



METAL-FACH



**BALER
Z562**

**INSTRUCTIONS MANUAL – PART I
TRANSLATION OF THE ORIGINAL INSTRUCTIONS MANUAL,
REV. IV
JULY 2018**

Instructions manual No. Z562-04-167/2013

The symbols used in these instructions.



DANGER

Hazard-warning symbol. This indicates the presence of a serious-hazard condition, which, if not avoided, can result in death or serious injury. The symbol warns against the most-dangerous situations.



WARNING

The symbol pointing to especially important information and recommendations. Non-compliance with the described recommendations poses a serious threat of damage to the machine due to its incorrect operation.



WARNING

The symbol indicating the possibility of the presence of a hazard which, if not avoided, can result in death or serious injury. This symbol indicates a lower level of risk of injury than the symbol including the word "DANGER".



The symbol indicating useful information.



The symbol indicating service operations which should be performed periodically.

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3.5 Control-Panel Operation

The control panel is fixed in the tractor cab by means of magnetic components. It allows access to various features of the baler, described below.

The control panel has features suitable for the version of the machine and the market on which it was purchased. The control panel of the baler comes with the options of twine or net-binding. It facilitates configuring the applicator and the hydraulic manifold functioning. The signalling fields of the counter indicate any overloading of the chamber and opening of the chamber, as well as applicator action, work of the net-binding unit, and hydraulic manifold action.



WARNING

WARNING!

Pressing the touch screen keys with your nails or sharp or hard objects is forbidden. Risk of permanent damage to the keyboard.



Figure 19. Control panel

Description of control-panel push buttons



Switch – press and hold to activate the counter. Press once again to switch the counter off.



Applicator – switch on/off the applicator. Press the key to switch the applicator on. Press once again to switch the applicator off. The green indicator lamp means that the applicator is running.



Binding – switch on/off the binding. Press and hold the key to activate the unit. Release the key to switch the bale-binding unit off. The green indicator lamp means that the bale-binding unit is running.



Hydraulic manifold – press the key to switch on the hydraulic manifold. After the pre-set delay time, the manifold is activated automatically. Press the key again before the pre-set delay time has passed to deactivate the manifold action. The green indicator lamp means that the hydraulic manifold is running.



Deleting – press and hold the key to delete the workday counter data.

Description of the signalling fields



The red indicator lamp means that the chamber is overloaded.



The yellow indicator lamp means that the chamber has been opened.

3.5.1 Switching on the panel

Connect the counter mounted in the operator's cab to the baling press by means of the D-SUB 9-pin coupling. Do not use excessive force to plug in. Secure the correctly connected plug from accidental disconnection by tightening the retaining bolts located on both sides of the plug. Correct connection is confirmed by a flashing red dot on the display. After the “On/Off” switch (“*Włącznik*”) key has been pressed, the control panel does a display test and checks the supply voltage. The counter display shows “8.8.8.8.”, all the indicator lamps light up, and the acoustic signal can be heard. Then, the message “U12.2” is displayed which gives the voltage of the counter-supply system (it means the voltage of 12.2V).

Any other figure shown by the counter means that it is faulty. Too low a voltage is indicated by the counter displaying “Err1” alternately with the voltage value, e.g. “U8.5” (it means a voltage of 8.5V). The counter indicates an unacceptably high voltage with an “Err2” message, displayed alternately with the voltage value “U18.5” (it means a voltage of 18.5V).

3.5.2 Switching Off The Panel

Switch the counter by pressing the “On/Off” switch (*Włącznik*). The display shows a flashing red dot “8.8.8.8.” After this message, you can disconnect the counter supply.

To disconnect the plug, loosen the locking bolts (on both sides of the plug) and pull the plug (not the cord) to disconnect.

3.5.3 Selecting The Bale-Binding Option

The option of baler operation (twine or net-binding) is selected after you have disconnected the counter, when the display shows a flashing red dot “8.8.8.8.” (Section 3.5 2). Next, simultaneously press and hold the “Binding” and “On/Off” keys. The following operational options are displayed.

- “OP-1” – twine-binding (the “Binding” key is disabled). The counter generates an intermittent acoustic signal, and the “Binding” button green indicator lamp is on.
- “OP-2” - net-binding. Press and hold “Binding” to start the work of the net-binding unit. Release the key to stop the work of the unit. The control panel displays “0”, or the latest message.

Press “Applicator” or “Manifold” to select the option. Hit “Binding” to confirm the selection. The control panel enters the selected work mode in the disabled condition (the red dot is flashing “8.8.8.8.”).

3.5.4 Delay-Time Change

Set the delay time after the counter is switched off, when the red flashing dot “8.8.8.8.” is lit continuously. Simultaneously, press and hold the “Hydraulic manifold” and “On/Off” keys. The display shows a message about the delay time for the hydraulic manifold, e.g. “t1.30”, which means the delay time T1 is 30 seconds. The range of the delay time of the hydraulic manifold is between 5 and 99 seconds. Press “Applicator” (-) or “Manifold” (+) to change the delay time. Press “Binding” to confirm. The control panel enters the selected work mode in the disabled condition (the red dot is flashing “8.8.8.8.”).

3.5.5 Resetting

Reset the option of the baler operation after the counter is off, when the display shows

a flashing red dot “8.8.8.8.” Simultaneously, press and hold “*Deleting*” (red flashing dots “8.8.8.8.” are displayed) and “*On/Off*” keys. The following message is displayed “dEFA”. After releasing the keys, the control panel is reset, it enters the work mode in the disabled condition, and the display shows a flashing red dot “8.8.8.8.”

3.5.6 Zeroing The Workday Counter

Press and hold “*Deleting*” to zero the workday counter.

The key must be kept held down until the “0” digit is displayed.

3.6 Hydraulic Installation



WARNING

WARNING!

Ensure the full working order of the hydraulic system. The fluid which works under high pressure heats up to a temperature which poses a threat to health.



WARNING

WARNING!

Ensure the fluid purity in the tractor-power hydraulic system. The purity of the fluid must be compliant with condition 20/18/15 of ISO 4406-1996.



WARNING

WARNING!

Worn or defective hoses in the power hydraulics must be replaced with new ones.



WARNING

WARNING!

For replacements it is recommended to use original spare parts that will assure maintaining the baler in full efficiency for a long time of its operation.

3.6.1 The Standard Hydraulic System

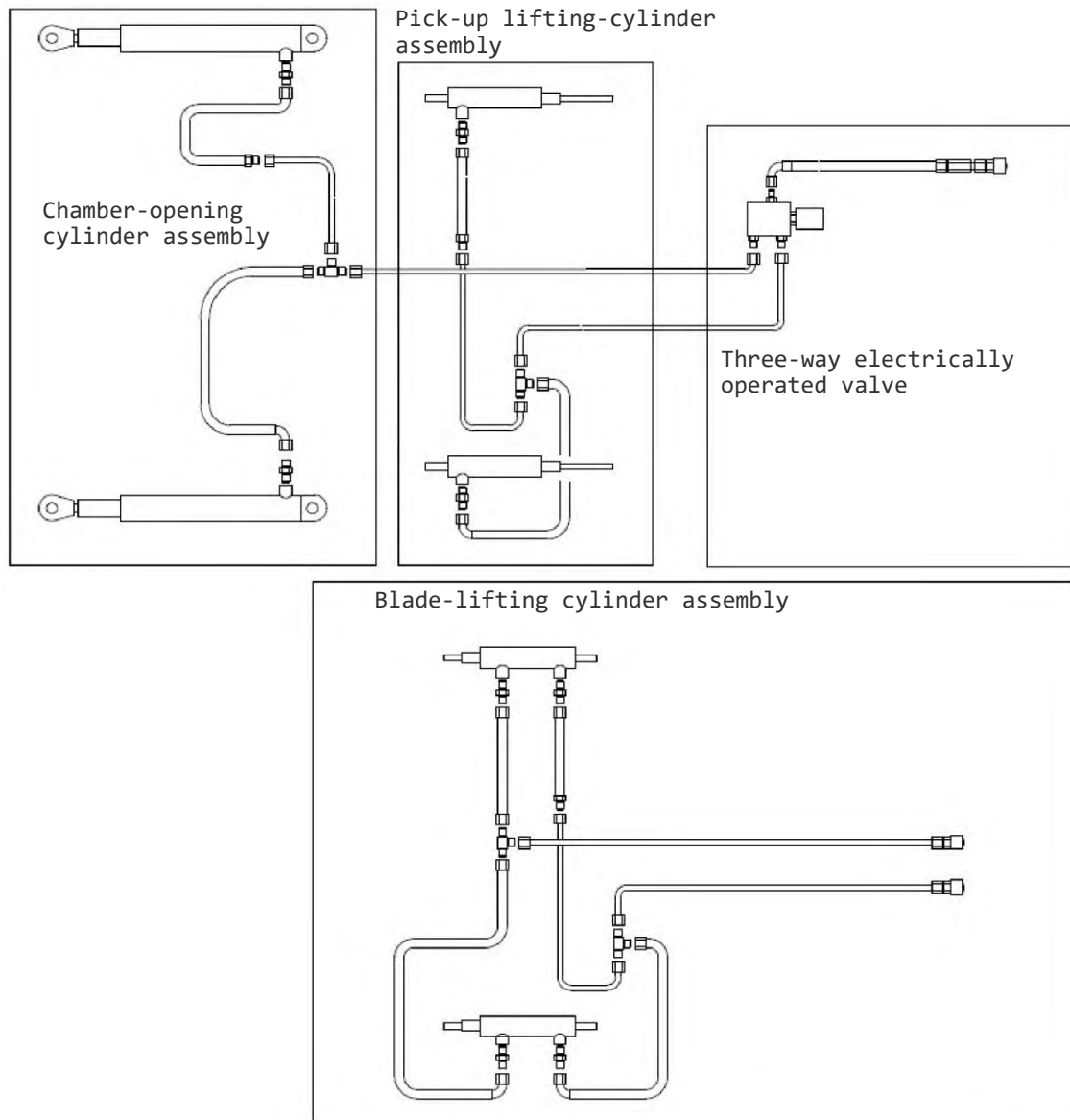


Figure 20. Diagram of the standard hydraulic system

The baling-press hydraulic system is supplied from the hydraulic system of the tractor. Connect the opening/closing of the rear cover and the raising/lowering of the pick-up to the tractor power hydraulic system by means of a connection line supplying the three-way valve and, further, the chamber opening actuators and the lowering and lifting pick-up actuators, as shown in Figure 21.

Connect the lifting/lowering of the cutter unit blades (optional accessory) to the power hydraulic system by means of the connection lines, as shown in Figure 21. A dual-section external hydraulic system of the tractor is required for this system to work.

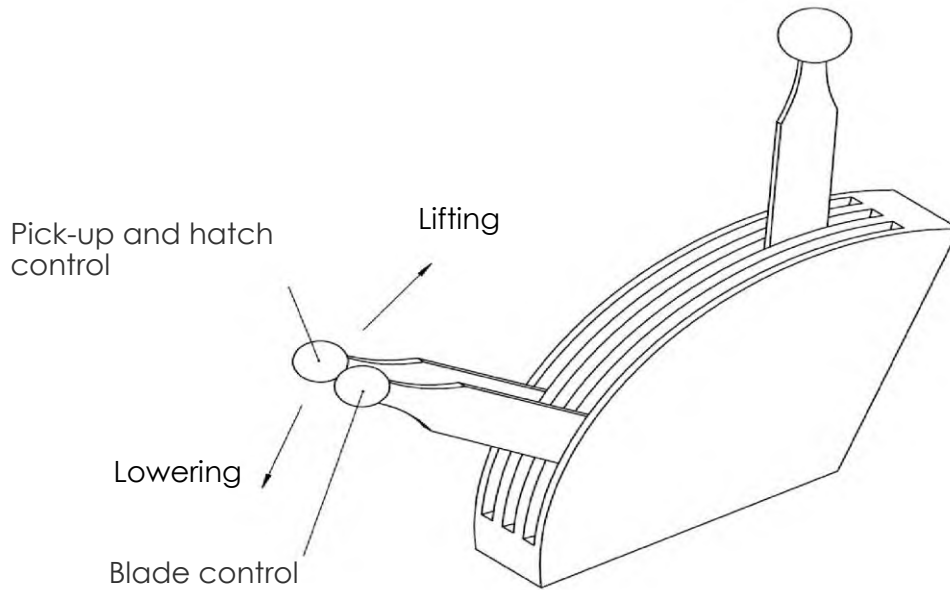


Figure 21. Control lever

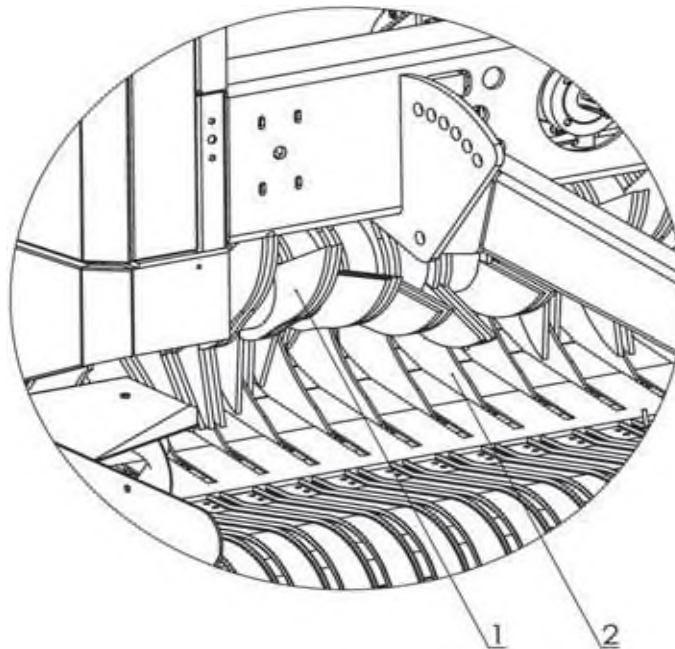


Figure 22. Cutter unit

3.6.2 The Optional Hydraulic System

The baling press hydraulic system is supplied from the single-circuit power hydraulic system of the tractor.

Connect the opening/closing of the rear cover and the raising/lowering of the pick-up to the tractor power hydraulic system by means of the connection line. Controlling the actuators of raising and lowering the pick-up is effected by the hydraulic control system located in the tractor cab. Install the control lever for the baler hydraulics in the cab next to the operator's seat.

Set the control lever for the baler hydraulics in the position of the baler pick-up/rear cover control to carry out the check of the hydraulic system. After setting the baler hydraulics-control lever in the chosen position of the tractor hydraulics control lever, check the operation functions (lifting and lowering) of the pick-up and cover of the rear rolling press.

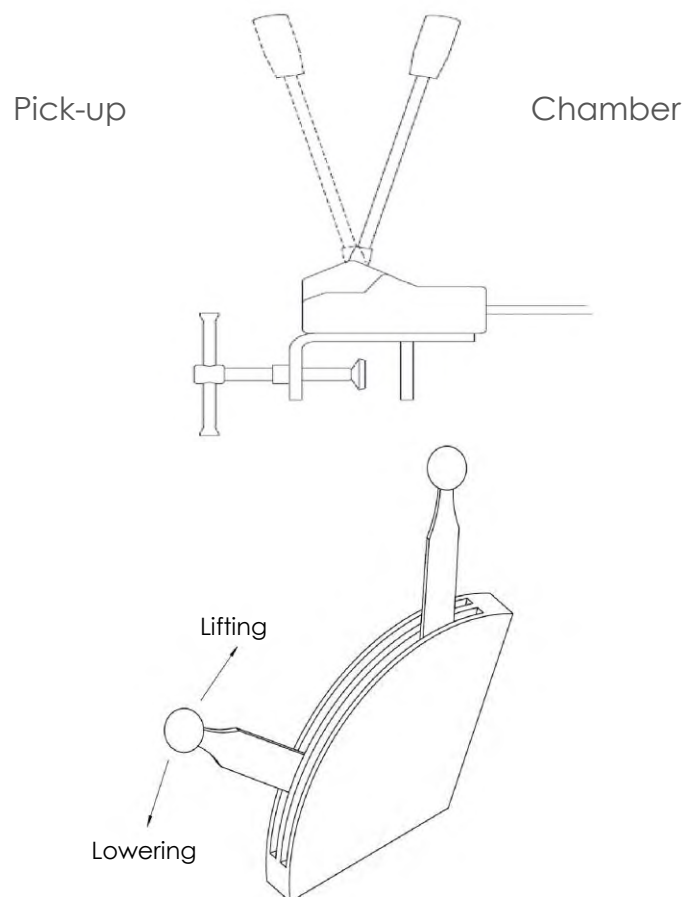


Figure 23. Controlling the baler hydraulics

3.7 The Electrical System

The baling-press electrical system is supplied from the electrical system of the tractor. Connect the baler to the tractor electrical system circuit by means of the 7-pin connection cord, as shown in Figure 24.

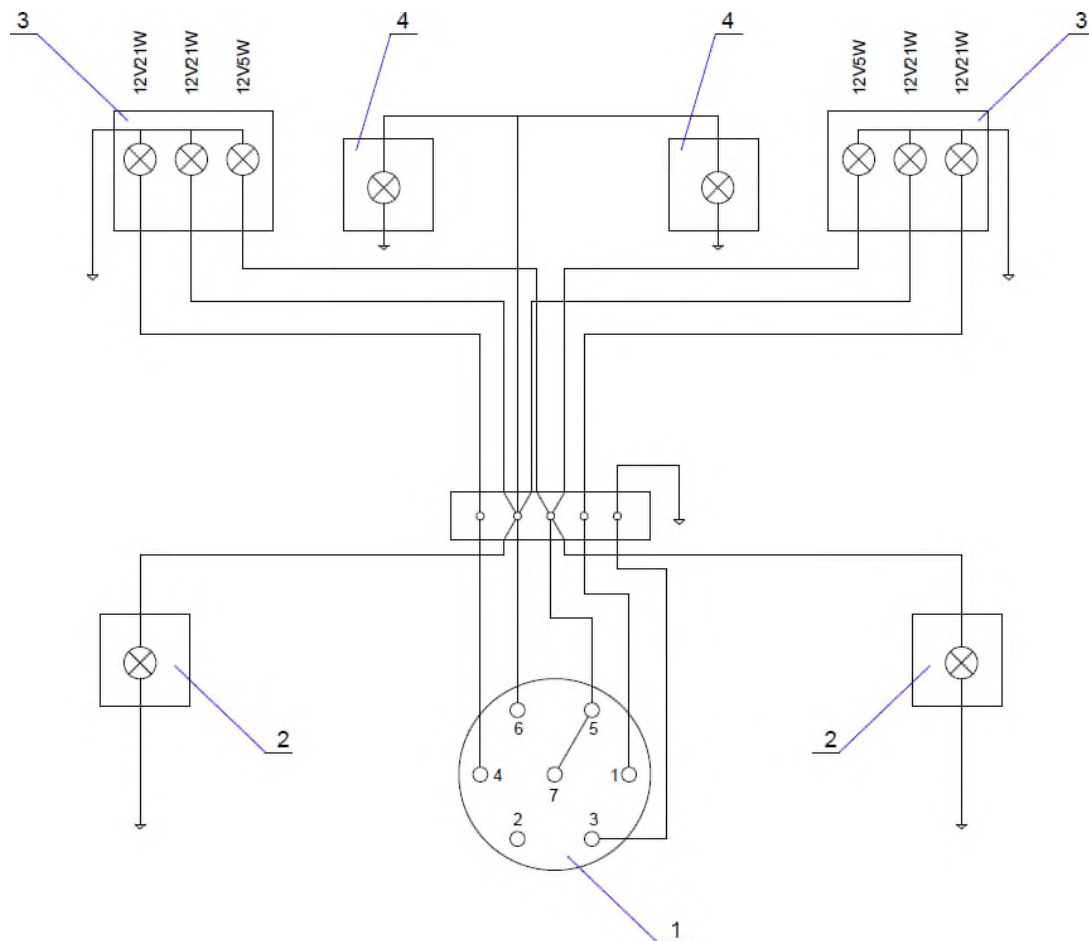


Figure 24. Wiring diagram (1 - Connection plug, 2 - Front lamp, 3 - Rear lamp, 4 – Registration-plate lamp)



WARNING

WARNING!

Check the functioning of the electrical system and lighting each time before you drive the baler on public roads.

3.8 Windrow Collection

3.8.1 The Principles Of Operation

The baler collects the material from the fields by means of a hydraulically raised pick-up. The picked-up material is pressed and rolled into cylindrical rolls, and then it is bound with twine or net, and finally tossed out of the rolling chamber, as shown in the Figure below.

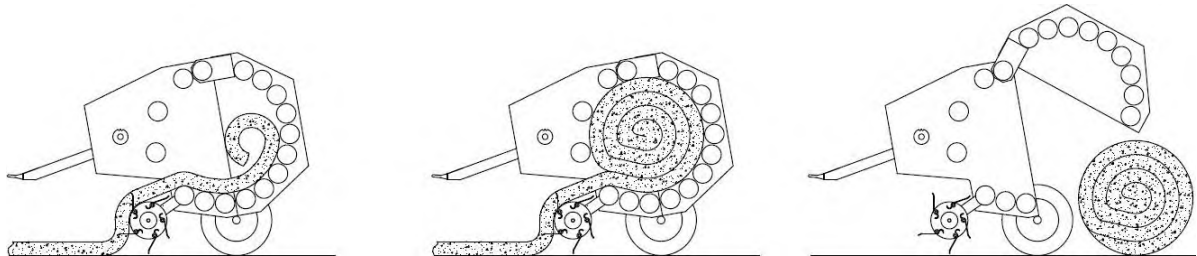


Figure 25. Forming bales

3.8.2 Operations Description

The picked-up material is fed into the rolling chamber, where the rolling rollers move to compact and roll it into a pressed roll. The ending of the rolling action is signalled by the compaction-degree indicator A (Section 4.6.) reaching the lower position of the yellow field and generating the acoustic signal.

When the acoustic signal is off, the bale is bound with a twine (twine-binding is automatic. Net binding requires control-panel use). At that moment you must stop the tractor (do not switch the engine off) without pausing the PTOff operation. The end of the twine is gripped between the revolving bale and the revolving press roller. The bale twine-binding indicator B moves towards the belt wheel (sequence 1 in Figure 26), and then it moves to the end position on the opposite side (sequence 2) and it returns to the original position (sequence 3).

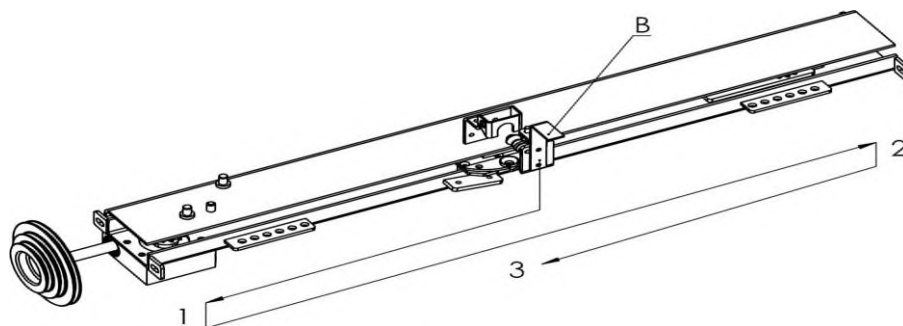


Figure 26. The bale twine-binding indicator

Throughout that time, the engine maintains the press devices in motion through the rear PTOff. After the indicator B has returned to the home position, open the rolling chamber. The control panel indicates the press cover opening by lighting the pictogram of the press cover's lifting. The rolled bale rolls out to the ground along the collector and facilitates the cover's closing and resuming the crop collection and swathe rolling.

After approximately four seconds from the closing of the chamber cover, release the control lever of the tractor's hydraulic manifold to allow the correct clamping of the mechanical locks protecting the chamber from unauthorised opening.



The recommended driving speed for the tractor is up to 10 km/h.

Prior to harvesting, the material must be properly prepared by raking. Subsequently, form the windrows into strips not wider than 1.1 m in width. Collect the shaped windrow strips as shown in the following diagram. Adjust the length of the straight sections to the particular conditions. To prevent clogging the baler, the width and height of the windrows should be equal throughout their lengths. Slow down at wider windrow sections.

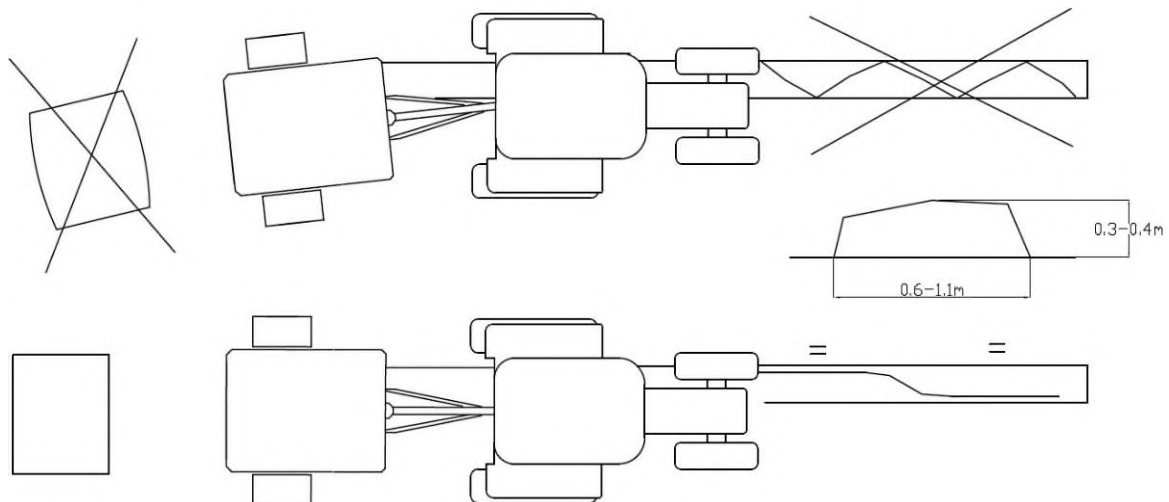


Figure 27. Windrow collection

Mow grass and other papilionaceae intended for ensilaging and wrapping in the first phase of earing (preferably in the afternoon). Next day, after a few hours of drying, gather the mowed material with the use of balers. Keep the highest-possible bale-compaction degree.

3.8.3 Straw Collection

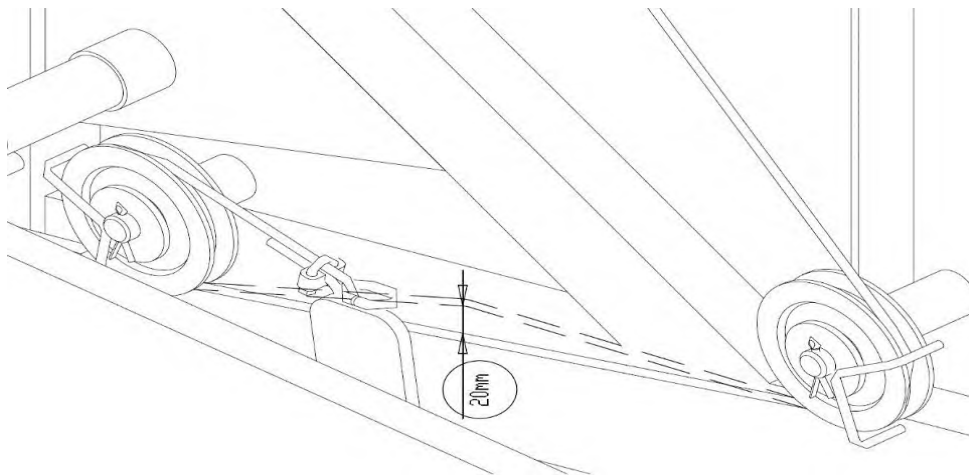


Figure 28. Straw collection - machine preparation

Prepare the machine for straw collection by doing the following.

- Run the cord through holes 4 or 5 of the lever (Figure 38)
- The manufacturer's recommended maximum cord tension should be 20 mm, as shown in Figure 28
- Install the drawbar by means of adjusting hole No. 2 (Section 3.2.1.); as standard, hole No. 3 is used
- Dismantle the clamp, unit 14 (Figure 4).

3.9 Removing The Accumulated Material

During material pick-up, it is possible that it will accumulate on the pick-up and rotor or collector. Clogging is the result of improperly adjusting the speed to the harvest conditions, and improperly formed windrow.



DANGER

DANGER!

Removing accumulated material during the machine operation is forbidden.



DANGER

DANGER!

Use special care during the removal of the accumulated material, as the rotor zone is dangerous due to sharp blades.

3.9.1 Removing the Accumulated Material

To remove the material accumulated on the pick-up, carry out the following.

- Switch off the control panel
- Stop the tractor, remove the ignition keys, and wait until all the moving components of the machine come to a complete stop
- Remove the clamp for the cut material, located over the pick-up and collector, to remove the material in the front section
- Manually remove the accumulated material
- Reinstall the clamp for the cut material.

3.9.2 Removing the Accumulated Material on The Rotor

To remove the material accumulated on the rotor, carry out the following.

- Stop the tractor, remove the ignition keys and wait until all the moving components of the machine come to a complete stop
- Check the bolt protections on the rotor, as per Section 4.5
- Remove the clamp for the cut material, located over the pick-up, to remove the material in the front section
- Manually remove the accumulated material
- Reinstall the clamp for the cut material.

3.10 Ending Operations

Always after you finish work, carry out the following.

- Disable the counter and protect it from moisture
- Store the baler on flat, level, and paved surface
- Disconnect the hydraulic system and electric-circuit supplies
- Prop up the baler with the use of the support foot
- Disconnect the machine drawbar from the transport hitch of the tractor
- Disable the PTO shaft and leave it on the support. Install the caps on the PTOff and PTOOn terminals
- Disconnecting the baler from the tractor with the bale in the rolling chamber is forbidden.
- Ensure the machine is cleaned and thoroughly inspected, paying attention to the quality of the protective paint coating, and repairing it as required.
- Protect the rubber components, such as hydraulic hoses and baler tyres, from exposure to sunlight.

During longer stoppage periods, the manufacturer recommends storing the baler in a dry room or under roofing, which protects the baler from the effects of weather conditions.

4 Maintenance and Adjustment

Before you commence any maintenance work, follow the safety rules set out in Section 1.6 “General safety principles”.



DANGER

DANGER!

All activities related to maintenance and adjustment must be carried out during machine stoppage and when all the moving parts of the machine have stopped.

If the baler is connected to the tractor, apply the manual brake, disable the engine, and remove the ignition key. Remember to switch off the control panel too.

During maintenance work, when the chamber is open, use the locks to secure the actuators.

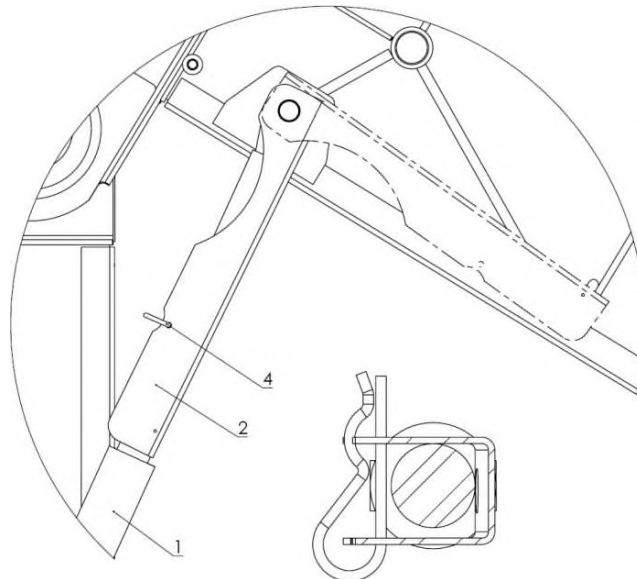


Figure 29. Locks for securing the actuators

Secure the raised baler cover in its upper position, as shown in Figure 29. On both sides of the baler, use clamps (2) fixed to the upper pins of the hydraulic cylinders (1) to secure them. Move the clamps (2) fully upwards so that they engage with the stretched cylinder rods. Lock them with locking pins (4) against unauthorised cover closing. Unlock the clamps of the cover after completing the planned activities.



WARNING

WARNING!

Use original spare parts only.

Original spare parts by Metal-Fach are made to match the specific needs of the devices produced by Metal Fach.

Parts from other manufacturers are not inspected or approved by Metal-Fach. To avoid risk, use original spare parts by Metal-Fach only.

Table 4 Tightening torque values for bolts

Bolt-tightening torques - metrical bolts in Nm							
Size Ø mm	Pitch mm	Bolt version - strength classes					Wheel nuts, wheel bolts
		4.8	5.8	8.8	10.9	12.9	
3	0.50	0.9	1.1	1.8	2.6	3.0	
4	0.70	1.6	2.0	3.1	4.5	5.3	
5	0.80	3.2	4.0	6.1	8.9	10.4	
6	1.00	5.5	6.8	10.4	15.3	17.9	
7	1.00	9.3	11.5	17.2	25	30	
8	1.25	13.6	16.8	25	37	44	
8	1.00	14.5	18	27	40	47	
10	1.50	26.6	33	50	73	86	45
10	1.25	28	35	53	78	91	
12	1.75	46	56	86	127	148	
12	1.50						80
12	1.25	50	62	95	139	163	
14	2.00	73	90	137	201	235	
14	1.50	79	96	150	220	257	140
16	2.00	113	141	214	314	369	
16	1.50	121	150	229	336	393	220
18	2.50	157	194	306	435	509	
18	1.50	178	220	345	491	575	300
20	2.50	222	275	432	615	719	
20	1.50	248	307	482	687	804	400
22	2.50	305	376	502	843	987	
22	2.00						450
22	1.50	337	416	654	932	1090	500
24	3.00	383	474	744	1080	1240	
24	2.00	420	519	814	1160	1360	
24	1.50						550
27	3.00	568	703	100	1570	1840	
27	2.00	615	760	1200	1700	1990	
30	3.50	772	995	1500	2130	2500	
30	2.00	850	1060	1670	2370	2380	

4.5 Pick-Up-Wheels Adjustment

The working position of the pick-up can be adjusted. Procedure.

- Set the proper height of the pick-up operation by changing the support-wheel setting
- Use the cotter pin to lock the setting



The manufacturer recommends setting the tines of the pick-up at a height of 2-3 cm over surface.

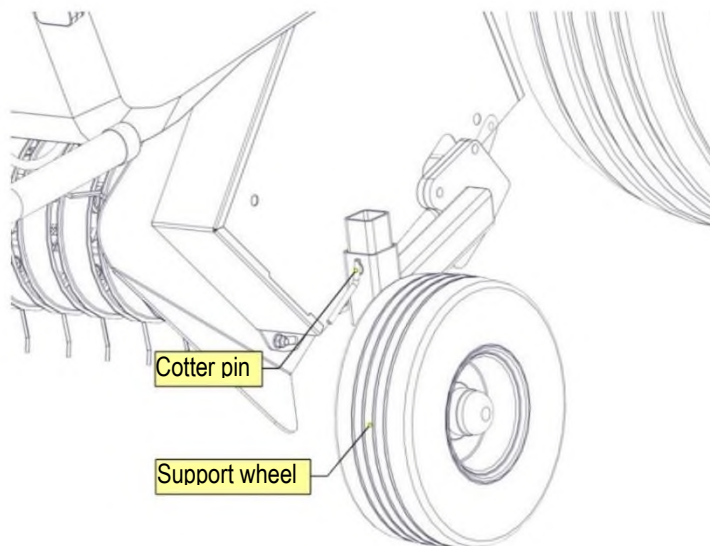


Figure 30. Adjusting working height of the pick-up

4.6 Adjusting The Drive-Chain Tensioning (Every 10 Hrs Of Work)

Check the chain tension at regular intervals. The tension value of the chain “F” must be within 3-5 mm. It can also be determined using the following formula

$$F=0.1a$$

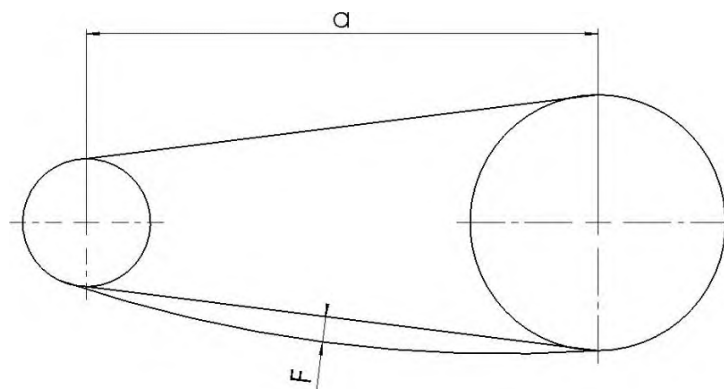


Figure 31. Chain tension

The drive-unit diagram is shown in figure 32. The chains used for the drive are marked with items 1, 2 and 3. Carry out the adjustment of the chain tension with tensioners (4) or adjusting bolts with the spring (5), respectively.

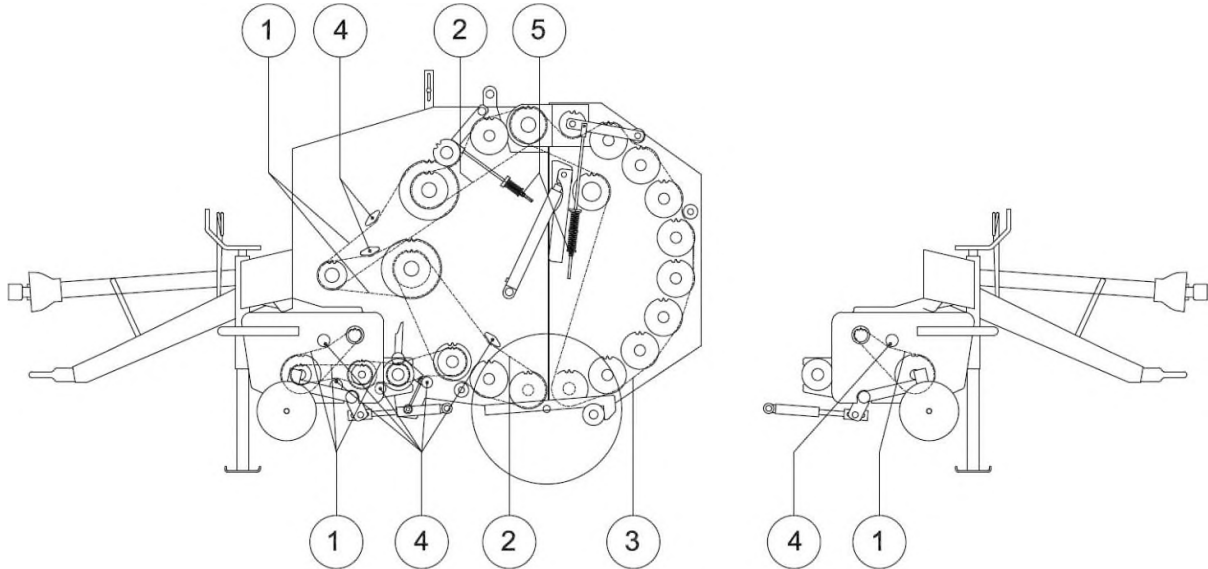


Figure 32. The drive unit

4.6.1. Adjusting The Pick-Up Chain Tension Of The Baler To The Feeding Roller

Pay special attention to the pick-up chain tension of the baler with the feeding roller. Using the tensioner, maintain as high a pick-up-drive chain tension as possible.

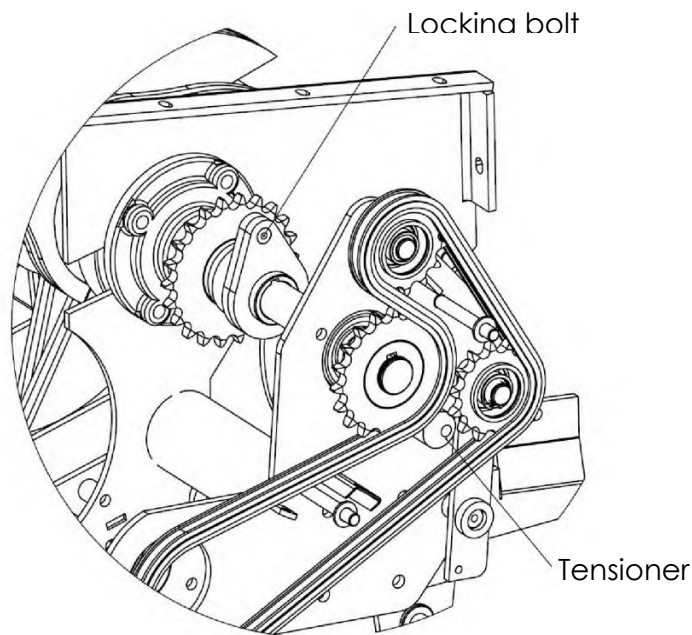


Figure 33. The drive chain of the pick-up

4.7 Pick-Up Cam Adjustment

Depending on the type of collected material and working conditions, adjust the cam so that it does not pull the material. Procedure.

- Loosen the bolts and remove the guard from the left side of the pick-up
- Loosen 4 nuts which hold the cam

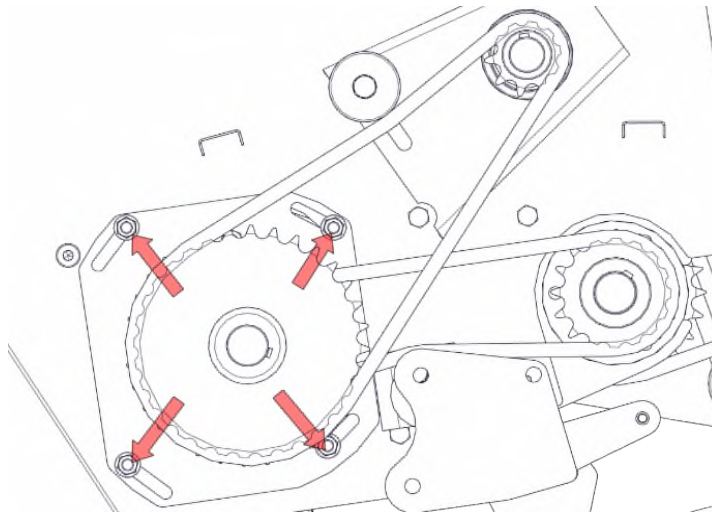


Figure 34. Pick-up cam adjustment

- Adjust the cam position turn it to move the pick-up tine closer to or further from the transmission device. Rotate the cam
 - in direction “A” – to move the pick-up tine further from the pick-up unit
 - in direction “B” – to move the pick-up tine closer to the pick-up unit

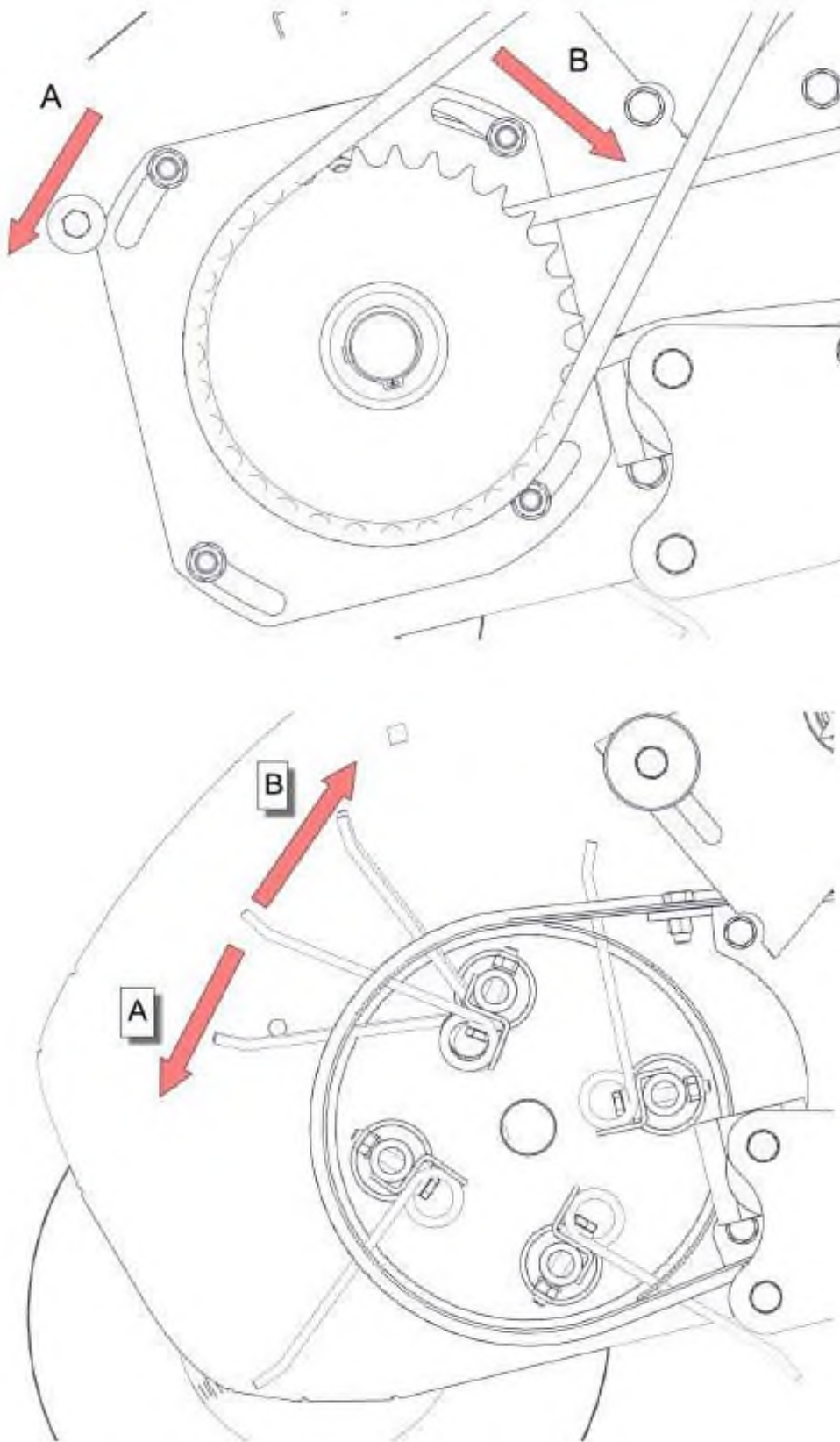


Figure 35. Pick-up cam adjustment

4.8 Replacing The Locking Bolt In The Pick-Up

The locking bolt shown in Figure 36 is the overload protection of the pick-up unit. Damaging the locking bolt stops the drive transmission to the pick-up and supply worms. If the locking bolt is cut in the pick-up fuse, replace it with a bolt of the same specification.

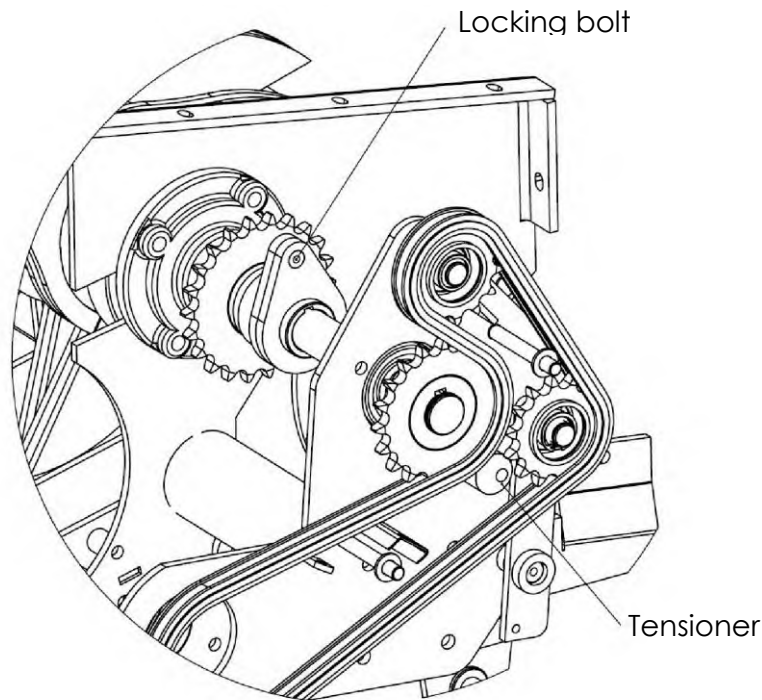


Figure 36. Replacing the locking bolt



WARNING

WARNING!

Use only manufacturer's bolts for repairing the overload protections. Using incorrect bolts as locking bolts increases the risk of damaging the machine.



DANGER

DANGER!

Carry out repairs when the engine is switched off, the ignition key is removed, and the machine is protected from unauthorised movement.

4.9 Replacing The Locking Bolt In The Supplying Unit



DANGER

DANGER!

Carry out the repairs when the engine is switched off, the ignition key is removed, and the machine is protected from unauthorised movement.

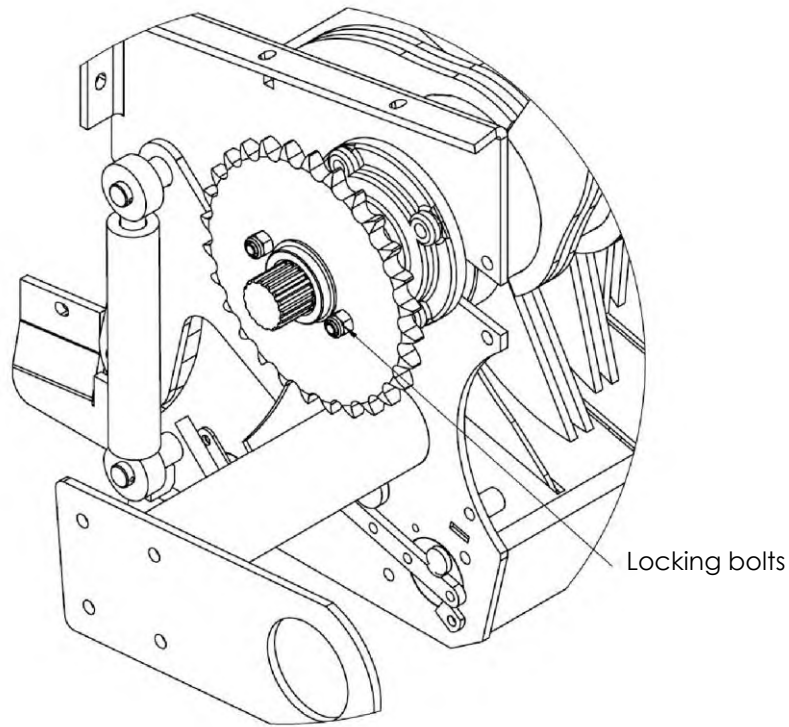


Figure 37. Feeding-roller protection - for balers with a feeding roller

In balers with a feeding roller, two bolts are used as the overload protection. Damaging the locking bolts stops the drive transmission to the feeding roller, pick-up and supply worms.

If the locking bolts are split in the feeding roller (optional accessory), replace them with bolts of the same specification.

4.10 Adjusting The Degree Of Compaction



DANGER

DANGER!

Switch off the engine and remove the key from the ignition before adjusting the degree of compaction.

Depending on the type of the material to be picked up, adjust the bale-compaction degree. Adjust the degree of compaction with the lever and cord device (Figure 38).

For straw collection, a special setting of the compaction degree is dedicated, described in Section 3.8.3.

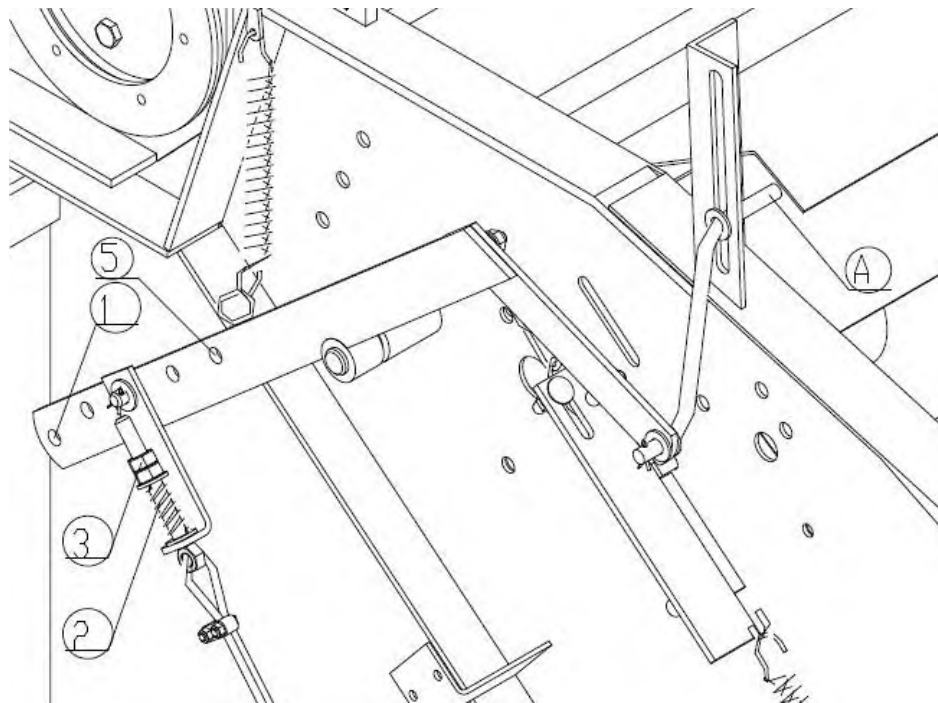


Figure 38. Adjusting the degree of compaction

Depending on the type of the material to be picked up, adjust the bale compaction degree with the lever (5). The highest bale density is obtained when the cord is fixed in hole No. 1, and, conversely, the lowest compaction degree is obtained when the cord is in hole No. 5. Adjust the compaction degree further by adjusting the length of the bolt (2) by means of the nuts (3). Loosen the nut to increase the bale-compaction degree, and tighten the nut to decrease the bale-compaction degree. Adjust the nut when, for example, the compaction in hole No. 1 is too high, and in hole No. 2 too low.

The bale-compaction degree must also be adjusted using the tensioning lever shown in Figure 39. For silage pick-up, set length A of the tensioning lever within the range of 55 – 65mm. For straw pick-up, set length A of the tensioning lever within the range of 65 – 75 mm.

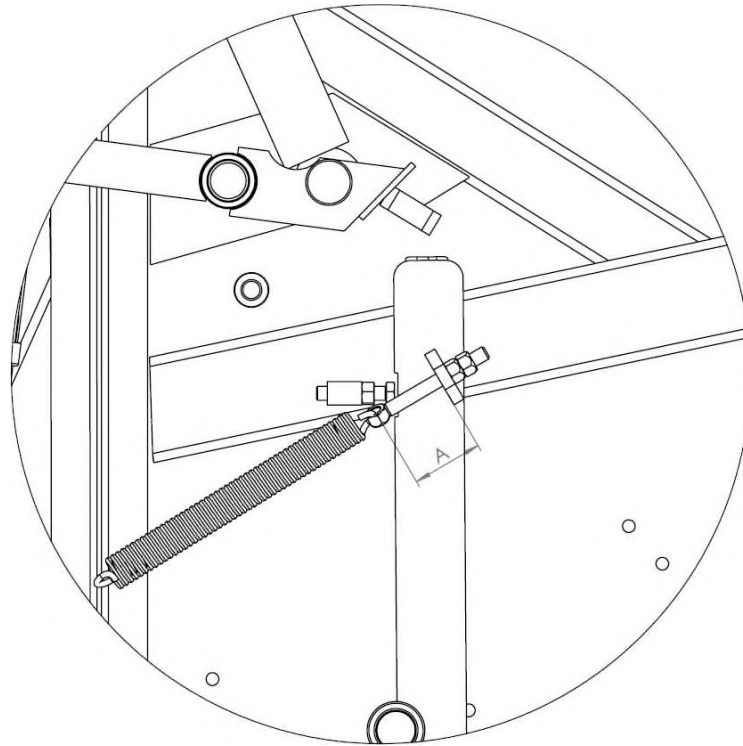


Figure 39. Adjusting the degree of compaction

To assess the compaction degree, use the scale (Figure 40) located on the baler. If the bar is over the red field, the maximum compaction degree is obtained and further swathe pick-up must be stopped.

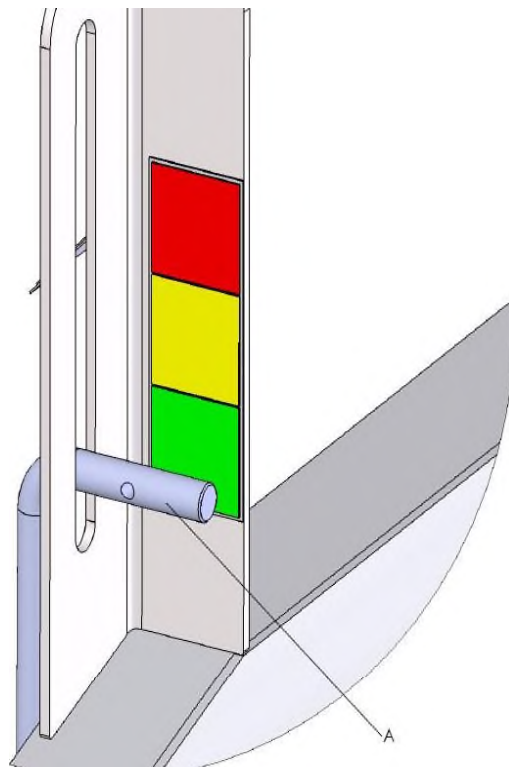



Figure 40. The scale of the degree of compaction

4.11 Adjusting The Twine-Binding Device

Adjust the width of bale twine-binding with limit stops located on both sides of the twine feeder. Setting the limit stops towards the centre of the baler results in the binding of the middle part of a bale. The greatest extension of the stops results in bending the maximum length of a bale. Change the binding density by changing the twine path on wheel B.

The binding density increases along with the increase in the wheel B diameter (Figure 16). The highest binding density is obtained by running the twine with the wheel of the biggest diameter.



WARNING!
Clean the inside of the twine feeder after each finished work

WARNING

Clean the inside of the twine feeder in the place shown in Figure 16 by removing dust and blowing it with a low-pressure air after lifting the twine feeder cover. Direct the dirt towards the outlet.

4.11.1 Sharpening The Twine Blades

You can sharpen the blade as shown in Figure 16. To dismantle the twine-cutting blade, loosen the bolts (3). After sharpening, secure the blade with the bolts (3).

4.12 Adjusting The Net-Binding Device

You can set the length of the bale binding with the adjusting screw (Figure 41). Tighten the adjusting screw to move the measurement blade (13) further from the belt wheel (12), and decrease the binding length, as shown in Figure 41. Determine the number of binding turns according to the harvest condition. The manufacturer's recommended number of binding turns is 1.5 to 2.5 bale turns.

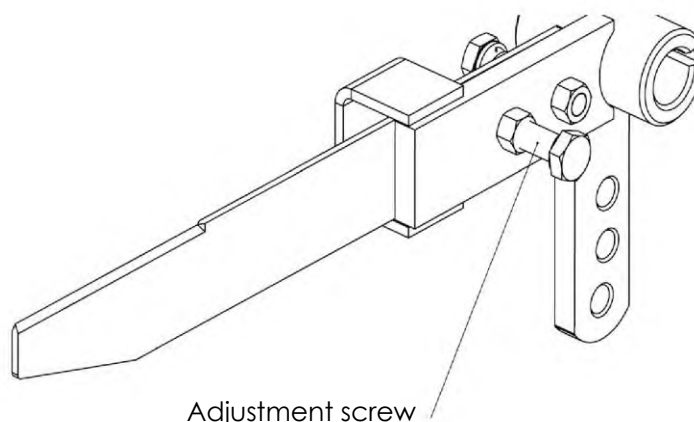


Figure 41. Adjusting the bind counter - the adjusting screw

The measurement blade (13) location in the baler is shown in Figure 42. The measurement blade, controlled by a revolving motion after slipping from the hub thread of the belt wheel casing (12), makes the blade impact on the counterknife and cut off the binding net.

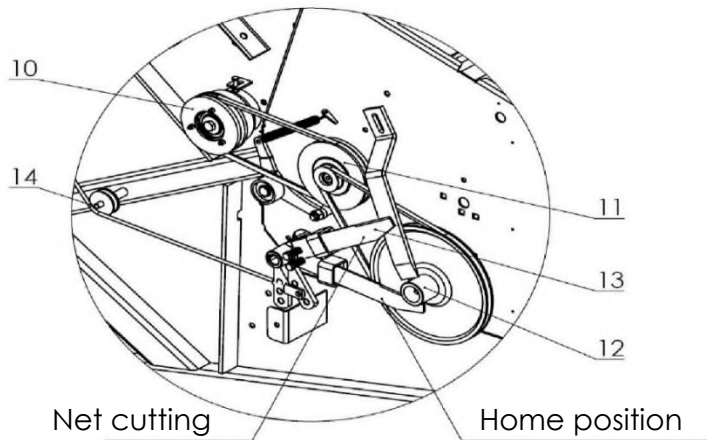


Figure 42. The location of the measurement blade

4.13 Adjusting The Cover Stop Valve

Next to the hydraulic coupling (1), there is a throttle/non-return valve (2) enabling the adjustment of the hatch closing action. The adjustment must be carried out as follows.

- Lift the hatch
- Loosen the locking nut (3), turn the valve (2)
- Try to close the hatch
- If the speed of hatch drop is sufficient, lock the valve (2) with the nut (3). If the drop in speed is not sufficient, re-adjust the valve (2)
- After the adjustment is finished, check that the hatch lock works correctly

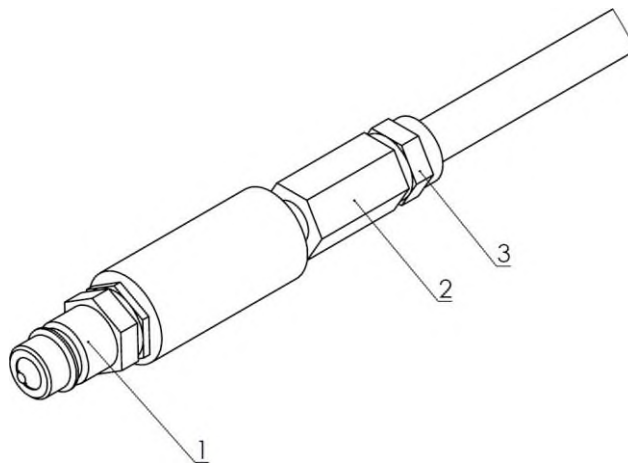


Figure 43. The cover-stop valve



WARNING

WARNING!

During the cover-stop-valve adjustment, follow the H&S guidelines. Use the cover-stop valve only to adjust the speed of the cover closing.

4.14 Adjusting The Lock

To adjust the lock (Section 44), loosen the jam nut (2). Use the adjusting nut (1) to set the length A which is from 0 mm to 2 mm. Tighten the jam nut (2). Loosen the jam nut of the adjustment screw (3) located on the right-hand side of the baler. Use the adjusting screw (3) to set the length B which is from 2 mm to 5 mm. Check that the adjusted lock works properly. Turn on the hydraulic system by feeding fluid to the actuators, which open the rear hatch, until the starting moment of opening it. At that moment, stop feeding the fluid, leave the tractor cab and make sure that the opening hatch will not cause a collision between the hook (4) and the bushing (5). If such a collision is found, close the hatch and repeat the adjustment to remove it.

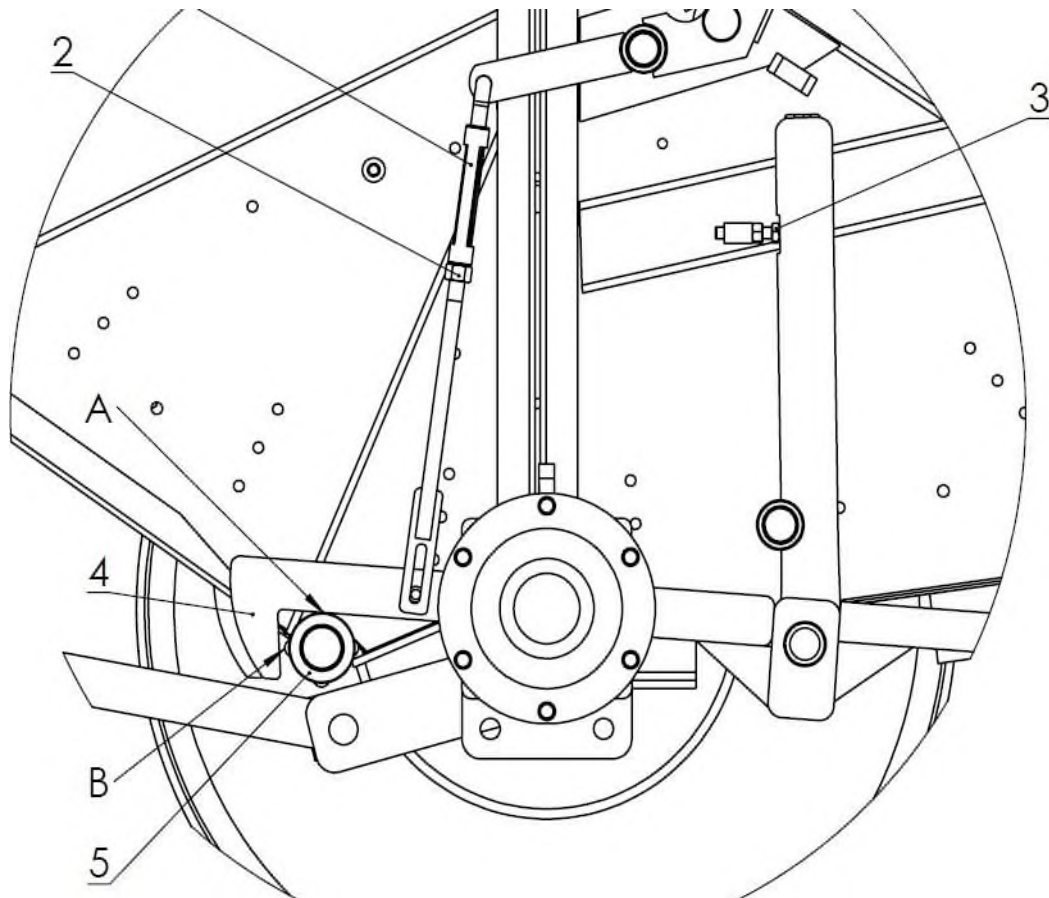


Figure 44. Lock adjustment



WARNING

WARNING!

Improper lock setting and unsecured adjustment screw (1) can cause damage to the baler.

4.15 Sharpening The Blades

It is necessary to sharpen the blades after some time of use in the baler fitted with the feeder roller and cutting blades (optional accessory). Assess the condition of the blades after lifting them and setting in the working position. For this purpose, couple the baler with the tractor and extend the blades with the use of the tractor hydraulic-system control lever (Section 3.6.). Stop the tractor engine, take the key from the ignition, and engage the tractor auxiliary brake. Assess the blades condition. Blunt blades must be sharpened.



The manufacturer recommends having the cutter blades sharpened by a specialist.

You can sharpen the blades yourself, if you use special care. Before you start sharpening the blades, couple the baler with the tractor and retract the blades with the use of the tractor hydraulic-system control lever (Section 3.6.). Detach the baler from the tractor. Secure the baler wheels with chocks. Loosen the locking screw and lower the lock lever (Figure 45).

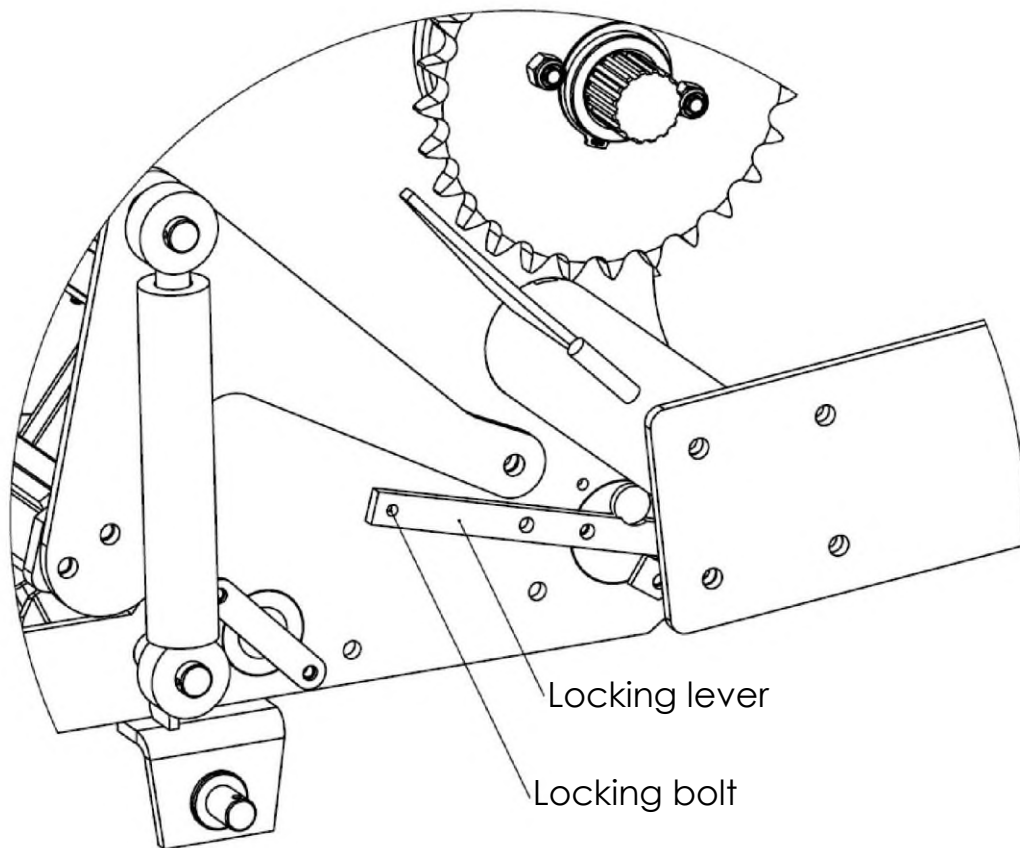


Figure 45. The blade lock



DANGER

DANGER!

Take particular care when removing, sharpening or replacing the blades. Risk of injury.



WARNING

WARNING!

Sharpen the blades on their flat side. Never sharpen the blades on the "furrowed" side.

Install the sharpened blades assisted by a trained assistant. Set the locking lever in the home position and fully tighten the locking screw. Connect the baler to the tractor and check the functioning of the cutter blades.

4.16 Transmission-Fluid Exchange (Once A Year)



The fluid in the transmission box should be changed after the first 50 hours of operation and then in the beginning of each season.



WARNING

WARNING!

Do not overfill the gearbox with fluid. It can result in overheating or fluid leakage. The fluid should be exchanged while it is still warm (e.g. immediately after using the machine).

Fluid draining

- Prepare a container for used fluid
- Unscrew and remove the plug located at the bottom of the transmission box; you can access it through the hole in the bottom part of the front bar, over the pick-up
- Drain the fluid to a previously prepared container
- After emptying the box, replace the cap.

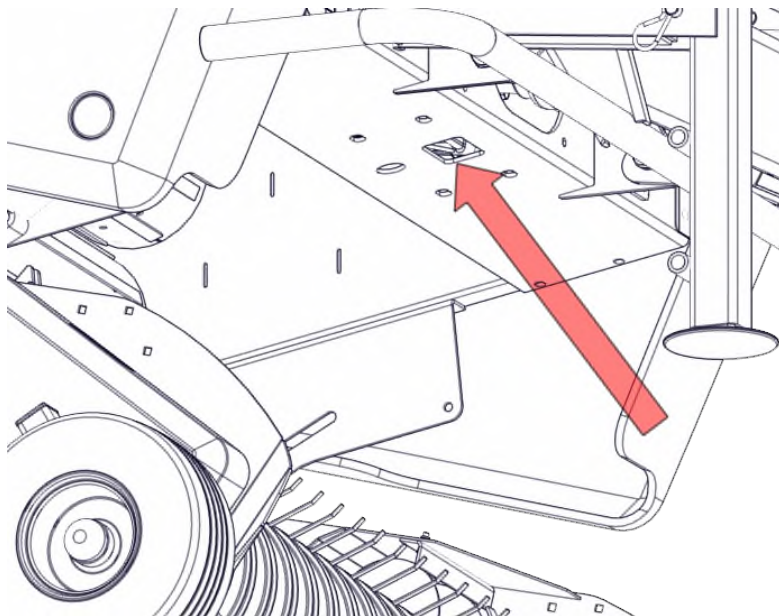


Figure 46. The drain cap

Replenishing the fluid (the required fluid quantity in the box is 3l)

- Unscrew and remove the cap in the top section of the transmission box
- Replenish the fluid
- After replenishing the fluid, clean and replace the cap



Important. Use transmission-fluid type 80W90.

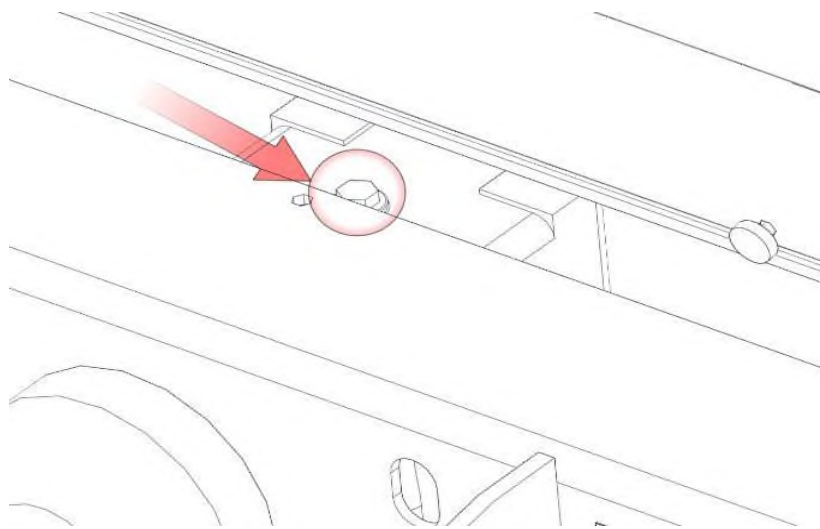


Figure 47. The fluid level in the gearbox

4.17 Lubrication



WARNING

WARNING!

All the items listed below must be lubricated at the beginning and at the end of each season.

Lubricate the drive chains with transmission fluid after each 5 hours of baler use, or after baling of 50 bales. Lubricate the places marked with a pictogram (Figure 48) before each time you use the baler.

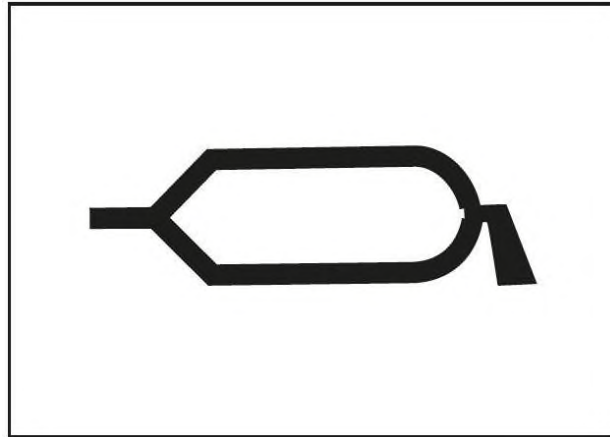



Figure 48. The marking of the main baler-lubrication points



DANGER!
Carry out the chain lubrication when the tractor engine is switched off, the ignition key is removed, and the auxiliary brake is applied.

DANGER

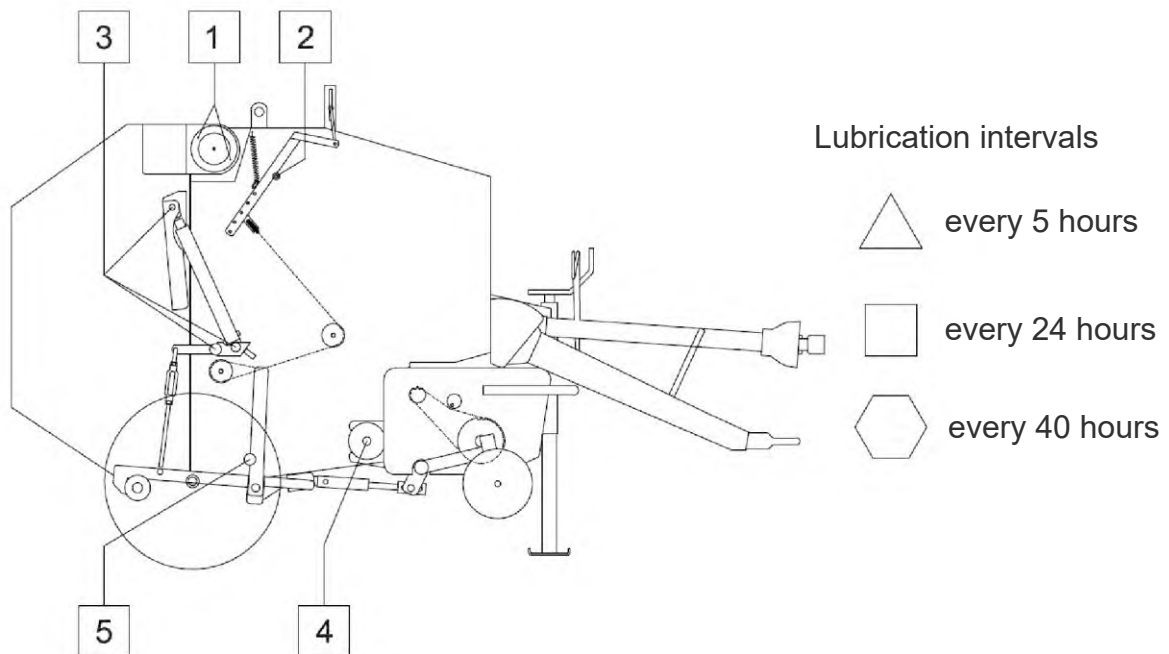


Figure 49. The lubrication points (right side)

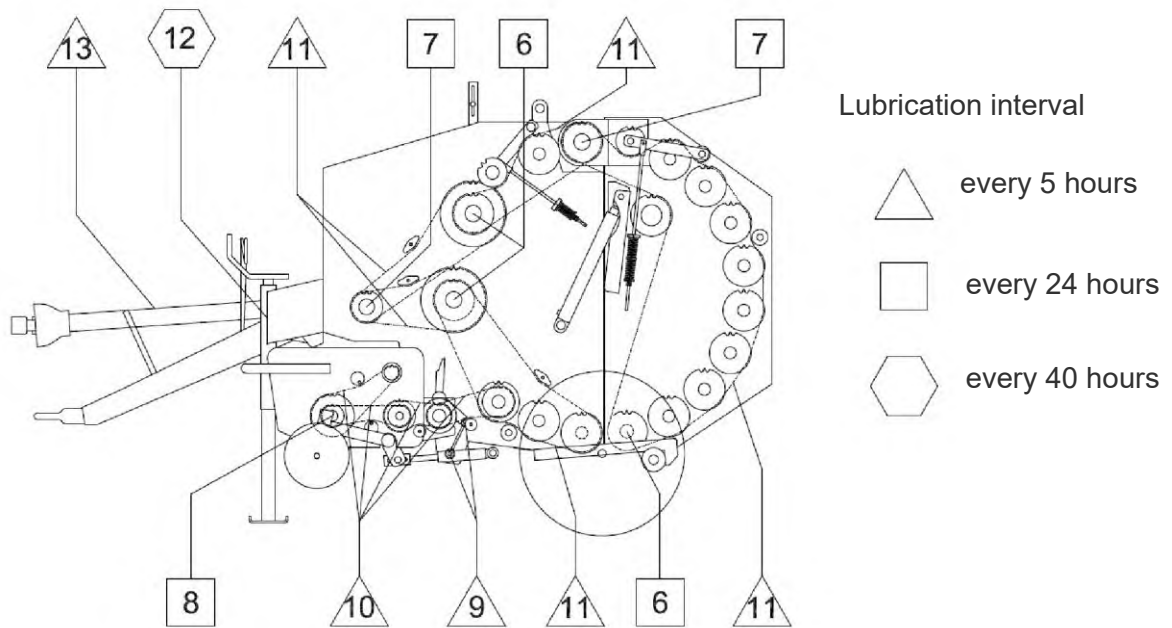


Figure 50. The lubrication points (left side)

4.17.1 Lubricating The Pick-Up

The figure below shows the pick-up lubrication points.

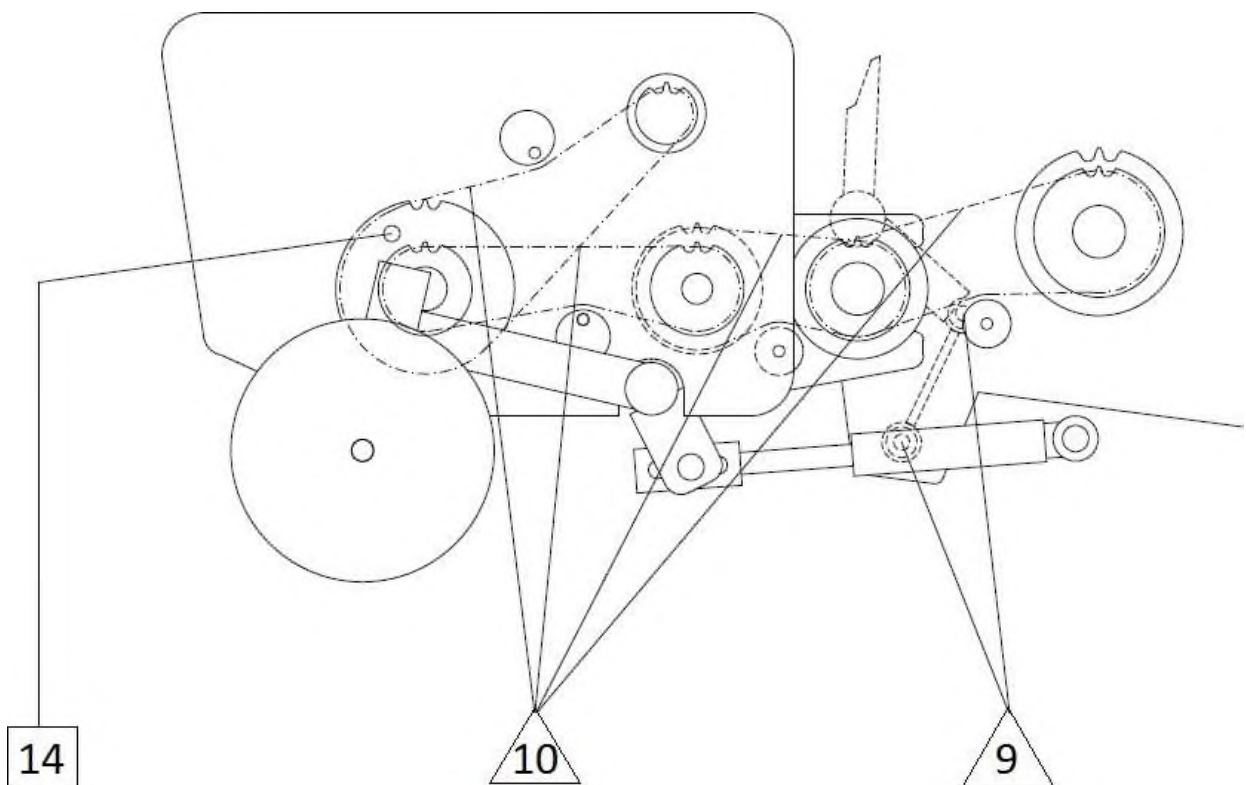


Figure 51. The lubrication points - the pick-up

To lubricate the pick-up rollers (Figure 52) you must loosen three screws (1) to remove the cover (2). Next, remove the locking bolt (3) and screw in a grease nipple in its place (4). Apply the lubricate on the pick-up rollers. Remove the nipple and replace the locking bolt (3)

Repeat the procedure for the three remaining pick-up rollers.

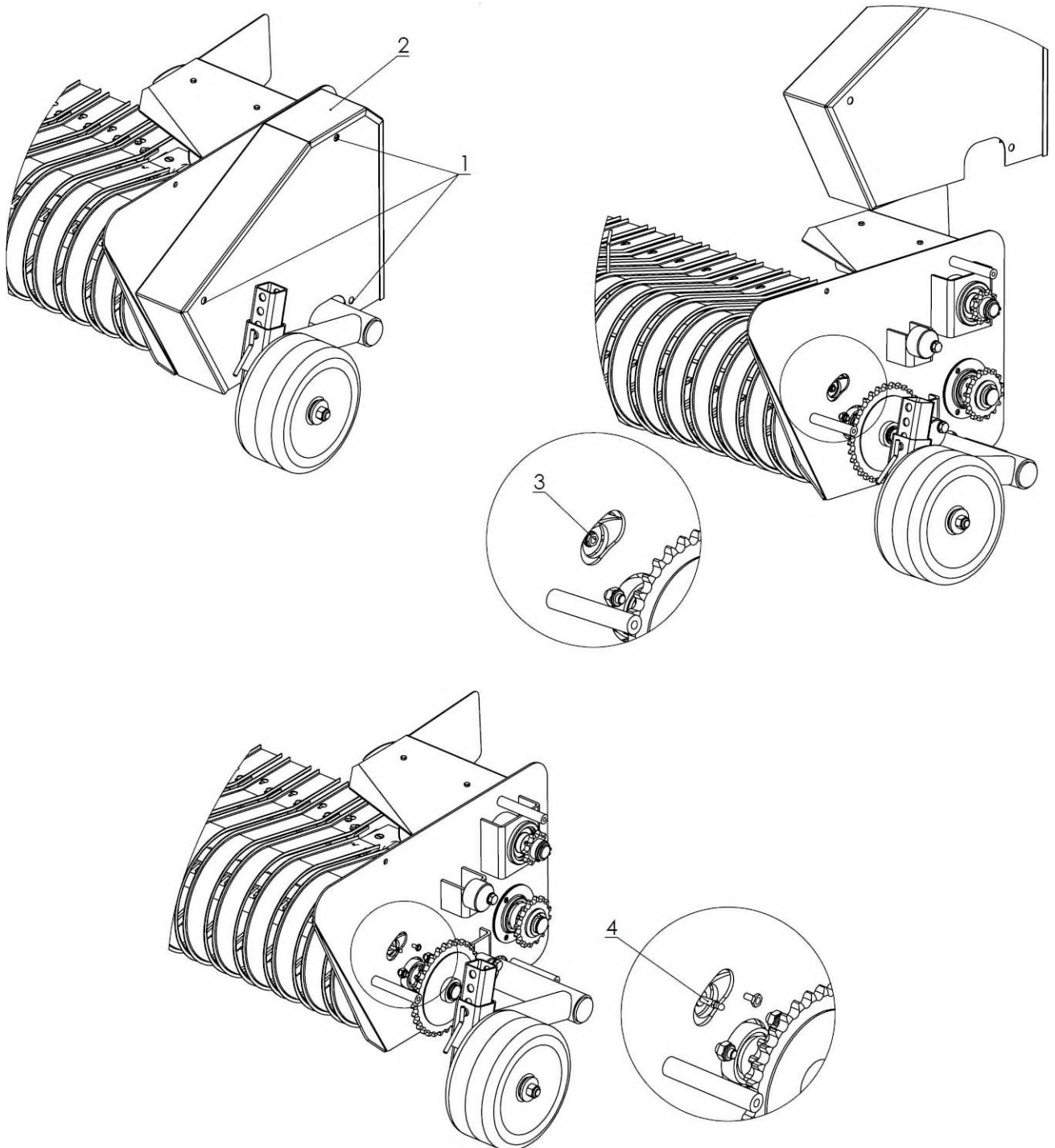


Figure 52. The lubrication points - the pick-up rollers



Lubricate the pick-up rollers with grease after each 24 hours of baler use or after baling 250 bales.

4.17.2 The Automatic Lubrication System For Chains

The Z562 baler can be fitted with an integrated lubrication system of main-drive chains. The standard equipment of the machine allows the user to install the central lubrication system at a later date. The installation is to be performed at the authorised service centre or by the user.

The system is composed of a mechanical pump, an oil tank with a volume of 3 l, manifolds, and dosing ends terminated with brushes feeding oil to the main lubrication points, providing uniform distribution of oil on the chain surface.

The pump (P) provides a stepless adjustment of the amount of oil. To adjust the amount of oil, loosen the nuts (N) on the cam (K) and turn part of the cam so that the arrow (W) indicates the required number from 1 to 8, where 1 means the lowest oil amount, and 8 the highest.

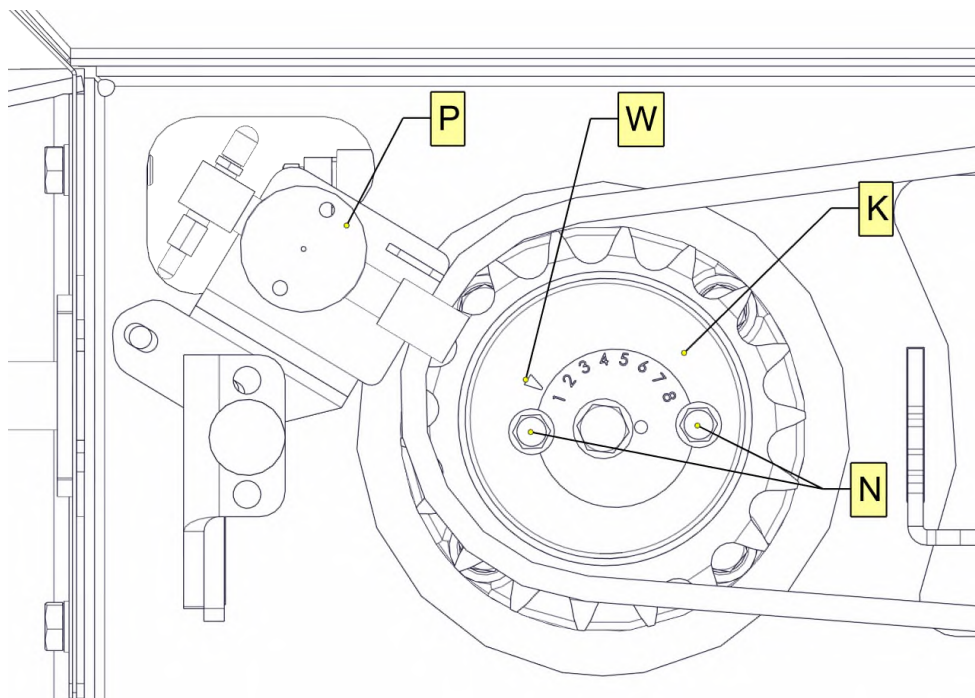


Figure 53. Adjusting the oil amount in the automatic lubrication system



WARNING

WARNING!

Using the mechanical pump without oil is prohibited. Operating a “dry” mechanical pump is a risk of its being damaged.



Always use clean oils. Simple mineral oils should be used.

Recommended oils

- SAE30 - for low-temperature applications,
- SAE90 - for use in warm environments.

The tank

Carry out routine checks and replenish the oil in the tank of the automatic chain-lubrication system. Procedure

- Open the left-hand-side protective guard
- Unscrew the cap, refill oil and re-tighten the cap. The tank

volume is 3 litres.

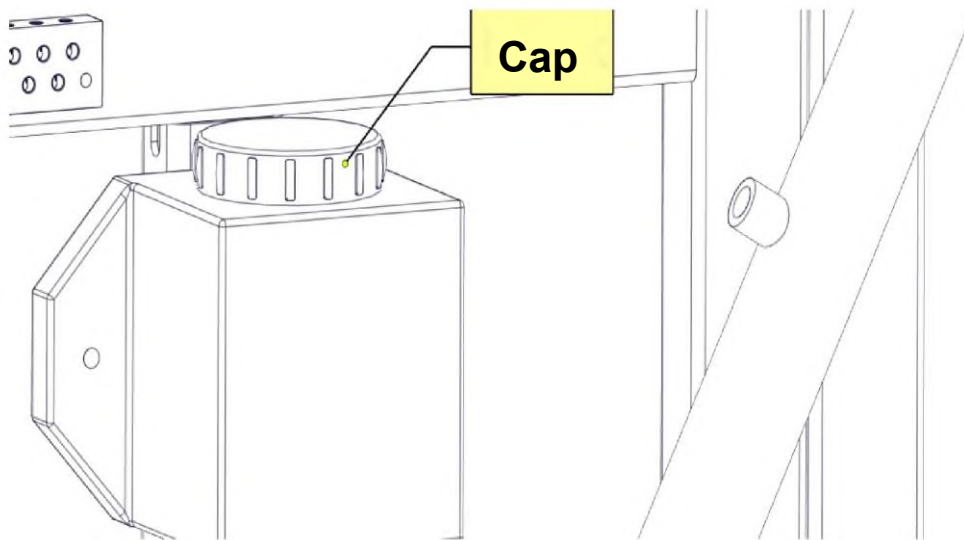


Figure 54. The oil tank of the automatic chain-lubrication system

Filter replacement (once a year)

The filter is in the oil tank. It is recommended to replace it once a year. Procedure.

- Open the left-hand side guard
- Drain the tank
- Open the automatic lubrication oil tank
- Replace the filter
- Replenish the oil in the tank
- Close the oil tank,
- Close the cover.

4.17.3 Lubricating the Bearings

The Z562 baler can be fitted with an integrated lubrication system of bearings. The strips (1) with grease nipples (2) facilitate the lubrication of machine bearings. The strips are located on the left- and right-hand side of the baler.

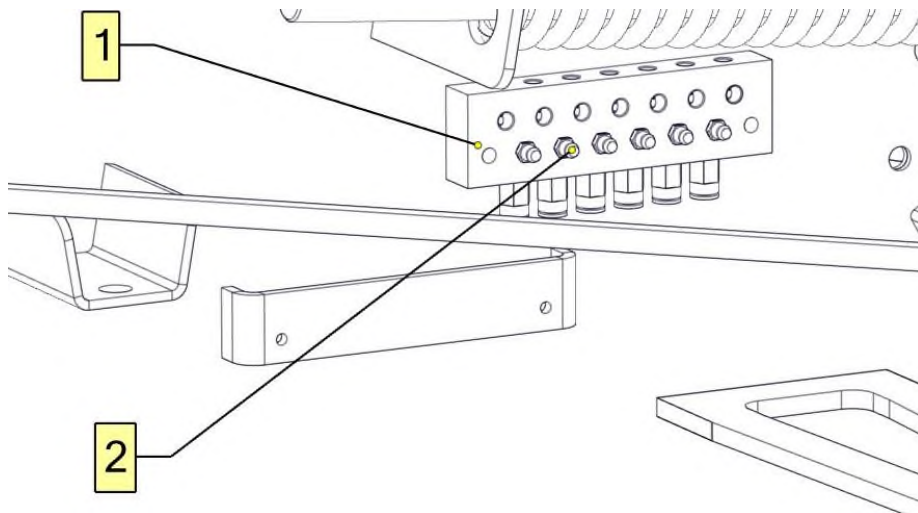


Figure 55. The central lubrication of bearings on the left-hand side of the baler

4.18 Tyres Inspection (Every 30 Days Of Work)



WARNING

WARNING!

Important. Wheel and tyre repairs may be performed only by skilled staff using the proper equipment.

Schedule regular checks of the tyre pressures and ensure they are suitable for the respective tyre.



WARNING

WARNING!

Important. Check the tightening of the wheel bolts regularly. The tightening torque should be in accordance with Table 4.

5 Possible Faults

The most-frequent faults and problems which can occur during machine operation are presented in the table below. If the suggested solutions fail to bring the required result, contact the distributor or service centre of Metal-Fach.

Table 5 Possible faults

Pick-up

Problem	Possible cause	Solution
Clogging the inlet of the chamber.	Too-large and/or irregular windrows or too-high a working speed.	Form the windrows of the right size and/or work at a lower pick-up speed.
	Excessive picking up of windrow on one of the sides of the pick-up.	Drive the baler equally from one side to the other.
	Too low a rotational speed (rpm).	Work with a rotational speed of 540 rpm.
The pick-up tines tear the material	Too-high a rotational speed of the pick-up compared to the working speed.	Increase the working speed.
		Decrease the PTOff rpm.
The pick-up tines miss parts of the windrow.	Too low a rotational speed of the pick-up compared to the working speed.	Decrease the working speed.
		Increase the PTOff rpm.
The pick-up does not collect all the windrow.	Too-large a windrow width.	Form new, narrower, windrows.
The pick-up does not collect windrow from level ground.	The pick-up is set too high.	Lower the pick-up position.
		Set the pick-up wheels correctly.
The pick-up lets the material pass and stops.	The protection component is defective.	Halve the volume of the windrow.
		Adjust the wheel position to lift the pick-up.
		Remove the accumulated plant material and replace the protective component.
Insufficient windrow pick-up.	The pick-up tines are lost or damaged.	Replace the pick-up tines.

Forming bales

Problem	Possible cause	Solution
Too-noisy a transmission.	Loose or unlubricated chains.	Lubricate the chains or adjust their tensioners.
Bales are formed incorrectly or have a conical shape.	Picking up the windrow mainly on one side of the pick-up.	Drive the baler equally from one side to the other.
The chain skips the teeth of the toothed wheels.	Worn-out toothed wheels or chain.	Replace the toothed wheels or chain.
	Loose chain.	Tension the loose chains.

Twine-binding

Problem	Possible cause	Solution
The twine was not bound, is blocked, and is not gripped by a bale.	Twine installation not according to the diagram.	Install the twine according to the diagram in Section 3.4.1.
	Incorrect twine installation on the belt wheel	Note the twine installation on the belt wheel according to the figure given in Section 3.4.1.
	Too short a distance from the loop to the roller.	Set the loop distance to ca. 25-30 cm to the roller as described in Section 3.4.1.
Twine-binding on the centre section.	Loose twine between the box and the belt wheel.	Tension the twine well between the box and the belt wheel.
Too dense or too thin bale twine-binding.	Unadjusted density of bale binding.	Set the bale binding density using the 3-step adjustment device on the belt wheel.

Net-binding

Problem	Possible cause	Solution
The net is not distributed well on bales.	Too large a mesh of the net.	Use a standard net.
	Incorrect path of net flow.	Check that the net is installed correctly.

The PTO shaft

Problem	Possible cause	Solution
Defective locking bolt.	Too big a bale diameter or weight.	Decrease the bale diameter or weight.

The hydraulic system

Problem	Possible cause	Solution
The rear cover will not close.	Closing of the rear cover blocked by a bale.	Remove the bale.
	The hydraulic hose disconnected from the tractor.	Check the connection and connect the hoses if necessary.
	The throttle/ non-return valve adjusted incorrectly.	Adjust the throttle/ non-return valve according to Section 4.9.
The hydraulic system does not work.	No supply of the hydraulic outputs.	Activate the hydraulic outputs from the tractor.
	The hydraulic hoses are not connected correctly to the external sockets of the tractor hydraulic circuit.	Check, and, if necessary, carefully seal, the quick-fit coupling of the external sockets of the tractor hydraulic circuit.
	Insufficient oil supply.	Check and, if necessary, replenish, the oil in the appropriate tank of the tractor hydraulic system.
	The pump worn out or damaged (low pressure).	Repair or replace the hydraulic pump.
	Dirt inside the hydraulic circuit.	Blow, and, if needed, clean, the hydraulic filters.
	Oil leak in the cylinders (oil goes past the piston).	Replace the seals in the cylinders.
	Oil leaks from the hydraulic system.	Check the hoses of the hydraulic circuit and seal the connections, if necessary.

The control panel

Problem	Possible cause	Solution
Despite the chamber's being closed, the panel displays "Open chamber".	The sensor distance to the lever adjusted incorrectly.	The sensor should be 2-3 mm from the lever.

NAME AND ABBREVIATION INDICES

BHP – occupational health and safety

dB (A) - decibel A, sound-pressure unit

kg - kilogram, weight unit

km/h - kilometres per hour, linear-speed unit

kPa – kilopascal, pressure unit

kW - kilowatt, power unit

m - metre, length unit

min - minute, an auxiliary time unit equal to 60 seconds

mm - millimetre, an auxiliary length unit equal to 0.001m

rev - revolution, determining the kind of movement

rpm - revolutions per minute, a rotation-speed unit

Pictogram - an information plate

Rating plate – a manufacturer's plate unambiguously identifying the machine

UV – ultraviolet radiation, invisible electromagnetic, invisible electromagnetic radiation with negative effects on human health, UV radiation has a negative effect on rubber parts

PTOFF - rear Power-Take-Off shaft, part of the agricultural tractor

PTON - Power-Take-On shaft - part of the baler

PTOFF shaft - telescopic joint shaft – a shaft transmitting torque

V - Volt, voltage unit

Hitch, lower-transport hitch – hitch components on a farming tractor (see the tractor's instructions manual)

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NOTES

A series of 25 horizontal dotted lines for taking notes.



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