding parts of the machine as grips or feet supports. Carrying persons or animals on the tractor is strictly prohibited.
 <b>DANGER!</b>	Always wear protective clothing, protective gloves, safety shoes and safety glasses during maintenance and repairs.

 <b>WARNING!</b>	Always keep oil and grease out of the reach of children. Read and understand all warnings and safety precautions listed on the packaging. Prevent skin contact with hazardous substances. Clean your body thoroughly after handling hazardous substances.
 <b>WARNING!</b>	Do not work with any pressurized lines: risk of fouling or severe injury.
 <b>WARNING!</b>	The machine working range is a hazardous area. Before starting the machine make sure that there are no persons or animals in its direct vicinity. If anyone is near the machine, stop the machine and clear the hazardous area of all persons. Never stop in direct vicinity of: balconies, patios, open rooms or any platforms where people and/or animals can be present. The baler operator is responsible for all damage caused by working with the machine.
 <b>WARNING!</b>	Wear fitted clothes which cannot be caught by moving parts of the machine and anti-slip shoes. Wear a safety helmet with a face shield when there is a hazard of ejected objects.
 <b>WARNING!</b>	Do not leave farming equipment on slopes or other terrain inclinations without securing it against accidental rolling away.

## Baler identification. General safety rules

	Keep hydraulic couplings clean at all times. Always secure undone couplings with the plastic caps supplied with the machine. Check all damaged tube covers or fasteners and replace if necessary. Replace all moving tube covers every 5 years. All hydraulic lines must be replaced every 6 years. Record the date of last replacement. Verify that the hydraulic lines and couplings are tightly closed before pressurizing. Use blotting paper or paper to check the system for leaks.
<b>WARNING!</b>	
	Do not operate the baler without the safety guards installed on moving components.
<b>WARNING!</b>	
	Each time before you start the baler check that the machine and its safety guard fasteners are in good order and complete.
<b>WARNING!</b>	
	Before starting the baler and driving on public roads, inspect the coupling of the machine to the tractor, the tightness of wheel fasteners and proper connection of the tow bar to the tractor.
<b>WARNING!</b>	
	All adjustment, repair and maintenance works shall be carried out with the tractor engine stopped and after making sure that the machine is secured against an accidental restarting.
<b>WARNING!</b>	

	Before starting and during swath collection make sure that there are no bystanders nearby, especially children.
<b>WARNING!</b>	
	Work on terrain slopes with extreme caution. The bales may roll down.
<b>WARNING!</b>	
	Do not service the baler with the tooling raised and not secured.
<b>WARNING!</b>	
	Do not enter or stand between the tractor and the baler when the tractor engine is running.
<b>WARNING!</b>	
	Exercise extreme caution when coupling/decoupling the baler with/from the tractor. Couple the baler with a tractor equipped with a lower hitch which can withstand the vertical load higher than the vertical load on the baler tow bar, see Section 1.4.
<b>WARNING!</b>	
	Wear appropriate protective clothing and shoes with anti-slip soles at work.
<b>WARNING!</b>	

	Install the bale wrapping cord/net with the tractor engine stopped and secured against accidental starting (by removing the ignition key and engaging the parking brake).
<b>WARNING!</b>	
	Operate the baler hydraulic system from the tractor cabin only.
<b>WARNING!</b>	
	Check the position of the support foot before driving the machine. The support foot must be raised to the transport position.
<b>WARNING!</b>	
	Follow the traffic code regulations and the manufacturer's guidelines when travelling on public roads, see Section 7.2.
<b>WARNING!</b>	
	Visually inspect the towed machine before entering public roads.
<b>WARNING!</b>	
	It is forbidden to stand on the press during machine operation or transport.
<b>WARNING!</b>	

	Do not carry rolled bales in the baling chamber when towing the machine on public roads.
<b>WARNING!</b>	
	Do not to operate the baler while under influence of alcohol, medical drugs or other substances which affect the ability to drive vehicles, reduce mental and physical fitness and/or cause concentration disorders and/or delay reaction time.
<b>WARNING!</b>	
	Do not drive the baling press near sources of open flame.
<b>WARNING!</b>	
	Strictly follow fire safety regulations and immediately extinguish any fire which may occur during when using the baler or with the machine in standstill.
<b>WARNING!</b>	
	Never approach the running baler with open flames or smoke near the machine.
<b>WARNING!</b>	
	Check that the tractor has a dry powder extinguisher each time before you drive to work. If not, equip the tractor with a dry powder extinguisher.
<b>WARNING!</b>	




## 1.5.1. SAFETY SIGNS






The safety signs on the machine are important to operator's safety. They are intended to draw the operator's attention to the safety and accident prevention rules as well as possible hazards during the use and maintenance of the machine.

- Safety signs: black and red pictograms on a yellow background.
- Keep all signs clean and legible; immediately replace all lost or damaged signs.


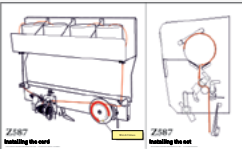

## 1.5.2. WARNING SIGNS

Table 2 - Warning signs

Item	Safety / warning symbol (sign)	Meaning of the symbol (sign) or text
1.		Warning against action: read the Manual.
2.		Turn off the engine, remove the ignition key and read the Operating Manual before servicing or repairs.
3.		Keep a safe distance from the gate being lifted when the machine is running.

4.		Secure the lifting cylinder before entering the hazardous area.
5.		Never reach inside the pickup with the tractor engine and the PTO running.
6.		Do not stand under the lifted gate that is not secured against dropping down.
7.		Risk of crushing by rolling out bales. Keep a safe distance from the machine at work.
8.		Do not open or remove the safety guards during machine operation.

9.		Do not open or remove the safety guards during machine operation.	14.		Keep away from the rotating PIC.
10.		PTO speed and sense of rotation.	15.	<b>Użytkownik!</b> Przy zawracaniu i na ostrych łukach obowiązkowo wyłącz napęd WOM ciągnika	Information pictogram Attention! When turning around or negotiating sharp corners, disconnect the tractor's PTO drive.
11.		Do not ride on ladders or platforms when the machine is moving.	16.	<b>UWAGA!</b> MASZYNA MOŻE BYĆ URUCHOMIONA DOPIERO PO ZAMKNIĘCIU OSŁON	Information pictogram DANGER! START THE MACHINE WITH ALL SAFETY GUARDS CLOSED
12.		Do not approach articulated hitch joints when the engine is running.	17.		Keep a safe distance from the machine at work.
13.		Do not enter between the machine and the tractor when the tractor engine is running. This area is extremely hazardous.	18.		Main lubrication points of the baler.
			19.		Lifting points for loading on transport vehicles.

20.		Speed limit: 20 km/h.
21.		Instructions for cord and net installation.
22.		If the safety guards are removed for servicing, first install the special extension to secure the net cutter.

### 1.5.3. LOCATIONS OF SAFETY SIGNS ON THE MACHINE

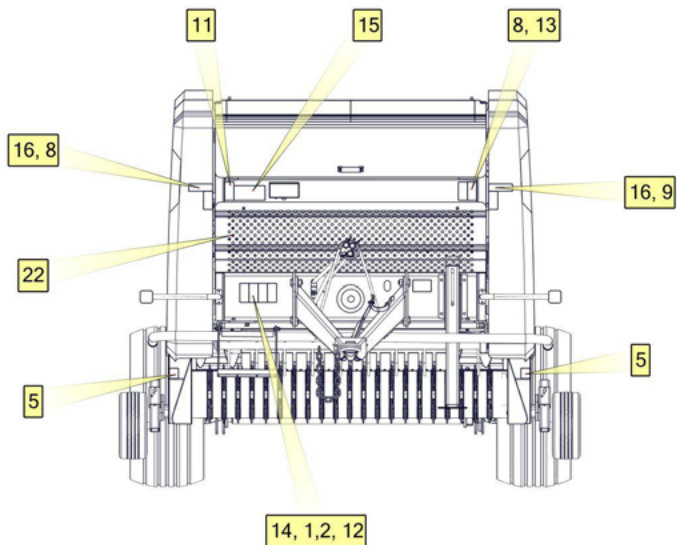


Fig. 4. Locations of safety signs on the machine, front view.

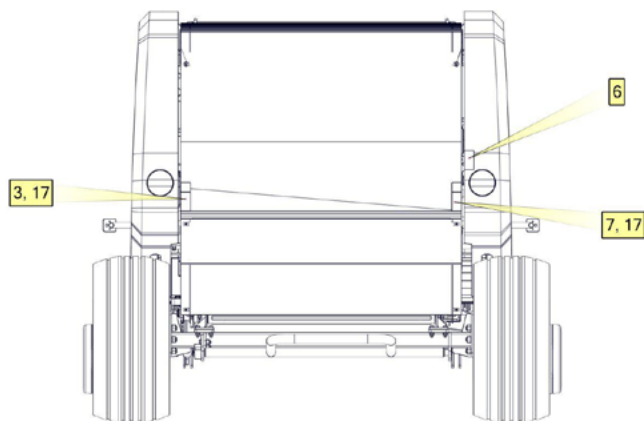


Fig. 5. Locations of safety signs on the machine, rear view.

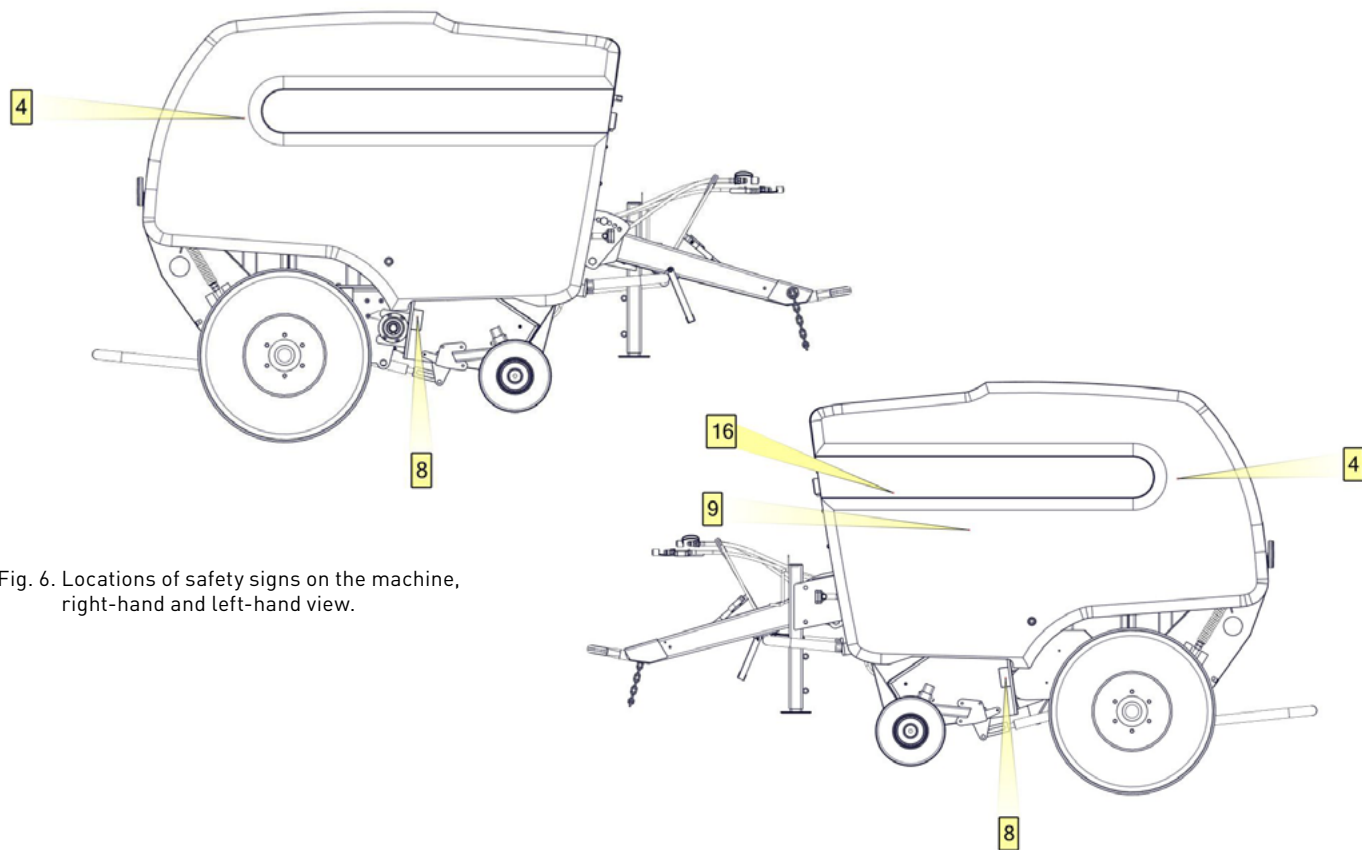





Fig. 6. Locations of safety signs on the machine, right-hand and left-hand view.



## 2. COMMISSIONING


	The commissioning of a new baler is done by the dealership service representative or the manufacturer's representative in witness of the operator/buyer of the machine.
<b>NOTICE</b>	

	Before commissioning the baler, thoroughly read and understand this Manual and pay special attention to the Sections concerning the safety of the operator and bystanders.
<b>WARNING!</b>	

	If there are any doubts about safety, contact your dealership or the manufacturer.
<b>NOTICE</b>	

Install the control panel in the tractor cab each time before you start the baler.

### 2.1. COMMISSIONING THE BALER

	Exercise extreme caution during commissioning. The presence of persons who undergo training in the machine working range increases the safety hazard.
<b>WARNING!</b>	

The dealership service representative or the manufacturer's representative in witness of the operator/buyer of the machine does the following during commissioning:

1. Baler equipment inspection and functional testing:
  - Machine completeness and technical condition check
  - Lighting system and warning horn check
  - Hydraulic system check:

- ◊ Lifting and lowering of the pickups
  - ◊ Lifting and lowering of the rear chamber
  - Pickup functional test
  - Wrapping system functional test:
    - ◊ with the cord
    - ◊ with the net (optional accessory)
  - Central lubrication functional test (optional accessory).
2. User training in proper operation of the baler:
- Introduction to the pickup design and operating principle:
    - ◊ Setting the attack angle of springs
    - ◊ Engagement of the overload clutch
    - ◊ Reinstalling the clutch after safety bolt shearing
    - ◊ Complete clutch replacement
    - ◊ Lubrication of the roller raceways.
  - Introduction to the cord wrapping system design and operating principle:
    - ◊ Operating principle
    - ◊ Installing the cord
    - ◊ Adjusting the wrap wind spacing and cord tension
    - ◊ Bale compaction adjustment
    - ◊ Cleaning the cord feeder.
  - Introduction to the net wrapping system design and operating principle (optional accessory):
    - ◊ Operating principle
    - ◊ Installing the net
    - ◊ Adjusting the number of winds
    - ◊ Adjusting the cutter frame spring tension.
  - Introduction to the central lubrication system design and operating principle (optional accessory):
    - ◊ Operating principle
    - ◊ Pump output adjustment.

- Introduction to the control panel design and operating principle
- Introduction to the tractor and baler train operating principle during baling:
  - ◊ Operating the tractor when collecting swath in straight lines
  - ◊ Operating the tractor when collecting swath in curves and sharp corners
  - ◊ Introduction to hazards.
- Full cord and net wrapping of bales by the operator/buyer under supervision by the service representative
- Introduction to and adjustment of the conveyor chain tension
- Introduction to lubrication and running maintenance of the baler



### NOTICE

The dealership service commissions the machine free of charge.

The signature of the service representative on the Warranty Card proves that the commissioning discussed in this Section is complete. The signature of the customer on the Warranty Card proves that the baling press has been commissioned in witness of the operator/buyer.

## 3. OPERATING THE MACHINE

### 3.1. PREPARING FOR WORK

All actions shall be carried out by one person who has thoroughly read and understood the Operating Manual, and specifically the Section on work safety.

Verify the following before work:

- The machine is in working order.
- All safety guards are installed in place.
- The oil level in the transmission gears is correct.
- Check the parts for excessive wear.
- Check the condition of the hydraulic lines.

#### **REPLACE ALL HYDRAULIC LINES EVERY 6 YEARS.**

- Check the tyre pressure.
- The recommended tyre pressure is 2.5 bar.

Unless otherwise specified herein, do all adjustments and preparation for work with:

1. The tractor engine stopped and the ignition key removed.
2. All machine parts at full stop.
3. The machine parked on solid ground.
4. Before attempting to work in the field.

### 3.2. COUPLING THE BALER WITH THE TRACTOR

Couple the baler with farming tractors rated at 35 kW of minimum power and with the towing power class of 0.9, equipped with a hydraulic system connection, a rear 1 3/8" 6-teeth PTO shaft rated at 540 RPM. Couple the baler to the lower hitch with the minimum vertical load of 4.0 kN.

### 3.2.1. COUPLING WITH THE TRACTOR LOWER HITCH

Make sure that there are no bystanders, especially children, in the coupling area. Park the tractor aligned with the centerline aligned the machine on a paved, level and flat ground. Stop the tractor engine, remove the ignition key, and engage the parking brake of the tractor. Set the correct hitching height on the baler by choosing the hitch adjustment ring as shown in Fig. 7.

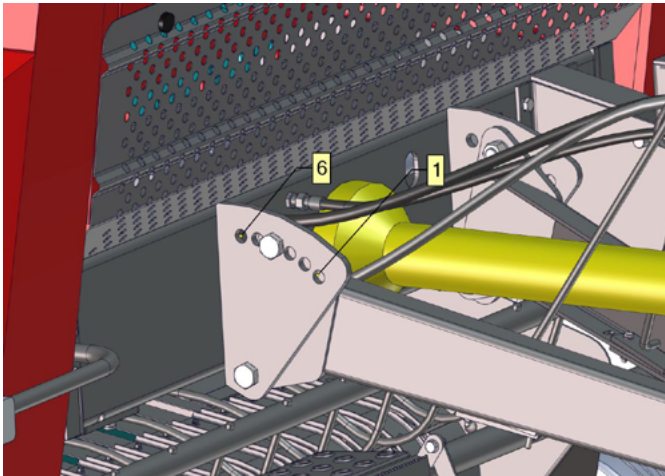


Fig. 7. Adjusting the hitching height

Hole no.	Tow bar hitch-ring height over the ground [cm]
1	-
2	29
3	47
4	64
5	83
6	101

Table 3. The tow bar hitch-ring height over the ground is shown in the table above.

	<p>Couple the tow bar hitch-ring with the tractor lower hitch, check that the coupling is solid and verify that it is secured against accidental release.</p>
<b>WARNING!</b>	

**Couple with tractors the minimum weight of which is equal to or higher than of the baler.**

- Connect the equipment to the baler:
- couple the PTO drive shaft;
  - connect the hydraulic system;
  - connect the lighting system;
  - connect the control system.

### 3.2.2. COUPLING THE BALER WITH THE REAR PTO

Check the PTO speed and sense of rotation before coupling the PTO drive shaft.

Stop the tractor engine, remove the ignition key, and engage the parking brake of the tractor.

Do not use PTO drive shafts with any ratings different from the manufacturer's requirements.

The PTO drive shaft is a power transmission component with a "CE" Certificate.

Each PTO drive shaft is complete with operating instructions. Follow all PTO drive shaft operating instructions and this Manual.

Install the PTO drive shaft supplied with the machine between the tractor PTO and the machine transmission gearbox.

The tractor coupling procedure is shown on the PTO drive shaft.

Verify that the minimum distance shown in Fig. 8 will not be exceeded when turning (with the maximum collapse).

**The minimum distance is 4 cm.**

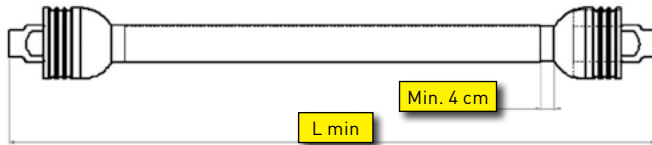


Fig. 8. PTO length

Make sure that the PTO length is correct. The guards must overlap by 1/3 of length minimum with the shaft fully extended.

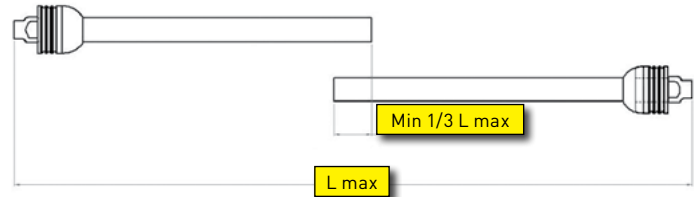


Fig. 9. PTO guard length

- Make sure that the PTO shaft safety holders are properly aligned. Verify that the guards can freely rotate around the shaft; if they cannot, relubricate them properly.
- Secure the guard safety chain.
- See the PTO drive shaft operating instructions for more details on operating the device.



**WARNING!**

Never operate the PTO drive shaft with its guard missing or damaged or without the extra cone guards on the tractor PTO and the machine PIC.

### 3.2.3. CONNECTING THE HYDRAULIC SYSTEM

#### **Connect the hydraulic lines:**

- Connect the pickup lift line with the cut-off valve to the single-action DCV.
- Connect the chamber power lines to the double-action DCV.

#### **Before lifting the pickup:**

- Switch the cut-off valve lever to "OPEN", then lift the pickup (into the transport position).
- With the pickup up, switch the cut-off valve lever to "CLOSED" to close the hydraulic system. The pickup should remain up.

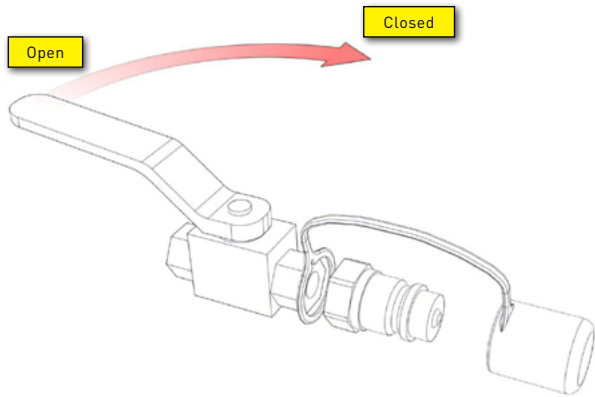


Fig. 10. Cut-off valve.

Do not move the machine with the pickup down and its wheels resting on the ground.

### 3.2.4. CONNECTING THE LIGHTING SYSTEM

Connect the lighting system cables and check that all indicators and lamps work properly.

Always use fuses of correct rating and do not replace the wiring or plugs or sockets with non-genuine parts.

Keep the electrical connector protective caps in the tractor cab. Replace them on the plugs when finished working with the machine.

### 3.2.5. CONNECTING THE CONTROL SYSTEM

The baler electrical system requires a 12 V power supply.

1. Install the control panel "SS" in the tractor cab in a location readily visible to and within the reach of the operator.
2. Connect the power cable "PZ".
3. Connect the control cable "PS".
4. Check that the control panel "SS" powers on.

If the wiring is connected correctly, the control panel will light up and initialize the data.

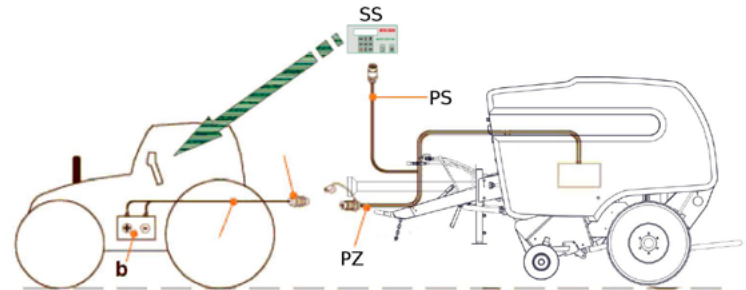


Fig. 11. Connecting the control system.

### 3.2.6. DECOUPLING THE DRIVE

Make sure that there are no bystanders, especially children, in the storage area of the baler.

1. Park the machine for storage on a hard, flat and level ground. Stop the tractor engine, remove the ignition key, and engage the parking brake of the tractor.
2. Disconnect the electric power supply.

3. Disconnect the power hydraulic system.
4. Lower the support foot. Detach the tow bar hitch-ring. Make sure that the machine will not roll away.
5. Decouple and remove the PTO drive shaft. Place the removed PTO drive shaft on its storage support. Secure the PTO drive shaft ends and the tractor PIC ends with protective caps.
6. Cap the hydraulic and electric connectors.

### 3.3. FUNCTIONAL TEST

Once the baler has been coupled with the tractor:

1. Start the tractor without the PTO and check that all baler functions work properly.
2. Check that the hydraulic system is working. Check that the rear gate opens and closes. Lift and lower the pickup (remember to switch the cut-off valve to "OPEN" so that the pickup can be lifted).
3. Check that the control panel electrical connections are OK.
4. Check the electrical system, the indicators and the lamps.
5. Close the baler gate and start the PTO.
6. Make sure that there are no persons or animals nearby before starting the PTO drive shaft. Be extremely careful when checking that all mechanical and drive components work.
7. Open the baler rear chamber and make sure that the chain conveyor is stopped.
8. Close the baler rear chamber and make sure that the chain conveyor restarts.

### 3.4. PREPARING FOR WORK

Make the necessary adjustments to prepare the machine for the intended work.

The baler can work with two bale wrapper types:




- Single or double cord wrapper;
- Cord wrapper.

The cord and net wrappers can be installed at the same time.

#### 3.4.1. LOADING AND OPERATING THE CORD WRAPPER

Use a 500-700 m/kg synthetic cord or a 200-400 m/kg natural fibre cord to assure trouble-free wrapping cycles.

The cord wrapper can also use other cord types.

	Install and thread in the cord with the tractor engine and control panel off.
<b>WARNING!</b>	
	Always mind the wrapping system cutter.
<b>WARNING!</b>	
	Before attempting any work near the wrapping systems, set the safety to "stop" to prevent accidents [see Fig. 12].
<b>WARNING!</b>	

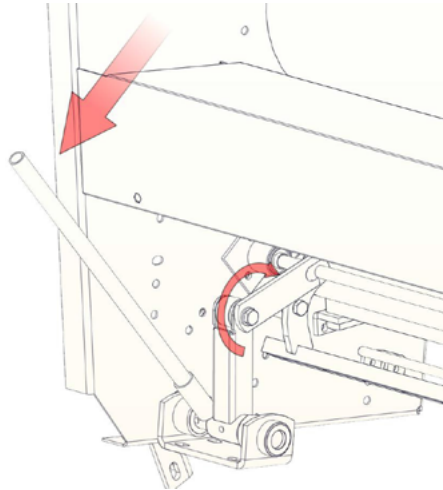


Fig. 12. Net cutter safety.

- Lift the gate and place the cord reels in the chamber.
- Make sure that the home position of the cord guide is exactly as shown in Fig. 13. Otherwise turn the pulley P counter-clockwise to reach the correct position.

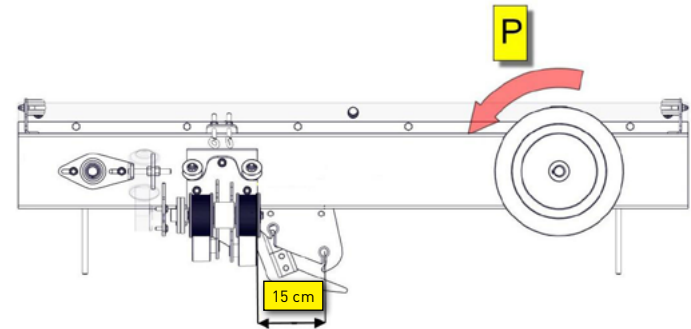


Fig. 13. Cord guide.

- Connect the reel A with the reel B by tying the ends of the respective reels together, and do the same with the reels C and D. Make sure that the knots are very tight and not too big to prevent free movement of the cord.
- Pass the cords through the cord brakes on the left and right-hand sides under the reel storage bins.
- Wind the cord S1 around the pulley P.
- Pass the string between the knurled driving rollers. Leave the cord hanging loose 15-20 cm out of the last eyelet.
- Pass the string S2 between the driving rollers. Leave the cord hanging loose 15-20 cm out of the last eyelet.
- **Only one cord can be used to wrap bales, use the cord S1.**

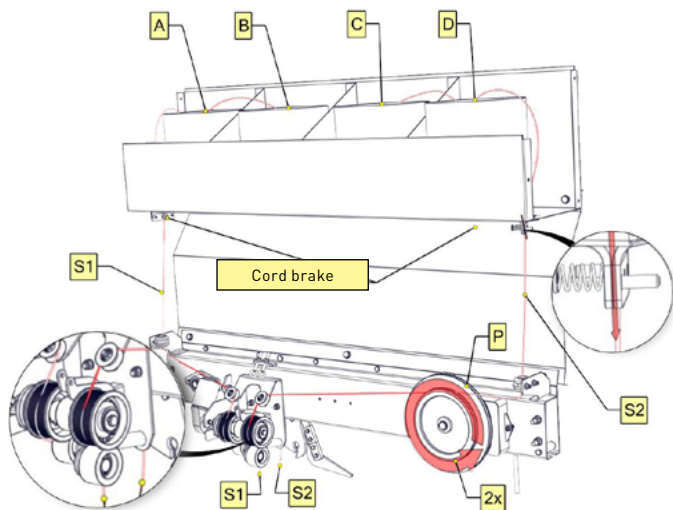





Fig. 14. Installing the cord.

### 3.4.2. LOADING AND OPERATING THE NET WRAPPER

The baler is factory prepared for operation with standard net reels. Use 14-16 g/m net to assure proper performance.

	<p>Install and wind the net with the tractor engine and control panel off.</p>
<b>WARNING!</b>	

	<p>Always mind the wrapping system cutter.</p>
<b>WARNING!</b>	
	<p>Before attempting any work near the wrapping systems, set the safety to STOP to prevent accidents or amputation of hands (see Fig. 15).</p>
<b>WARNING!</b>	

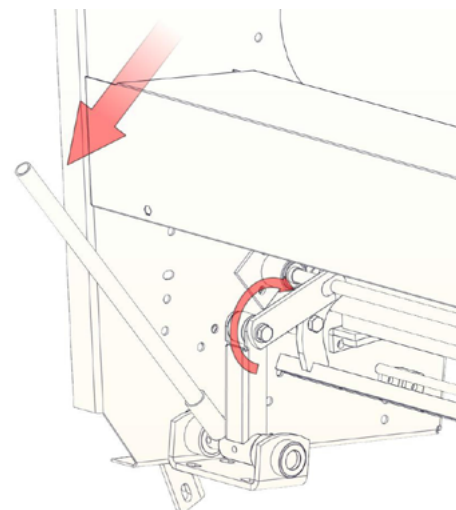


Fig. 15. Net cutter safety.



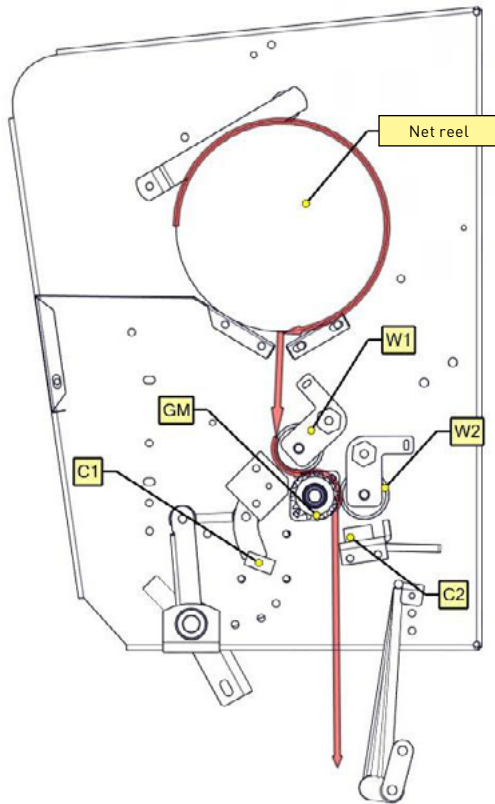


Fig. 16. Installing the net.

- Lift the gate and place the net reel in the chamber.
- Position the net end over the reel wind and pass it between the rubber roller GM and the plain rollers W1 and W2.
- Pass the net between the blade C1 and the counterblade C2, while stretching the net to full width. Leave ca. 20 cm of the net hanging loose from the counterblade C2.

**Start wrapping when the pickup still has some swath.**

### 3.5. OPERATING THE CONTROL PANEL

**The control panel is fastened in the tractor cab with magnets.**  
**The control panel allows operating various baler functions as explained below.**

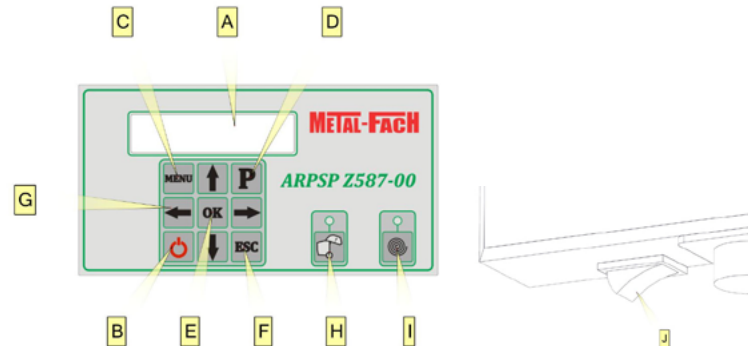


Fig. 17. Control panel.

- A) LCD display: indicates the baler work status and programming.
- B) Control panel on/off switch.
- C) **"MENU"** button: opens the menus:
  - Wrapping medium.
  - Work mode.
  - Compaction ratio.
  - Cord feeding time (adjustable as required).
  - Net feeding time (adjustable as required).
  - Daily counter reset.
- D) **"P"** button: selects the screen item.
- E) **"OK"** button: confirms selection/command.
- F) **"ESC"** button: leaves the menu.
- G) Menu navigation keys.
- H) Chamber Open indicator.
- I) Manual wrap feeding button.
- J) Control panel power switch.

### 3.5.1. TURNING ON THE PANEL

1. Connect the baler electrical wiring plug to the 12 V socket on the tractor.
2. Connect the control panel to the control module.
3. Set the control panel power switch **"J"** from **0** to **I**. The switch is at the panel bottom.
4. If the Chamber Open indicator flashes, the panel is powered.
5. Turn the control panel on by pressing **"B"**.

### 3.5.2. TURNING OFF THE PANEL

1. Press **"B"** again to turn off the panel.
2. Power down the panel by switching **"J"** from **I** to **0**.

### 3.5.3. MAIN SCREEN



Fig. 18. Control panel main screen.

### 3.5.4. MANUAL CONTROL OF THE BALER

Once a bale has been formed, i.e. the required compaction pressure has been reached (as displayed on the control panel), you can start the bale wrapping function in the manual mode (with the button **"I"** on the panel). Press the manual wrapping button and the wrapping medium will be dispensed for 5 s. You can adjust that time for cord and net. When the wrapping is in progress, the control panel displays the wrapping medium in use and the indicator over the button **"I"** is flashing. Once the wrapping has been completed, the display will message "Bale ready".

### 3.5.5. AUTOMATIC CONTROL OF THE BALER

When working in the automatic mode, first set the bale compaction pressure. When the bale is formed, i.e. the preset compaction pressure is reached, the machine will start feeding the wrapping medium, which is indicated by the warning sound, the on-screen message "Cord/net feeding start" and the flashing indicator over the manual wrap feeding button. Then the wrapping process begins, as indicated by the message "Wrapping in progress". The message "Bale ready" indicates that the wrapping process is complete. You can also feed the cord/net manually in the automatic mode.

**When the message "Cord/net feeding start" is displayed, drive 1 to 1.5 m forward and stop.**

### 3.6. BALE ROLLING

#### Operating principle

Form the swath into banks with a width of no more than 1.6 m. The baler collects the material from the field with a hydraulically lifted pickup. The collected material is compacted, rolled in to a cylindrical bale, wrapped with the cord/net and then ejected from the baling chamber as shown in Fig. 19.



Fig. 19. Baling.

#### Functional description

The material picked up is fed to the baling chamber, where the baling chains compact the material and roll it into a compact cylinder. The end of baling is indicated on the control panel and by a warning sound.

Once the wrap has been fed and the tractor stopped (the control panel prompts the driver when to stop driving), the warning sound will end.

The end of the cord/net is fed into the baling chamber with the collected material. When the full bale wrapping cycle is complete, the wrap is cut off, which is indicated on the control panel with the message "Bale ready".

Open the baling chamber, and the wrapped bale will roll out over the collector onto the ground and clear the working baler.



#### NOTICE

Always adapt your driving speed to the collection of swath. The recommended tractor driving speed is 5 - 10 km/h.

Collect the formed banks of swath as shown in Fig. 20. Adapt the straight driving runs to the conditions.

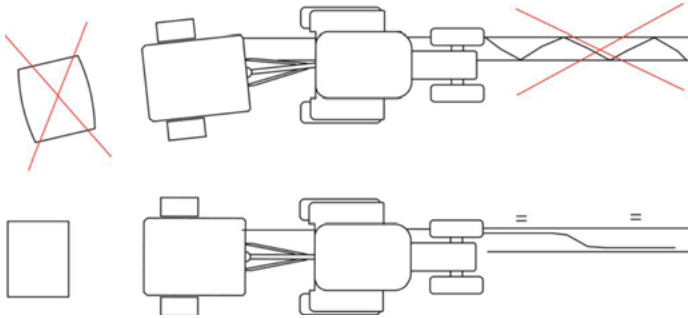


Fig. 20. Collecting the swath.

Mow grass and other papilionaceous plants for silage and wrapping at their initial stages of earing (afternoon mowing is optimum). Leave until the next day and a few hours more to dry a little, then collect with the baler. Set the bale compaction to maximum.

### 3.7. MANUAL SWATH REMOVAL / JAM CLEARING



Do not attempt to clear jams when the machine is running.

#### WARNING!

Before attempting to clear a jam:

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

1. Remove the swath press to clear the material in the machine front.

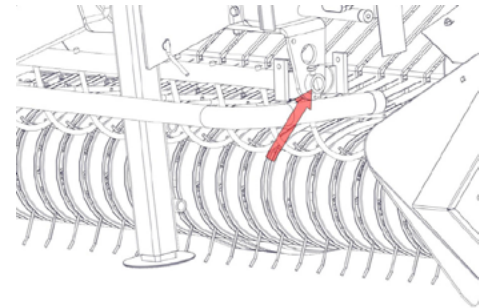


Fig. 21. Removing the swath press.

2. Lift the rear chamber.
3. Lock the lift cylinders with the safety pins.
4. Clear the material from the baling chamber.

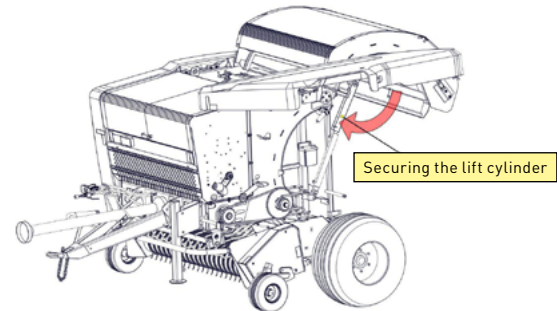


Fig. 22. Securing the lift cylinder.

## 4. FINISHING THE WORK

- When your work is done, disconnect the control panel and secure it against water.
- Park the machine on a hard, flat, level ground. Disconnect the hydraulic power source and the electric power supply.
- Rest the baler on its support foot.
- Detach the tow bar hitch-ring from the tractor transport hitch.
- Decouple the PTO drive shaft and place on a rest. Install the protective caps on the PTO and PIC ends.
- Do not decouple the tractor from the baler with a bale in the chamber.
- Clean and thoroughly inspect the machine, especially the paint coating. If the paint coating needs touching up, use the paint repair kit supplied by the manufacturer.
- Secure all rubber parts, e.g. hydraulic hoses and tyres from direct exposure to sunlight.
- Keep the baler in prolonged storage in a dry sheltered room or under a canopy which protects the machine from weather.

## 5. MAINTENANCE AND ADJUSTMENT



**WARNING!**

Before attempting any maintenance, follow the safety rules in Section 1.5. "General Safety Standards".

Do all maintenance and adjustment tasks with the machine parked and all of its moving components stopped.

If the baler is coupled with the tractor, stop the tractor engine, remove the ignition key and engage the parking brake of the tractor. Remember to turn off the control panel.



**WARNING!**

If you need to do maintenance with the baling chamber open, secure the lift cylinders.

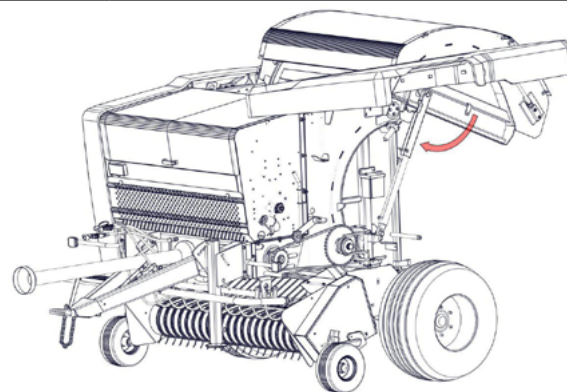


Fig. 23. Lift cylinder safety locks.



Use original spare parts only



**NOTICE**

The original spare parts from Metal Fach are manufactured according to the specific requirements of Metal Fach machines.

Parts from other manufacturers are not inspected or approved by Metal Fach.

Use original Metal Fach spare parts only to avoid risk of hazard.

Table 4. Bolt tightening torque values.

	<b>R=8.8 Nm</b>	<b>R=10.9 Nm</b>	<b>R=12.9 Nm</b>	 mm
M3	1.3	1.8	2.1	6
M4	2.9	4.1	4.9	8
M5	5.7	8.1	9.7	9
M6	9.9	14	17	10
M8	24	34	41	13
M10	48	68	81	17
M12	85	120	145	19
M14	135	190	225	22
M16	210	290	350	24

M18	290	400	480	27
M20	400	570	680	30
M22	550	770	920	32

## 5.1. ADJUSTMENT OF PICKUP WHEELS

The pickup work position can be adjusted. To do this:

- Set the appropriate working height of the pickup by changing the position of the support wheel.
- Use the pin to secure the setting.

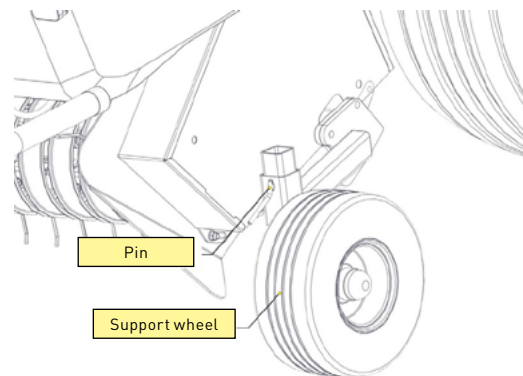


Fig. 24. Pickup working height adjustment.



It is recommended to set the pickup teeth 2-3 cm above the ground level.

**NOTICE**

## 5.2. SWATH PRESS ADJUSTMENT

Check the swath press height against the metal guards (strips) on the pickup.

- Set the press in the bottom "min" hole to collect damp material from small swath.
- Set the press in the top "max" hole to collect dry material from large swath.

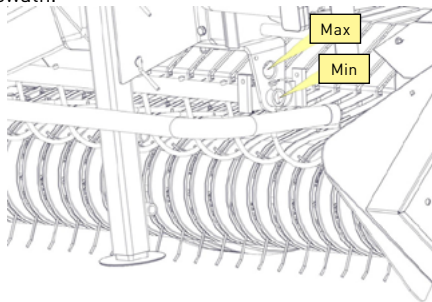


Fig. 25. Adjusting the swath press.

## 5.3. ADJUSTING THE OF THE DRIVE CHAIN TENSION (EVERY 10 OPERATING HOURS)

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

The chain tension value "F" must be 3-5 mm.

You can also determine it with the following formula:

$$F=0.1a$$

a - chain sprocket distance

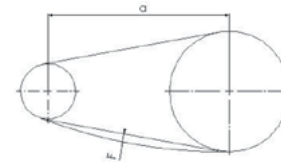


Fig. 26. Chain tension.

### Adjusting the automatic tensioners

The machine chains are automatically tensioned by spring-loaded tensioners. Periodically inspect the chain tensioning and readjust if necessary.

Check and adjust the chain tension:

- Open the left-hand side guard panel.
- Operate the nut to adjust the chain tension.
- Close the left-hand side guard panel.

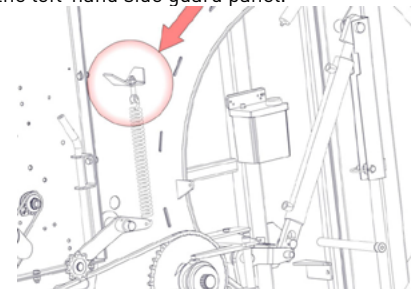


Fig. 27. Adjusting the automatic tensioners.

### Adjusting the manual tensioners

Most combination chains of the machine require manual tension adjustment. Periodically inspect the chain tensioning and readjust if necessary.

Pickup chain tension adjustment (left-hand side):

- Remove the bolts and the pickup left-hand side guard.
- Loosen the bolt 1 and adjust the chain tension by slightly hammering the tensioner down.
- Once the correct tension is set, retighten the bolt 1.
- Loosen the bolt 2 and adjust the other chain tension by turning the cam tensioner.
- Once the correct tension is set, retighten the bolt 2.
- Reinstall and bolt down the guard.

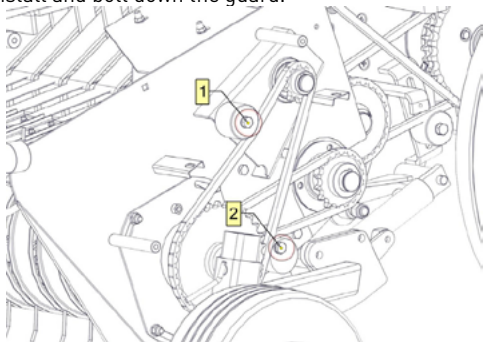


Fig. 28. Chain tension adjustment of the pickup.

**Tension the pickup right-hand chain like on the left-hand side.**

### Chain tensioning on the baler left-hand side

- Remove the baler left-hand bottom guard.
- Loosen the bolt 1, 2 or 3 (depending on the chain to be tensioned).
- Adjust the chain tension by slightly hammering the tensioner to reposition it.
- Once the correct tension is set, retighten the bolt.
- Reinstall and bolt down the guard.

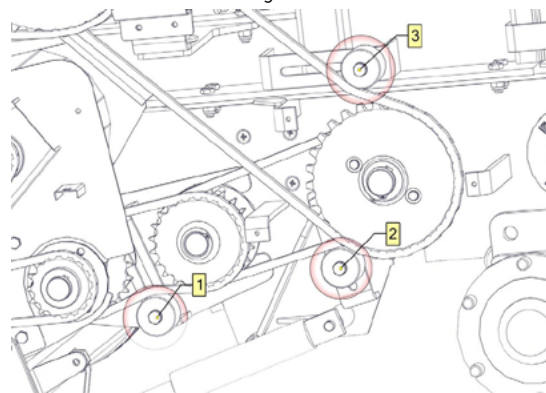


Fig. 29. Chain tensioning on the baler left-hand side.

### Chain tensioning on the baler right-hand side

- Remove the baler right-hand bottom guard.
- Loosen the bolt 1.
- Adjust the chain tension by slightly hammering the tensioner to reposition it.
- Once the correct tension is set, retighten the bolt.
- Reinstall and bolt down the guard.



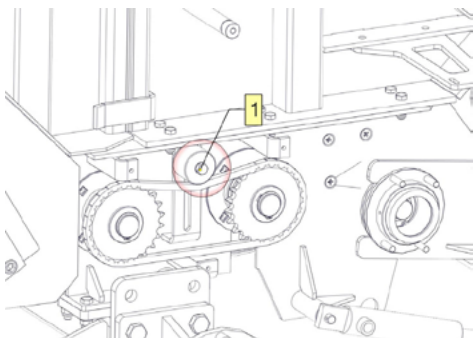


Fig. 30. Chain tensioning on the baler right-hand side.

#### Adjustment of the chain and bar conveyor tensioning



Adjust the tensioning springs of the main conveyor on both sides of the baler.

#### NOTICE

- Open the left/right-hand side guard panel.
- Loosen the lock nut on the nut 1.
- Operate the nut 1 to adjust the chain tension.
- Once the correct tension is set, secure the nut 1.



The tension of the left and right-hand springs must be identical.

#### NOTICE

The distance "A" (from the bottom washer and the console) shall be 225 mm.

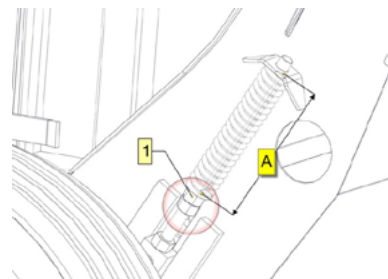


Fig. 31. Adjustment of the chain and bar conveyor tensioning.

#### 5.4. ADJUSTING THE DRIVE CLAW CLUTCH OF THE CHAIN AND BAR CONVEYOR

Check and adjust (as necessary) the alignment of the claw clutch to keep a clearance of 5 mm between the teeth faces (with the clutch disengaged).

Do this by turning the bolt 1, located at the claw clutch engagement lever on the baler right-hand side.

**Adjust when the baler hydraulic system pressure is 40 bar minimum.**

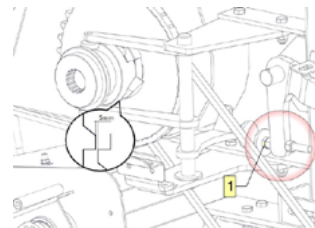


Fig. 32. Adjusting the claw clutch.

### 5.5. PICKUP CAM ADJUSTMENT

Depending on the collected material and work conditions, adjust the pickup cam to prevent the pickup from pulling in the material. Do the following:

1. Remove the bolts and the pickup left-hand side guard.
2. Loosen the 4 bolts on the cam.

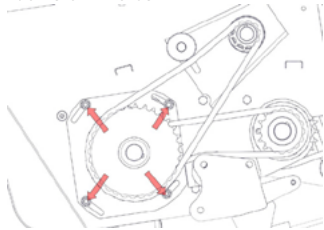


Fig. 33. Pickup cam adjustment.

Adjust the cam position: turning the cam moves the pickupprongs to or from the conveyor.

Turn the cam:

In the direction "A" to move the cam away from the pickup assembly.

In the direction "B" to move the pickup fingers to the pickup assembly.

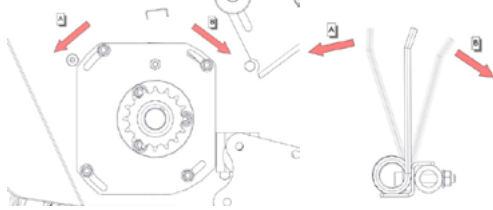


Fig. 34. Pickup cam adjustment.

### 5.6. REPLACEMENT OF THE SAFETY SHEAR BOLT ON THE PICKUP

If the safety bolt on the pickup is shorn, replace it with an identical one, i.e. M6x40-10.9 Allen bolt PN-EN ISO 4762:2006 (non-galvanized, partial thread).

- Remove the baler left-hand side guard.
- Remove the shorn safety bolt and check that no bolt debris are between the drive parts.
- Realign the safety holes together by manually turning the feeding screw, insert the new safety bolt and tighten it.
- Reinstall the guard in place.

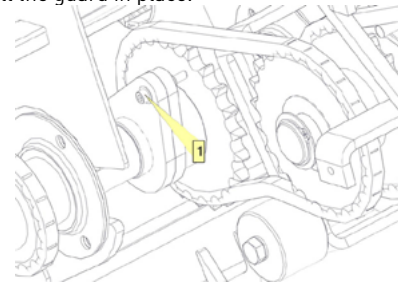


Fig. 35. Replacing the safety shear bolt.

### 5.7. REPLACING THE SAFETY SHEAR BOLT OF THE FEEDER SYSTEM

If the safety bolt on the baling drums is shorn, replace it with an identical one, i.e. M8x35-8.8 PN PN-EN ISO 4018:2011.

- Remove the chain transmission left-hand bottom guard.
- Remove the shorn safety bolt and check that no bolt debris are left in the drive.

- Realign the safety holes together by manually turning the baling drum, insert the new safety bolt and tighten it.
- Reinstall the guard in place.

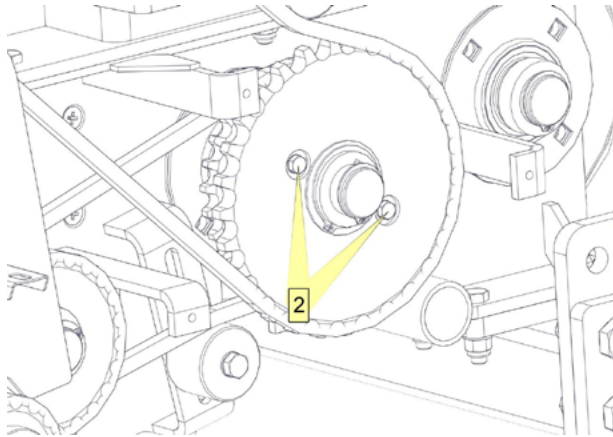


Fig. 36. Replacing the safety share bolt of the baling drums.

### 5.8. SHARPENING THE CORD BLADE

Sharpen the cord cutter after rolling 1000 bales and before every working season. Also sharpen the cutter when the cord is not cut.

**The cutter blade taper must be 30°.**

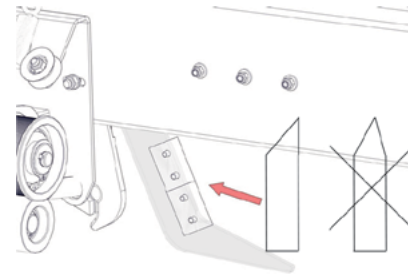


Fig. 37. Sharpening the cutter.

### 5.9. ADJUSTING THE CORD WRAPPER

The bale wrapping wind spacing is adjusted by two brakes on the outer sides of the unit.

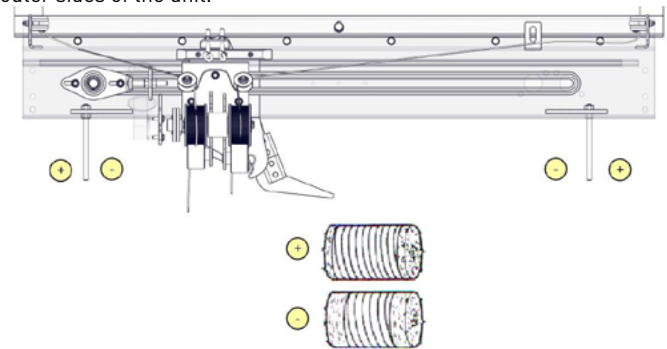


Fig. 38. Adjusting the wrapping spacing.

The cord wrapping spacing is gradually controlled by a two-stage pulley "P":

Wind the cord around the pulley "P" "stage 1" to obtain wider spacing of the wound cord.

Wind the cord around the pulley "P" "stage 2" to obtain denser spacing of the wound cord.

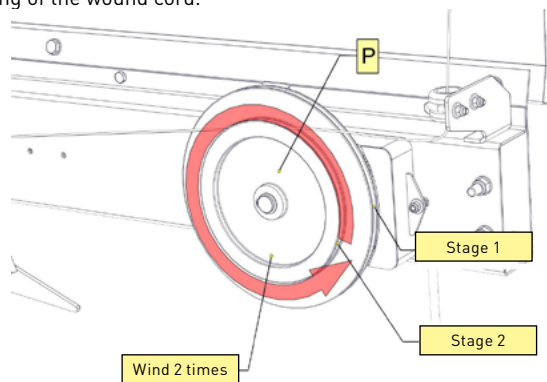


Fig. 39. Adjusting the bale cord wrap spacing.

### 5.10. ADJUSTING THE NET WRAPPER

The net reel cannot unwind itself freely. It needs a slight braking. The brake pressure is adjusted by a spring the tension of which is controlled by placing the T-handle in one of the adjustment slots.

**If the reel braking is too strong, the spreading rollers will not unwind the net.**

To adjust the number of net winds on the bale, open the right-hand side guard and choose the right slot for the number of wind you need.

You can also adjust the spreading roller pressure. This is done by operating the spring-loaded tensioners "M" on the sides:

If the pressure between the rollers is too high, the net will shift to the bale center and will not wrap its entire width.

If the pressure between the rollers is too low, the rollers will not unwind the net.

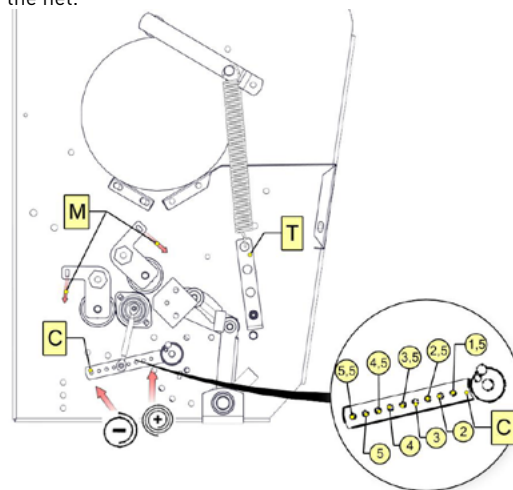


Fig. 40. Adjusting the net wrapper.

## 5.11. GEAR BOX OIL CHANGE (EACH YEAR)



Change the transmission gear box oil after the first 50 hours of operation, then change the oil in the beginning of each working season.

## NOTICE

Do not overfill the gear box with oil. This may overheat the gear box or result in oil spills. Change the oil when warm (i.e. directly after stopping the machine).

**Draining oil:**

- Have a container to catch the used oil.
- Undo and remove the drain plug from the transmission gear box bottom. The plug is accessed via the hole in the front bottom of the beam over the pickup.
- Drain the oil to the container.
- Replace the drain plug when the gear box is empty.

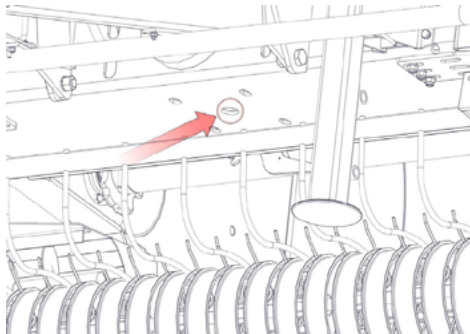


Fig. 41. Drain plug.

**Oil refill (the gear box oil charge is 3 L):**

- Remove the bolts and the safety guard.
- Undo and remove the fill plug from the transmission gear box bottom. Refill with oil.
- Clean and replace the fill plug when the gear box is full.
- Reinstall and bolt down the guard.



Fill with 80 W 90 transmission oil only.

## NOTICE

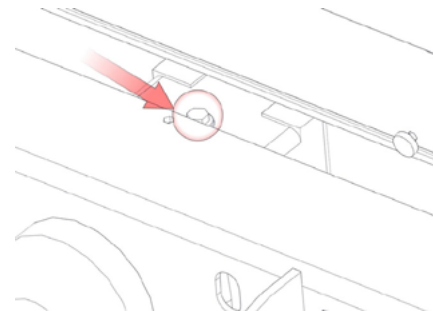


Fig. 41. Refilling the transmission gear box.

## 5.12. LUBRICATION (EVERY 250 BALES)



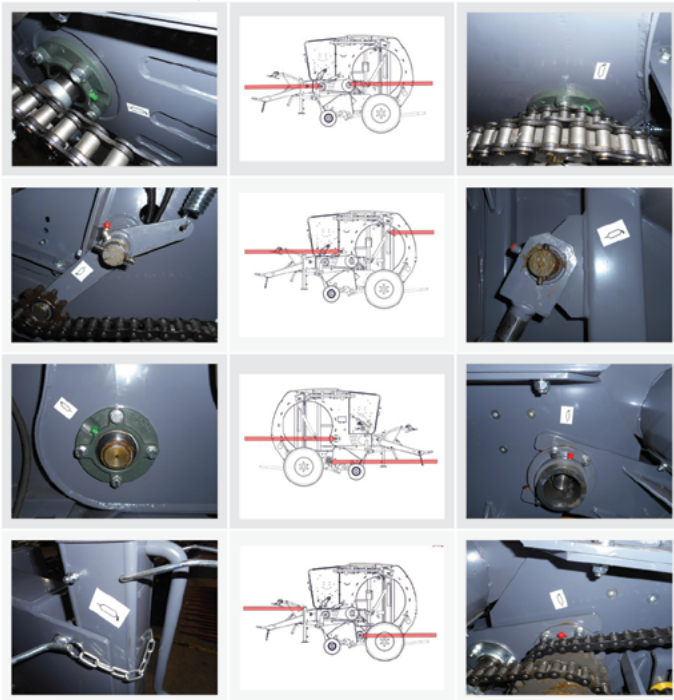
Lubricate at all points below before and after each working season.

## NOTICE

This symbol marks the lubrication points:



Table 5. Lubrication points.



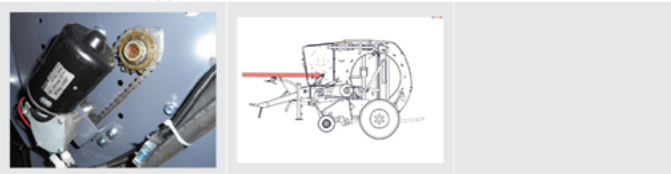
## Manual chain lubrication (every 10 operating hours)

If the automatic chain lubrication system accessory is not equipped, relubricate manually with special chain preservative lubricant grease.

## Net wrapper chain lubrication

The net wrapper chain is not lubricated by the central lubrication system (if equipped). Relubricate by hand as follows: open the left-hand side guard and relubricate the net wrapper chain.

Table 6. Net wrapper chain lubrication.



## 5.13. AUTOMATIC CHAIN LUBRICATION SYSTEM

The baler may be optionally equipped with the automatic chain lubrication system.

The system is actuated each time the rear chamber is closed.

The oil dosage is adjusted by setting the piston "P" on the small pump.

If the oil flow is incorrect, set the distance "D" by changing the small pump piston "P" stroke.

1. Open the left-hand safety guard.
2. Loosen both hex bolts "A".
3. Slide the pump along the slot (to change the distance "D") and increase or reduce the piston "P" stroke as required.
  - Increasing the piston "P" stroke increases the oil volume fed to the automatic chain lubrication circuit.

- Reducing the piston "P" stroke reduces the oil volume fed to the automatic chain lubrication circuit.
  - The maximum piston "P" inward travel is 10 mm.
4. Retighten both bolts "A" and close the guard.

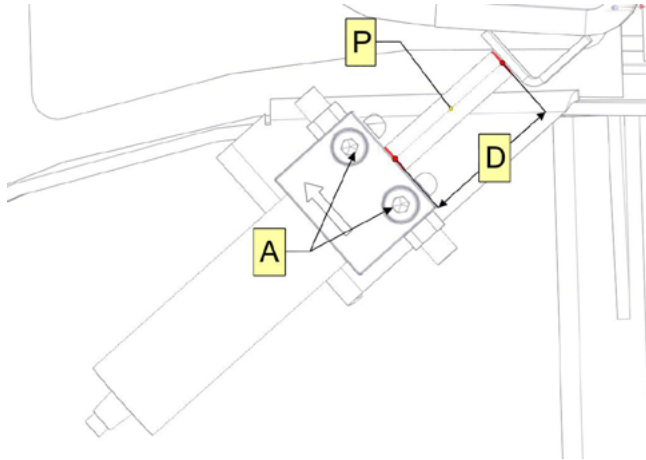


Fig. 45. Adjusting the oil dosage of the automatic lubrication system.

### Lubrication tank

Periodically check and refill the oil level of the automatic chain lubrication system.

1. Open the left-hand safety guard.
  2. Remove the fill plug, add oil and replace the plug.
- The oil tank capacity is **1.5 litres**.

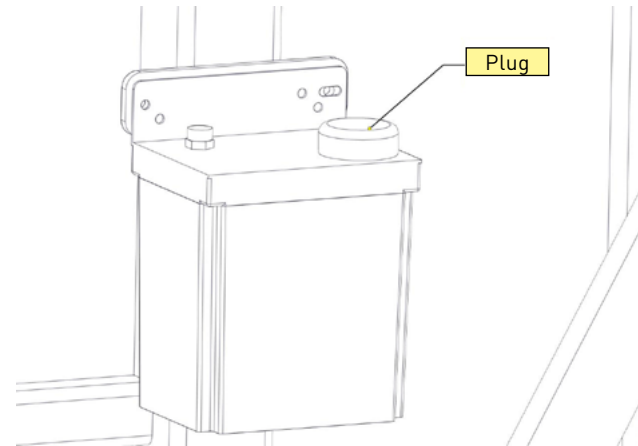


Fig. 46. Oil tank of the automatic chain lubrication system.



### NOTICE

Use biodegradable additive-free mineral motor oil, e.g. SAE 30. Use SAE 90 at elevated temperatures.

### Oil filter replacement (once a year)

Periodically check and change the oil filter of the automatic chain lubrication system.

If change is necessary:

1. Open the left-hand guard.
2. Open both band clips and replace the filter with a new one.
3. Retighten the clamps.



Fig. 47. Oil filter.

### 5.14. TYRE CHECK (EVERY 30 WORK DAYS)

	Have the wheels and tyres repaired by professionals only with the right servicing tools.
<b>NOTICE</b>	

Periodically inspect the tyre pressure and check that it is correct for the tyre size/type in use.

	Periodically inspect the wheel nuts. The tightening torque is 230 Nm.
<b>NOTICE</b>	

## 6. TROUBLESHOOTING

The table below lists the most common problems and faults which may occur during operation of the machine. If the troubleshooting procedure fails to clear a problem, contact the Metal Fach dealership or Authorised Service Centre.

Table 7 - Troubleshooting

Problem	Possible cause	Remedy
<b>PICKUP</b>		
The pickup assembly works while the chain and bar conveyor does not work.	The baling chamber is open. The decoupling assembly adjuster needs readjustment.	Close the rear chamber. Adjust the claw clutch lever bolt. (See Section 5.4)
The pickup fails to lift/lower.	The pickup assembly support joint is not lubricated.	Relubricate the pickup mount.
The chamber inlet opening is clogged.	The collected swath banks are too large or irregular / the working height is too great. The pickup drum collects too much on one end. Too low RPM.	Readjust the drums or reduce the collection speed. Swerve the baler evenly from side to side. Operate at 540 RPM.
The pickupprongs shred the material.	The pickup speed is too high relative to the working speed.	Increase the working speed. Reduce the PTO speed.
The pickupprongs miss a part of the swath.	The pickup speed is too low relative to the working speed.	Reduce the working speed. Increase the PTO speed.
The pickup fails to collect the whole swath.	The swath bank is too wide.	Form a narrower swath.





The pickup fails to collect the swath from level ground.	The pickup is set too high.	Lower the pickup. Readjust the pickup wheels.
The pickup passes the material and stops.	The safety has failed.	Reduce the swath bulk by half. Lift the pickup by readjusting the wheels. Clear the plant material and replace the safety shear bolt.
Insufficient swath collection.	The pickup prongs are worn out or missing.	Replace the prongs.
<b>BALING</b>		
Excessive noise.	Loose or dry chains.	Relubricate the chains or readjust the tensioners.
The bale is deformed or tapered.	The pickup collects too much on one end.	Swerve the baler evenly from side to side.
The chain slips over the sprockets.	Sprockets or chain worn out. Slack chain.	Replace the sprockets or the chain. Retighten slack chains.
<b>WRAPPING</b>		
The cord falls from one end of the bale.	The side cord limiters are too wide apart.	Set the limiters closer to the baler centre.
The cord fails to stay on the bale.	The wrapping starts without the material on the pickup.	Start wrapping with some material on the pickup.
	The cord holder is too tight.	Loosen the cord holder clamp.
The bale pulls the cord, but the cord guiding truck does not move.	The cord slips over the drive pulley.	Try lubricating the truck drive unit mechanism. Increase the winds of cord around the pulley.
The cord is not cut off.	The blade is worn out.	Reverse or replace the cord cutter blades.
		Increase the cord pressure.

The net is not spread well across the bale.	The mesh size is too large.	Use a standard mesh net. Check that the net has been properly installed.
	Incorrect net flow.	Readjust the side spring tensioners.
	Incorrect reel brake performance.	Readjust the side spring tensioners. (See Section 5.10)
Insufficient or excessive pressure between the rollers.		
<b>PTO DRIVE SHAFT</b>		
The safety bolt is shorn.	The bale is too heavy.	Reduce the bale weight.
<b>HYDRAULIC SYSTEM</b>		
The rear gate fails to close.	The rear gate is obstructed by the bale.	Clear the bale.
	The hydraulic line is disconnected from the tractor.	Check and retighten the coupling if necessary.

The hydraulic system does not work.	No power on hydraulic outputs.	Open the hydraulic outputs in the tractor cab.
	The hydraulic lines are not connected in the right order to the hydraulic external connectors on the tractor.	Check and properly retighten the quick-release couplings of the tractor hydraulic system.
	Insufficient oil flow rate.	Check and refill the hydraulic oil level on the tractor.
	The pump is worn out or has failed (low output pressure).	Repair or replace the tractor hydraulic pump.
	The hydraulic circuit is contaminated.	Blow clean and clean the hydraulic oil filters, if necessary.
The oil leaks from the cylinders.	Replace the actuator seals.	
The oil leaks from the hydraulic system.	Check and properly retighten the hydraulic line couplings.	
<b>CONTROL PANEL</b>		
Message "Wrapping error" with sound.	No wrapping medium left (cord / net).	Refill the cord/net bins.
	The bale fails to catch the cord/net.	Start wrapping with some material on the pickup.
The chamber is closed, but the screen messages "Chamber open".	Incorrect sensor distance from the screw.	Set the sensor 2-3 mm away from the screw.
	Incorrect sensor distance from the lever.	Set the sensor 2-3 mm away from the lever.

## 7. BALER SHIPPING

### 7.1. TRANSPORT OF LOADS

 <b>NOTICE</b>	The baler can be shipped by road and rail vehicles with appropriate load bearing capacity.
 <b>WARNING!</b>	Lifting equipment shall be operated by trained and qualified personnel only.

See Fig. 48 for the sling lifting points.

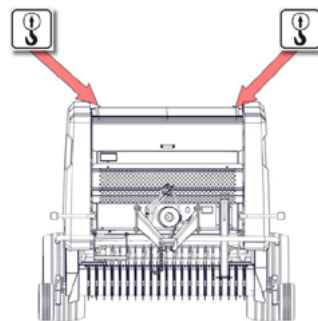


Fig. 48. Sling lifting points.

Do not carry the baler with a bale inside the chamber.  
Secure the baler to the carrier vehicle for the duration of transport.

## 7.2. DRIVING ON PUBLIC ROADS

The baler can be towed on public roads as a machine coupled to a tractor's lower transport hitch.

Tow the machine on public roads with tractors with a minimum rated power of 35 kW and the minimum towing class 0.9 equipped with a lower transport hitch.

Before entering a public road:

- Decouple the PTO drive shaft.
- Disconnect and secure the hydraulic hoses.
- Disconnect the control panel and leave it in the cab.
- Install the Slow-Moving Vehicle warning triangle in the rear holder.
- Check that the lights and signalling devices work.
- Check the tyre pressure.

	Do not carry people on the machine in transit or at work.
<b>WARNING!</b>	

	Do not carry the baler with a bale inside the chamber.
<b>WARNING!</b>	

	When towing the machine on public roads, adapt your driving to the road conditions and traffic and do not exceed 20 km/h.
<b>WARNING!</b>	

	Verify that the tractor is fully steerable before entering a public road. The load on the tractor front axle must be at least 20% of the tractor own weight. Otherwise increase the front axle load.
<b>WARNING!</b>	

Follow the traffic code regulations when travelling on public roads. If you need to stop the tractor on a public road in an emergency with the machine hitched, do the following:

- Stop the vehicle without causing any traffic hazard.
- Park the vehicle parallel to the road and as close to the roadway edge as possible.
- Stop the engine, remove the ignition key, engage the parking brake and chock the baler wheels.
- If parked outside a urban zone, place a warning triangle 30-50 meters behind the vehicle and turn on the emergency lights.
- If parked inside a urban zone, place a warning triangle directly behind the vehicle (if not installed in the machine holder) and turn on the emergency lights. Make sure that the warning triangle is readily visible to other drivers.
- Take proper safety precautions at the site of emergency.

## 8. BALER STORAGE

Keep the baler control panel in a dry room with the cable pins secured against moisture and dirt with the included protective caps.

Park and store the baler on a hard, flat, and level surface.

It is best to keep the machine in a dry sheltered room which protects against exposure to UV light and other harmful exposure.

If stored outdoor, cover the machine with a water-tight tarpaulin or plastic sheet.

When the working season is over, clean the machine and check the condition of the protective paint coating. Have an Authorised Service repair the paint coating if damaged.

Check that the nameplate is clean and legible. If it is damaged, contact an Authorised Service Centre for a replacement.

Check that the warning and safety signs are clean and legible. If damaged or destroyed, replace with new ones.

## 9. RESIDUAL RISK

### 9.1. DESCRIPTION OF RESIDUAL RISKS

Residual risks result from incorrect actions of the baler operator. The greatest hazards occur during the following forbidden actions:

- Coupling with non-compliant tractors.
- Entering or staying under the lifted gate that has not been secured by locks.
- Being on the machine when it is working or in transit.
- Checking and cleaning the machine with the tractor engine and machine drive running.
- Working with the guards open.
- Servicing or repairing the PTO drive shaft with the tractor engine running.
- Re-using a cord wrapped on a bale.
- Using unserviceable hydraulic hoses.
- Controlling the baler from the outside of the tractor cab.
- Controlling the machine when intoxicated.
- Working with the machine damaged or without the guards.
- Carrying a bale inside the chamber.
- Non-intended use of the machine.
- Leaving the machine not secured on slopes.
- Entering or staying between the tractor and the machine when the engine is running.

In the residual risks presentation, the Z587 baler is a machine designed the state of knowledge at the year of manufacture.


### 9.2. RESIDUAL RISK ASSESSMENT

Follow these guidelines:

- Read and fully understand the Operating Manual.
- Keep clear from raised machine components.
- Keep clear from the baler working range.

- Have the machine maintained and repaired at the Authorised Service Stations.
- The machine shall be operated by trained and authorised persons.
- Secure the machine against access by unauthorised persons and children.




Only then can you eliminate the residual risks to people and the environment when operating the machine.

	The risk of accident increases when the rules and hits from the Manufacturers are not followed.
<b>DANGER!</b>	

## 10. DISPOSAL OF THE BALER

The machine shall be stripped and disposed of by the Authorised Service Centres, the personnel of which knows the baler design and operation. These providers have the full and up-to-date knowledge of the baler component materials and the risks of their incorrect transport and storage. The Authorised Service Centres offer consulting and full disposal services.

Use the right tools to dismantle the machine (i.e. jacks, wheel pullers, etc.).

	Store the used oil in sealed vessels. Immediately release the waste to fuel stations which collect used oil.
<b>ENVIRONMENTAL PROTECTION</b>	
	Dismantle the machine. Segregate the parts. Release to proper waste material collection points.
<b>ENVIRONMENTAL PROTECTION</b>	
	Wear proper protective clothing and shoes when dismantling the baler.
<b>NOTICE</b>	

## 11. OPTIONAL ACCESSORIES

The user may purchase the following optional and extra accessories at the Dealerships or directly from the manufacturer:

- Spare Parts Catalogue hard copy
- Central lubrication system
- Paint coating repair kit
- Slow Moving Vehicle warning triangle

## 12. TERMS AND ABBREVIATIONS

**Nameplate** – a plate issued by the manufacturer for unique identification of the machine.

**Symbol/pictogram** – all notice/warning/safety labels.

**OHS** – occupational health and safety.

**Farming hitch, lower transport hitch** – the hitching assemblies of a farming tractor, see the tractor user's manual.

**PTO** – rear power take-off (shaft) – a component of the tractor, see the tractor user's manual.

**PTO drive shaft** – a telescopic joint shaft which transmits torque.

**PIC** – power input connection shaft – a part of the baler.

**UV** – ultraviolet radiation: electromagnetic radiation which is negative to the human eye and harmful to human health and rubber parts.

**Towing power class** – a value of towing power of a given tractor; e.g. class 0.9 is the towing power of 9 kN. This class is typical of e.g. Ursus C 355 and 4011 tractors.

**kW** – kilowatt, a unit of power.

**V** – volt, a unit of electrical current tension.

**kPa** – kilopascal, a unit of pressure.

**kg** – kilogram, a unit of weight.

**m** – meter, a unit of distance.

**mm** – millimetre, an auxiliary unit of distance equal to 0.001 m.

**min** – minute, an auxiliary unit of time equal to 60 seconds.

**rev.** – revolution, a type of motion.

**RPM** – revolutions per minute, a unit of rotational speed.

**km/h** – kilometre per hour, a unit of linear velocity (speed).

**dB (A)** – decibel scale A, a unit of sound power.

### 13. WARRANTY TERMS & CONDITIONS

1. The manufacturer provides the baler designed and built in compliance with the current standards. The manufacturer guarantees that the supplied baler is free of manufacturing (workmanship) defects.
2. Metal-Fach Sp. z o.o. provides 12 months of warranty service for the baler starting from the date of sale, provided the baler is used as intended and the Operating Manual is complied with.
3. The properly filled out Warranty Card and Commissioning Card, both signed by the customer to confirm their acceptance of the Warrant Terms and Conditions, confirm the manufacturer's warranty.
4. The quality warranty covers the machine defects in workmanship, materials, and/or latent defects.
5. The warranty does not cover the assemblies and parts which are subject to normal wear and tear: power hydraulic lines, pickup prongs, tyres, central lubrication system brushes, drive chains, and the cord/net cutter blade.
6. The warranty does not cover any mechanical damage or other damage resulting from improper use, improper maintenance or improper adjustment of the baler.
7. The warranty does not cover any damage resulting from use of contaminated or incorrect oil in the tractor power hydraulic system. The oil purity shall meet the 20/18/15 class according to ISO 4406:1996.
8. The warranty does not cover any damage resulting from improper storage of the machine.
9. Any unauthorised modifications in the design of the machine by the user will automatically terminate the warranty.
10. The manufacturer shall not be liable for any losses, damage or destruction of the product resulting from causes other than defects of the supplied baler.
11. During the warranty period the manufacturer will repair any defects which occurred as a result of the manufacturer's negligence, with the exception of defects listed in items from 5 to 9.
12. Each warranty repair shall be made in 14 working days of the notification/delivery of the baler to the designated Service Centre or at another time agreed upon by the parties.
13. The warranty will be extended by the time required to complete the repair.
14. All repairs which are not covered by the warranty and performed by Authorised Service Centres in the warranty period are made at a full cost payable by the user. Before attempting non-warranty repairs, the Authorised Service will inform the user of the suggested cost, time and scope of the repair.
15. The decision whether to commence a chargeable repair of the baler with the warranty valid at the time of repair is made by the customer.

**NOTICE**

Current information about the products is available at [www.metalfach.com.pl](http://www.metalfach.com.pl)

# METAL-FACH

16 – 100 SOKÓŁKA

UL. KRESOWA 62

## WARRANTY CARD

BALER

Z587

The warranty service is provided on behalf of the Manufacturer by:

*filled out by the Dealer*

Date of manufacture	.....	Date of sale	.....
Serial number	.....	Dealer's signature	.....
Customer's full name	.....		
Address	.....		
	Customer's signature .....		



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SPARE PARTS & SHOP **METAL-FACH®**

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