agromaster

Square Baler

Z 224/2

Operator's Manual and Spare Parts

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Operator's Manual and Spare Parts

1. *Identification of the baler*

On the body of each baler you will find an embossed type of manufacturer's number and year of production of the machine. Next to the above, you will find the manufacturer's plate with the manufacturer's name and address and the manufacturer's number of the baler corresponding with the number embossed on the baler's body and the number specified in the warranty card.

2. Remarks and warnings concerning safety.

The pick-up baler can be operated and used only by individuals who have read carefully the user manual and below-specified general principles of safety at work and the recommendations for the first start-up.

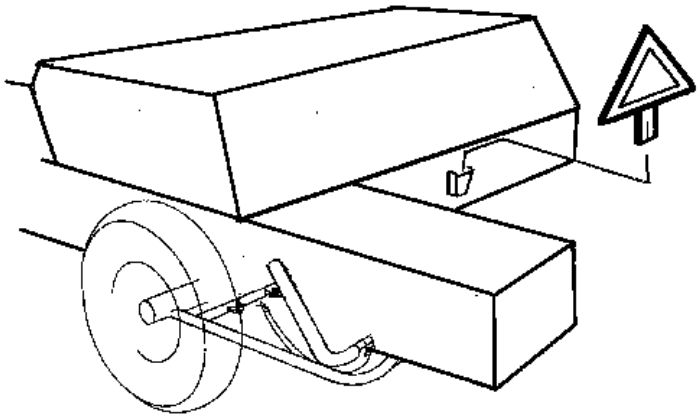
1. Before each use of the baler, check thoroughly its technical condition and in particular technical condition of the hook system of the drawbar, electrical installation and lighting system.
2. Check securing condition of the drawbar in transport or operation positions.
3. Operation without covers is forbidden. Also the baler must not be operated if the covers are damaged.
4. Do not wear unbuttoned, loose clothes with hanging or protruding parts which can be caught by rotating elements.
5. Never leave the baler with its drive switched on or with working tractor engine.
6. It is forbidden to transport people on the machine during its transportation and operation.
7. Prior to performing any operations connected with the pick-up baler it is necessary to switch the drive of the power transmission shaft, wait until the mechanisms of the baler stops rotating, switch off the tractor engine and remove the key from the ignition switch.
8. Before starting the machine and during its operation, the user must make sure that unauthorised persons, children or animals stay away from dangerous zones.
9. Operation of the baler can be started when normal rotating speed of the tractor power transmission shaft is reached. Nominal rotating speed of the tractor power transmission shaft is 540 rpm.
10. Do not exceed 600 rpm.
11. There should be no foreign objects on fields and meadows.
12. Stones and hard objects should be removed from fields and meadows.
13. Change from transport to operation position and vice versa of the baler should be performed only on horizontal and level surface. Point 5.3.4
14. The front axle of the tractor (for the purpose of assuring steerability of the front tractor wheels) should be properly loaded. The minimum load of the front tractor axle must be 20% of the tractor weight.
15. Do not operate the baler on surfaces inclined more than 12%.
16. Before starting the machine the covers must be closed.

2.1. ***Notes and warnings concerning transportation of the baler:***

1 Check the attachment of the machine to the tractor. Attach the safety chain to a fixed element of the tractor suspension system.

2 During transportation, even on short distances, the machine must be set in its transport position (the baler reduces overall dimensions of the unit).
3 Check the drawbar securing in transport position. Correct drawbar securing eliminates accidental position change of the baler during its transportation on public roads.
4. While driving the unit on public roads, exercise particular caution and comply with the applicable road traffic regulations
5. For the time of transportation, a triangle warning plate should be installed on the baler. Fig.1
6. Before driving, the rear guide rail should be folded and the lighting installation of the baler should be connected with the external socket of the tractor electrical installation. Check the baler lights efficiency and the compatibility of the baler lights with the tractor lights.

Fig. 1 Location for installing a triangular warning plate



Warning: Driving on public roads without the necessary lights and warning sings on the baler is forbidden. Speed limit: 12km/h

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2.2. ***Notes and warnings concerning the baler servicing.***

1. Any repair, maintenance and adjusting works should be carried out only when the drive shaft and the tractor engine are switched off. Remove the key from the ignition switch.
2. It is forbidden to undertake any repairs or adjustment activities while the flywheel is moving.
Warning: It takes about 40 seconds for the flywheel to stop rotating.
3. Exercise particular caution during any servicing, due to the danger of crushing, cutting or being caught by feeder elements such as: pick-up, spiral feeder and fork feeder.
4. While servicing the baler while in its lifted position, it is always necessary to protect the baler against falling down by use of proper supports.
5. While servicing the baler protective clothes, protective gloves should be used – especially while replacing the piston knife and knotter knives.
6. While replacing the piston knife the flywheel should be immobilized.
7. It is necessary to use shear bolts, replace them with new ones of the same parameters.
8. You must not get in between the tractor and the machine until the unit is protected against movement by putting on the parking brake of the tractor or placing wedges under the driving wheels.

2.3. Fire fighting regulations

1. Pick-up balers usually operate in high fire hazard conditions (collecting dry, flammable materials at high temperatures). Therefore, special attention should be paid to the fire regulations when operating the balers. The tractor should be equipped with a large fire-extinguisher.
2. Before starting work, you should lubricate the baler in accordance with the lubrication plan, start the baler and make sure that there is not friction between the moving parts of the baler and the frame. Before going to the field, all detected sources of friction in the baler's mechanisms should be dealt with.
3. During short breaks in the baler's operation, the heating-up of the bearing mountings in the drive system should be controlled. The bearing mountings must not be allowed to heat up above 60 C. The operation of the baler in such conditions must be discontinued until the source of the heating up of bearings has been removed.
4. During breaks in the baler's operation, make sure that the picked-up material does not accumulate in large amounts, mainly around the shafts. The accumulated, particularly moist material which causes friction against the rollers should be removed only with the use of a hook when the tractor engine has been switched off.
5. Do not smoke or use open fires near the operating baler.
6. Do not use balers with damaged insulation of electric wires and exposed ends of these wires.
7. Repairs, particularly welding, may be performed only after the baler is carefully cleaned of the remains of the picked-up material. Before welding, the ducts of electric and hydraulic systems, bearings and bush housings made of plastic should be protected against any damage.

User should remember that:
the requirements with regard to work safety and hygiene as well as road traffic regulations and fire regulations must be adhered to.

3. Contents

4. General information.

Before starting the operation of the baler, the user is obliged to familiarise himself/herself with the contents of this user manual and the work safety regulations. Additionally, the user should familiarise himself/herself with the conditions of proper and safe operation of the machine. The baler should be operated by a trained operator.**4.1.** ***Designation and general requirements.***

Conventional pick-up balers Z-224/1 and Z-224/2 are designed for collecting, pressing and baling of hay from swaths and post-combine harvester straw as well as dry leguminous plants. Hay and straw bales are discharged on the field or transported to a trailer by a skid ramp. The baler cooperates with the tractor of 0.9 class with the power transmission shaft of 540 rpm. Moving the balers between the fields and along roads is also in accordance with their designation. Any use of the balers for other purposes will be considered as the use contrary to its designation. Following and complying with the operating regulations of the balers as well as servicing and repairs in accordance with the requirements given in the user manual shall be considered as an integral part of the proper use of the machine.

The manufacturer assumes no responsibility for any damage or losses that result from the use of the machine against its designation (as described above). Only the owner and/or the operator of the machine is responsible for the consequences of improper use of the machine.

4.2. *Equipment and spare parts.*

The baler is delivered with the following basic equipment:

- user manual 1pc
- warranty card 1pc
- guide eye for twine 5224-070-307.00 3pcs
- bolt M6x35-B-8,8 Fe/Zn8 PN/M-82101 5pcs
- nut with insert M6-8 Fe/Zn8 PN/M-82175 5pcs
- Special PTO drive shaft 540Nm 540 rpm (L_{min}= 1020mm; L_{max} =1430mm) 5224-110-500.20

4.3. *Delivery, receipt, transport, assembly and installation**4.3.1.* ***Receipt***

On delivery of the baler Z-224/1 or Z-224/2 it is necessary to check the baler for any possible mechanical damages, paint layer damages and visible missing elements in the baler assembly. Check whether the equipment specified in point 3.2.is attached. Agree with the supplier (Sales Representative or manufacturer) the date of first start-up of the machine. Carry out the first start-up of the machine according to the point 5.3.

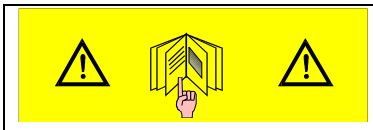
4.3.2. Transport

The baler can be loaded on a transport vehicle only by means of lifting equipment (overhead cranes, cranes) and a lifting sling equipped with three lines with hooks. Hook fixing places are marked with stickers (see Fig.5).

5. Warning stickers.

Warning stickers, which indicate the following dangers, are placed on the baler:

Warning stickers must be always legible.
If the stickers are no longer legible or are damaged, they can be purchased in the …… sales outlets.



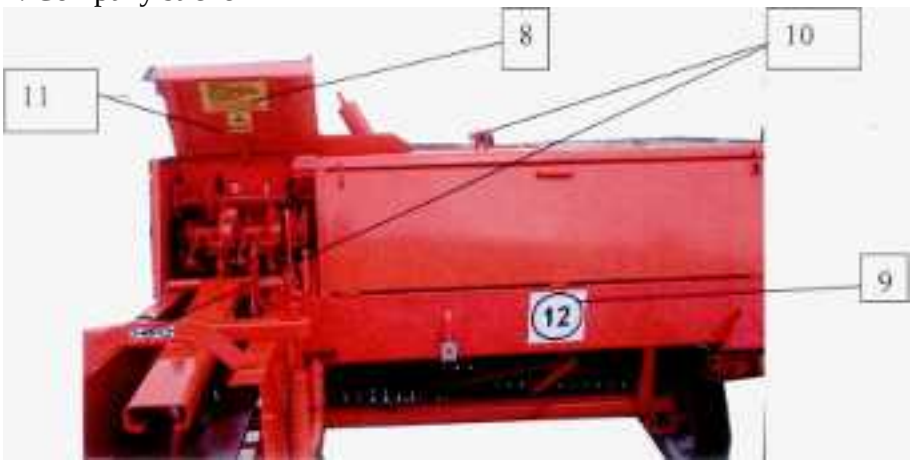
PRIOR TO OF THE MACHINE, THE USER MANUAL MUST BE STUDIED AND WORK SAFETY REGULATIONS MUST BE ADHERED TO DURING THE BALER OPERATION

1. Before starting the machine you must familiarize with the user manual.
2. When regulating, maintaining, repairing and lubricating the machine, the tractor engine must be switched off.
3. Rotation direction. 

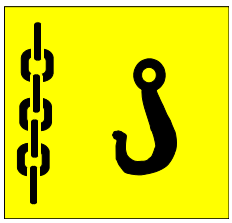
4. Permanent manufacturer's number.

17. Do not touch the machine until all the machine parts stop moving.
18. Keep away from the moving zone of articulated joints of the machine units, when the engine is on.

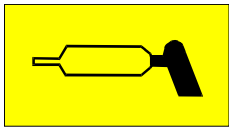
6. Exercise caution – sharp knives
7. Company sticker



8. For knotting use the twine in accordance with the recommendations and operate the knotter in compliance with the user manual.
9. Maximum transport speed.



10. Hook eyes for the machine loading



11. Lubrication point lubrication with grease).

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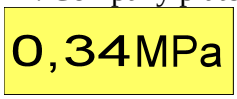
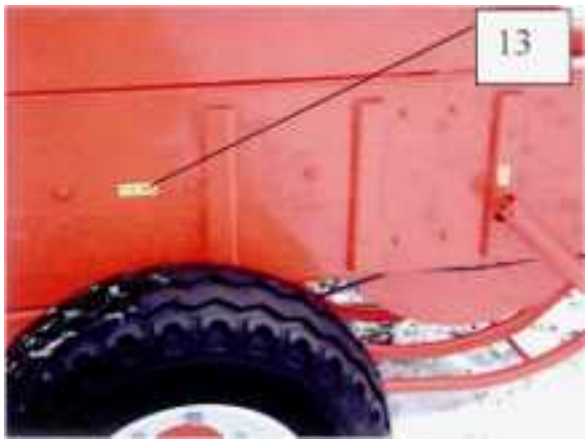
12. Company plate.





13. Required tyre pressure

14. Hitching the baler to the tractor.
15. Do not get near the needle and knotter zone if the tractor engine is working and PTO shaft is switched on.

16. Danger of body injury by rotating spiral roller. When a baler part with a sticker has been replaced, the same sticker should be placed on a new part.

Usage and operational servicing.

5.1. ***Technical and operational data.***

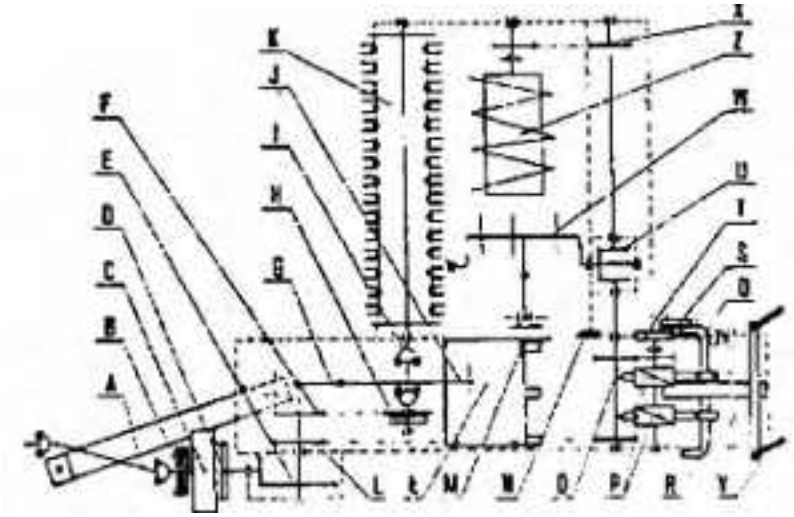
	Z-224/2
Machine length	4.90 m
Machine width	2.5 m

Height		1.6 m
Weight		1560 kg
Total pick-up width		1.78 m
Pressing chamber width		460 mm
Pressing chamber height		400 mm
Bale length		0.3 – 1.3 m
Number of piston strokes / minute		100
Feed method	Spiral roller + feeder	
Surface of inlet opening		2300 cm^2
Capacity		30 t/h
Power demand	Over 30 kW (41 KM)	
Power receipt shaft rotations		540 rpm
Twine	Sisal 4600tex - 6700tex Polypropylene 2500tex -3300tex (strength min.1000 - 1100 N)	
Declared value of noise level according to ISO 4871	85dB	

5.2. *Design and operating principle of the baler.*

The conventional pick-up baler consists of a range of working units presented on Fig.2. Power is transmitted from the tractor by PTO drive shaft A to the overload one-way friction clutch B. This clutch protects the PTO drive shaft against damage and enables transmitting the rotations in compliance with the direction indicated by an arrow placed on the flywheel. Behind the clutch there is the flywheel C, which is the energy accumulator and an element of the overload friction clutch D. This clutch protects the baler components against damage when one of the components is blocked during machine operation. Next, power is transmitted to intersecting axis gear F, which reduces the rotational speed.
From the intersecting axis gear, power is transmitted to the following components:

overview



Side wiew

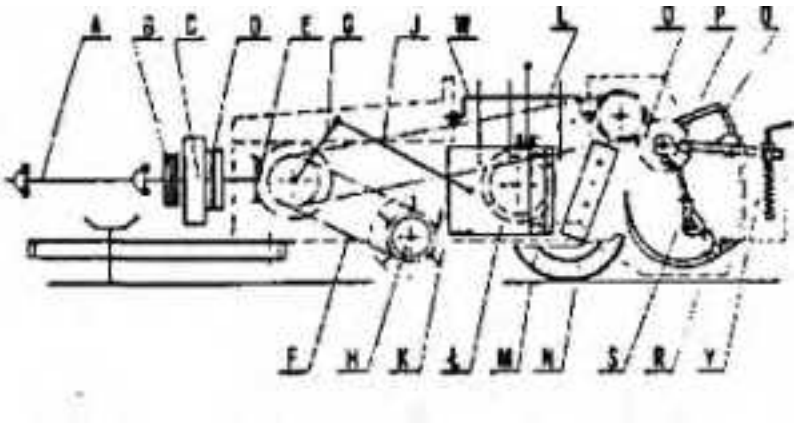


Fig. 2 Baler design diagram

Pick-up

Chain transmission F drives the clutch H with the jointed shaft of the pick-up I which transmits power to the pick-up K. Friction clutch H protects the jointed shaft I against damage. Pick-up, thanks to its flexible fingers with adjustable positions, takes harvest material and delivers it to the feeding unit i.e. spiral roller Z and feeder W.

Piston

Piston Ł is moved by means of crank G and connecting-rod J. The piston performs reciprocating movements on the rolls in the pressing chamber. On the piston, on the side of the feeder, a knife M is located which cooperates with the counter blade of the knife N, located on the side of the pressing chamber. After each feeding of material to the pressing chamber by the feeder, the piston, in its advance stroke, cuts off a portion of material and carries out initial pressing. Pressing is carried out as a result of pushing the material through the pressing chamber by means of the piston. Compaction rate depends on the resistance faced by the material in the pressing chamber, which is regulated by means of the hand wheels Y. Knotting unit is equipped with the switch Q and bale regulation. At the moment when the preset bale length is achieved, the switch will switch on the knotting unit. The needles perform a swinging movement, wraps the bale with twine and give the twine to the knotting mechanism P. In the knotting mechanism the twine is knotted, cut off and prepared for creation of the next bale. The bale, which is knotted in two places, is pushed outside in the pressing direction by next material portions. The knotting process is described in further sections of this user manual.

5.3. *First start-up.*

First start-up of the BALER is carried out by the Sales Representative or by the manufacturer and should be performed at the user's premises.

First start-up is aimed at checking technical and functional condition of the machine and enabling the user to familiarize with the principles of proper operation of the machine and its working units as well as with safe operation principles.

During first start-up the following should be checked:

1. **Hitching of the machine with the tractor.**

2. **PTO drive shaft connection.**
3. **Setting the baler in its transport and working position.**
4. **Setting the pick-up.**
5. **Preparation of binding mechanisms for operation.**
6. **Adjustment of bale length.**
7. **Regulation of bale compaction rate.**
8. **Setting the metal plate chute.**
9. **Checking the regulation of the main working units.**
10. **Lubrication of the machine, in particular the cam and roller of the feeder.**
11. **Remove protective grease from the brake disc of the knotters' shaft.**
12. **Tightening torques of thread connections**

	Strength class	
	8.8	**10.9**
	Tightening torque [Nm]	
M6	10	15
M8	25	35
M10	50	70
M12	90	120
M16	210	300
M20	410	580
M16*1.5	230	320
M18*1.5	304	441

The machine does not require a special running-in period and may be operated from the very beginning on standard basis. However, it is recommended to operate the machine at lower compaction rate during first working period i.e. for about 20 hours, due to the fact that the pressing chamber surfaces are not smoothed which leads to strong braking of bales being pressed (loosen the hand wheels).
In the warranty period no technical check-ups are planned. Required maintenance and adjustments should be made during the first start-up of the baler or they should be performed later by the user according to the user manual.

Bale chute, which belongs to the special equipment, should be used after running-in of the pressing chamber.

5.3.1. Connecting the baler with the tractor.

The baler is hitched to the hook-type coupling of the tractor *Fig.3* (information is given on the label located on the baler's drawbar) in the below specified sequence:

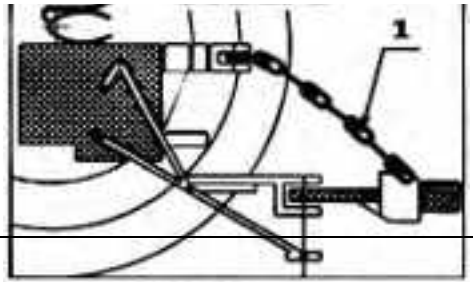


Fig. 3 Label "Hitching the baler"

1. Lift the baler's drawbar to sufficient height by means of the drawbar support Fig.3a
2. Connect the baler with the tractor hook type coupling by means of a pin and secure it against sliding out.
3. Place a link of the protecting chain in the upper transport hitch, fix it with a pin and secure with a cotter pin.

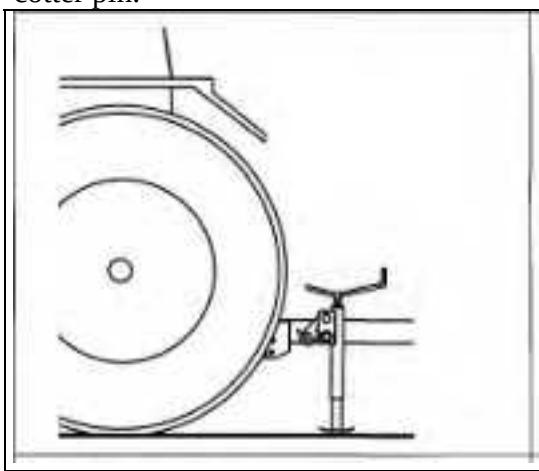


Fig.3a Drawbar support in the position of hitching to the tractor.

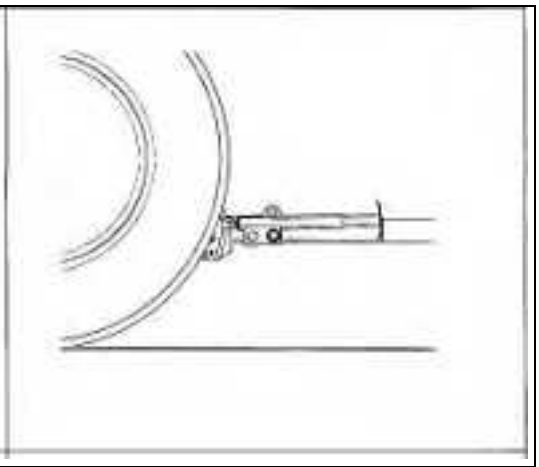


Fig.3 b. Drawbar support in the position of operation and transport.

4. Assemble the PTO drive shaft to the tractor drive output shaft and the baler drive input shaft (see section 5.3.2)
5. Connect the baler's hydraulic duct, equipped with quick disconnecting coupling, with the socket of tractor hydraulic system (applies to Z-224/2 baler).

5.3.2. Assembling the PTO drive shaft.

The machine can be operated efficiently and safely only if proper PTO drive shaft, equipped with complete cover, is used for driving the machine.

It is forbidden to assemble and operate the shaft with a damaged cover.
The baler is equipped with a special PTO drive shaft which, due to its length, transmits a torque of 540Nm (L_{min} =1020mm; L_{max}=1430mm 5224-110-500.20) and the overload one-way clutch which is set for the torque of 900Nm.

Assembling of the PTO drive shaft should be carried out only after the tractor drive output shaft has been switched off and tractor engine stopped.

Assembly should be carried out in the following sequence.
1. Slide the end of the PTO drive shaft on the tractor drive output shaft and protect with snap fasteners.
2. Check if the snap fasteners securely protect shaft ends.
3. Fix the shaft cover chain, one on the tractor element side, another one on the baler drawbar side.

4. The PTO drive shaft should be connected with the tractor drive output shaft also during transport of the machine. After disconnecting the baler from the tractor the PTO drive shaft end should be placed on the bracket fixed to the drawbar.

In order to assure proper durability of the PTO drive shaft, the drive should be switched off on sharp corners!

5.3.3. Hydraulic pipes.

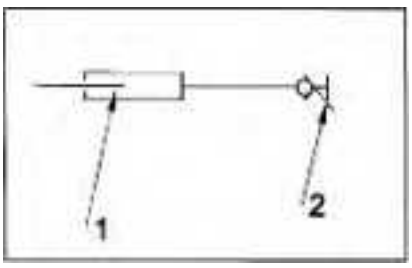
The hydraulic pipe for lifting the pick-up, which is connected to the tractor during collection of material, is installed on the baler. The pipe is equipped with quick disconnect couplings M22x1.5. In the case when the tractor is equipped with a different quick disconnect coupling type than the couplings on the pipe, the pipe couplings should be replaced with the ones which match the tractor couplings. Thread connections should be sealed.

While changing the quick-disconnecting coupling, the hose ends and the couplings should be protected against any contamination, otherwise the tractor or the hydraulic system of the baler may be damaged.

The feed pipe of the pick-up hydraulic cylinders, which has a quick-disconnect coupling, should be permenantly fixed at the outlet of the tractor hydraulic system. The pick-up operation should be checked by lifting and lowering the pick-up several times. Lifting and lowering of the pick-up assures air removal from the whole hydraulic system.

1. Pressure of the hydraulic oil can be so high that it may cause serious injuries in case of oil leakage. Allowable hydraulic oil pressure is 16MPa
2. Immediately contact a physician in case of an accident. Lack of immediate medical assistance may lead to serious skin infection.
3. Before disconnecting the hydraulic pipes and connections, hydraulic oil pressure should be completely reduced. When hydraulic oil pressure is increased again, it is necessary to check tightening of thread connections and inspect the installation, rigid ducts and hoses for damage.

During the many years of its operation, the hydraulic system is subjected to the influence of continuous pressure, temperature and ultraviolet radiation which may effect the components in time. Currently offered hydraulic pipes have a production date embossed on them which enables specifying their usage period. Legal regulations as well as practical experience indicate that hydraulic hoses should be replaced every 6 years.



Hydraulic system diagram.

1-hydraulic cylinder, 2-quick-disconnecting coupling of the pick-up

5.3.4. Setting the baler in transport and operation positions.

In order to move the baler drawbar from the transport position to the operation position, it is necessary to unlock the drawbar by means of a rope.

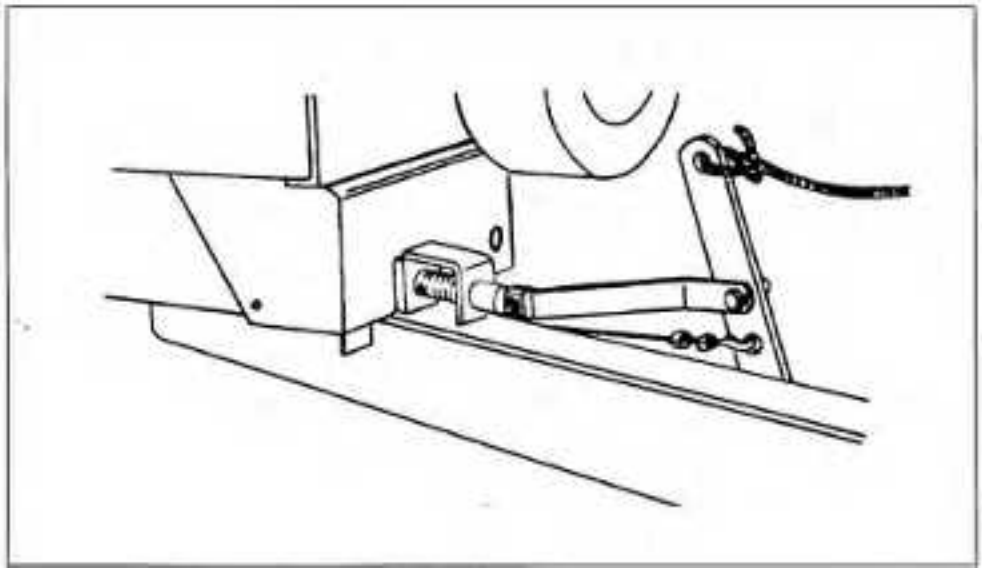


Fig. 4 Drawbar locking mechanism

Next, turn the tractor wheels to the left (Fig.5) and drive forward until the locking pin slides into the baler's hole. During unlocking of the drawbar by means of a rope, the right driving wheel of the machine is simultaneously blocked, which facilitates moving of the drawbar.

In order to move the drawbar from the operation position to the transport position, the following activities should be carried out:

- place the pick-up as high as possible and secure it with a chain
- fold the steel plate chute and secure it with the catch
- fold the rear bale guide (if it is installed) and secure it

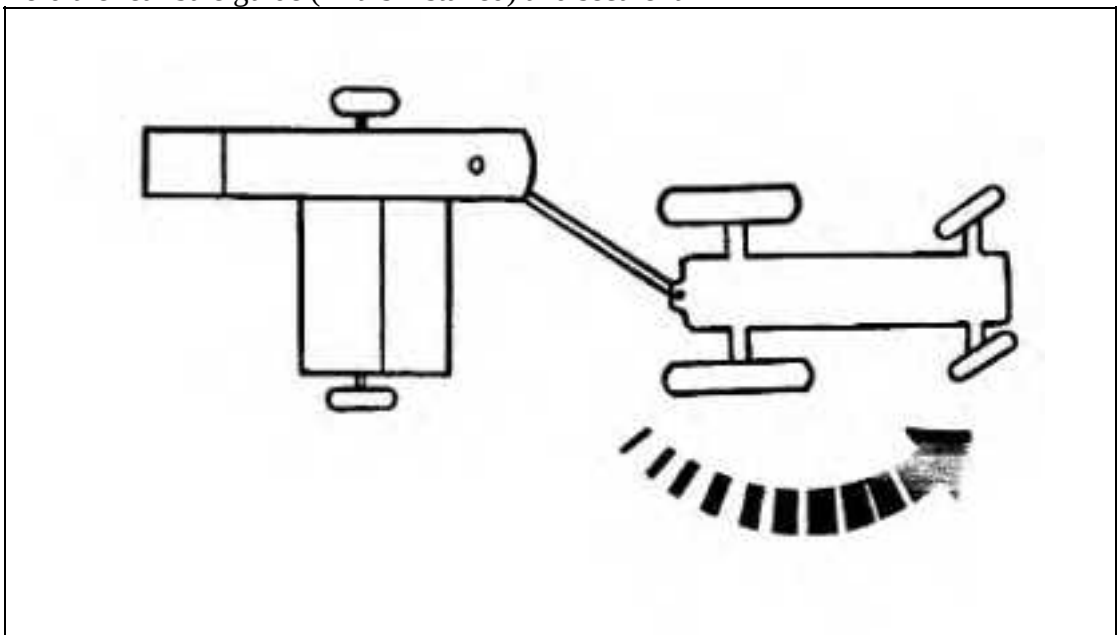


Fig. 5 Setting the baler into operation position

- install a triangle warning plate in the rear holder of the baler
- turn the front tractor wheels to the right (Fig. 6). Unlock the drawbar by means of a rope and drive backwards until the drawbar locking pin slides into the transport hole of the baler body.

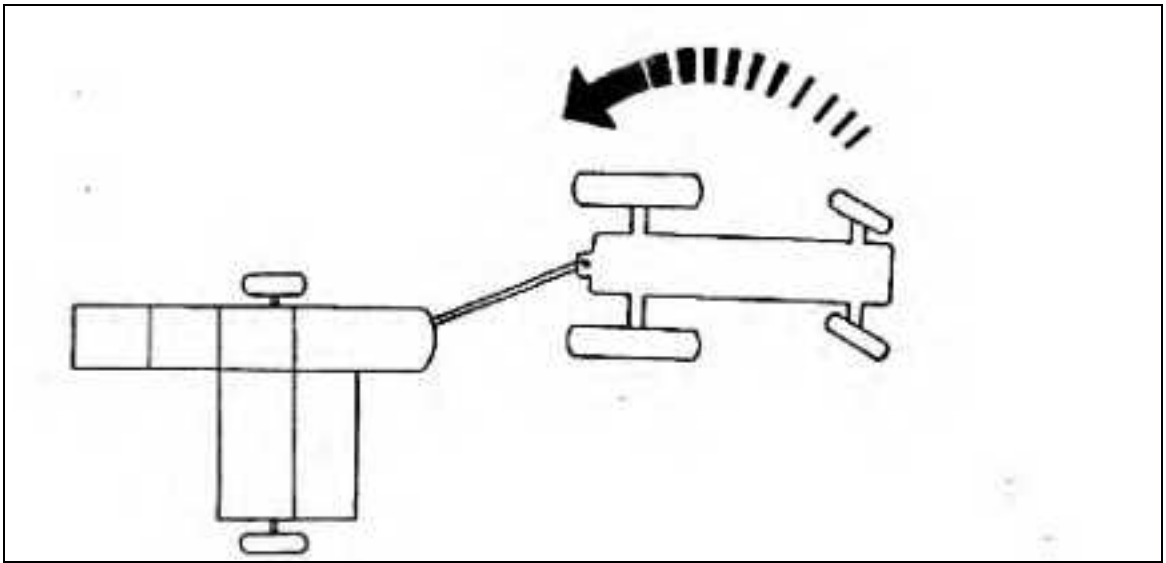


Fig. 6 Setting the baler into transport position

After disconnecting the baler from the tractor, the hydraulic hose end should be protected against any contamination (in Z-224/2).
The drawbar support, after hitching the baler to the tractor, should be moved to the horizontal position and secured with a pin.

5.3.5. Setting the pick-up.

Retainer placed over the pick-up doses the material and directs the material under the spiral feeder. The retainer can be set in three positions (depending on type of the material being picked-up), for example;
-for wilted grass and hay – lower the pick-up (smaller clearance)
-for straw – lift the pick-up.

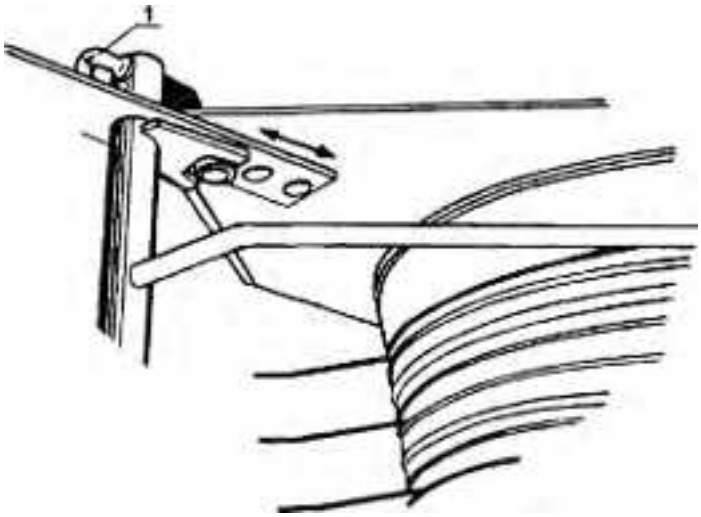


Fig. 7 Setting the retainer

Finger ends of the retainer should be placed at the height of the horizontal axis of the spiral roller. In order to lift the retainer, pull out the pin 1 and turn it by 90º, move the retainer to the right and lift it.

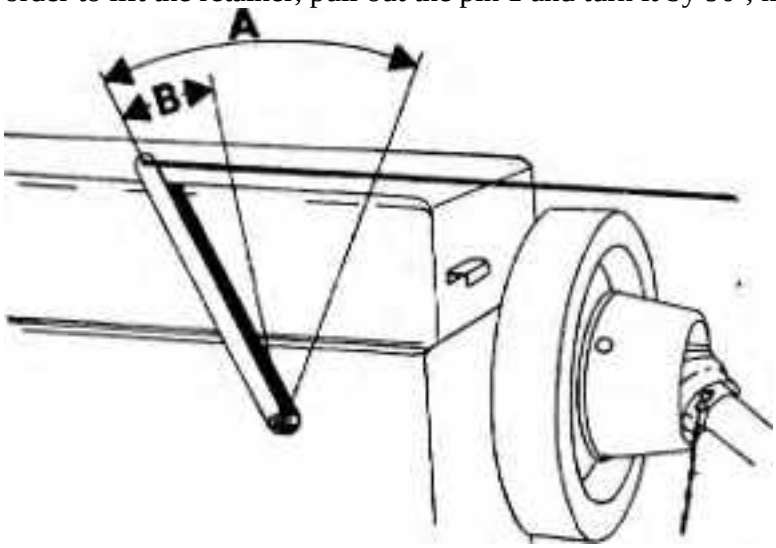


Fig. 8 Lifting and lowering of the pick-up

In order to lift the pick-up to required height, turn the lever several times at the same angle A. In order to lower the pick-up, turn the lever several times only at a small angle B.
Lifting and lowering of the pick-up of Z-224/2 baler is carried out by means of a hydraulic cylinder controlled from the tractor hydraulic system.

5.3.6. Preparation of knotting mechanism for operation.

The knotting system of the baler is designed for knotting only below specified twines:
-sisal twine 4600tex-6700tex
-polypropylene twine 500m/kg-330m/kg which has the strength of 1000N-1100N

The above specified twines have enough strength and thickness to assure proper operation of the knotting mechanisms.

Using twines other than the above-specified always leads to serious defects of the knotting mechanisms.

The twine box can hold 10 twine coils. Partition walls Fig. 9 should be removed when lower twine chambers are being loaded.

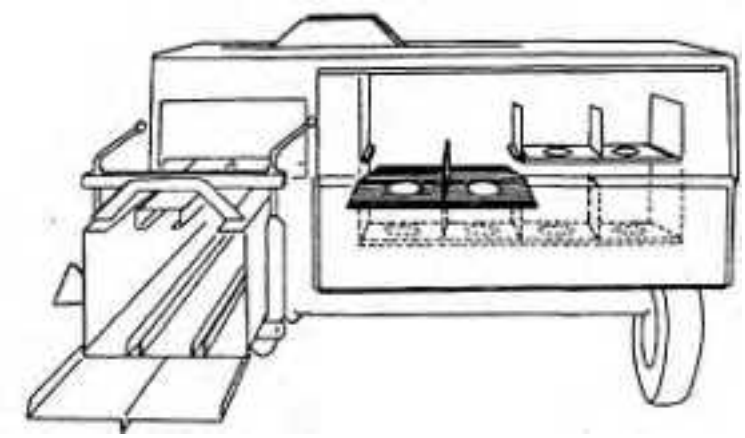


Fig. 9 Twine box

During twine threading, the protective lever S must be set in the position STOP (Fig.10 and Fig.11)

Fig. 10 Protective lever

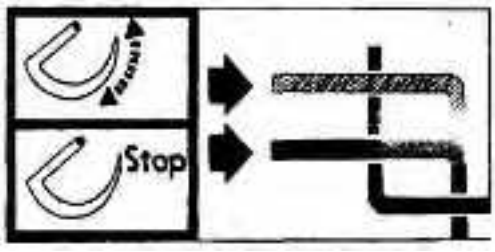


Fig. 11 Label

Figures 12, 12a, 12b show proper method of connecting the twine coils and knotting twine ends depending on the twine type. Figure 13 shows proper twine threading. During twine coil connecting, internal twine end must be pulled out from the hole on this side where knots are not created during pulling out the twine.

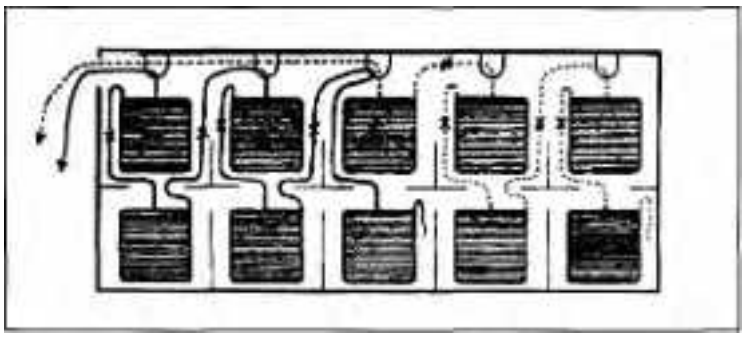


Fig. 12. Twine coils connecting method

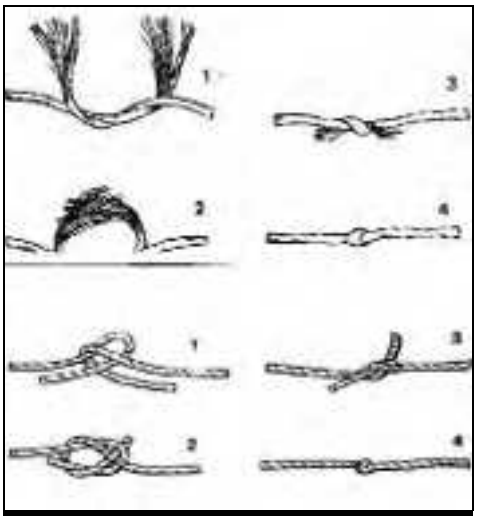


Fig.12a Flat knot for sisal twine.

Fig.12b. Knot for polypropylene twine

Twine which is pulled out of the twine coil centre should be successively threaded through: catch 1 (Fig. 13), tensioner 2 and twine guide-eyes 3, 4 (collectively) and 5.
Length of the spring L (Fig.13) should be regulated depending on twine type and compaction rate.
After connecting the twine coils and threading the needles, the twine should be inserted (by the needles) to the knotters, by performing the following activities:
- rotate the disc G (Fig. 14) until the arm of J switch moves to upper position, which will activate the drive of knotting mechanisms.
Next, turn the flywheel manually (in the direction indicated by an arrow) in order to insert the twine by the needles to the knotters. When the twines are already clamped between the disks of the catchers and kneaders in both knotters, the flywheel should be still rotated until the moment when the knotting mechanisms perform a full working cycle, i.e. when the needles and switches come back to the initial position. Cut off twine pieces with single knots should be removed from the knotters' fingers. Twine tightening is regulated by the push button 2. Twine should be tightened in such a way as not to make knots during return of the needles.

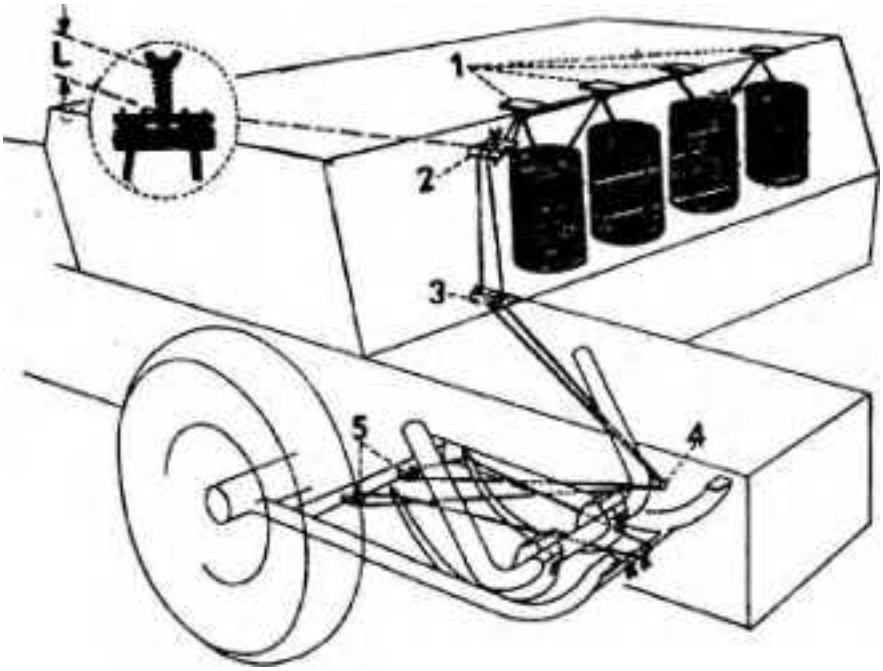


Fig. 13. Twine threading

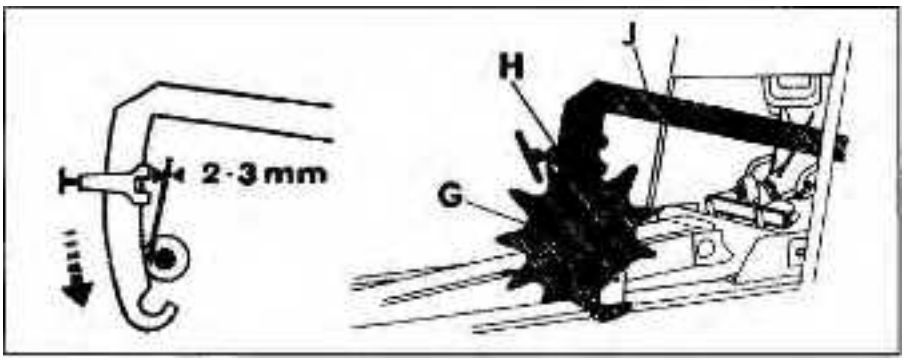


Fig. 14. Bale length regulating mechanism

5.3.7. Adjusting the bale length.

Bale length is regulated steplessly in the range of 0.3-1.3m by means of movable buffer H located on J arm (Fig. 14). When the buffer H is moved upwards, the bale length is increased. In order to assure uniform bale length, tighten the pressing screw firmly to prevent undesirable buffer movement.

5.3.8. Regulating the bale compaction rate.

The higher resistance in the pressing chamber, the more compacted the material subjected to pressing and the higher the compaction rate. Compaction rate is regulated steplessly by means of hand wheels K (Fig. 15). When the hand wheels are rotated to the right the pressing rate is increased After longer breaks in operation of the machine, it is necessary to loosen the hand wheels before restarting the operation and retighten the hand wheels after making the first bales. If humidity of material changes during pressing process it is necessary to make the setting correction by regulating the hand wheels.

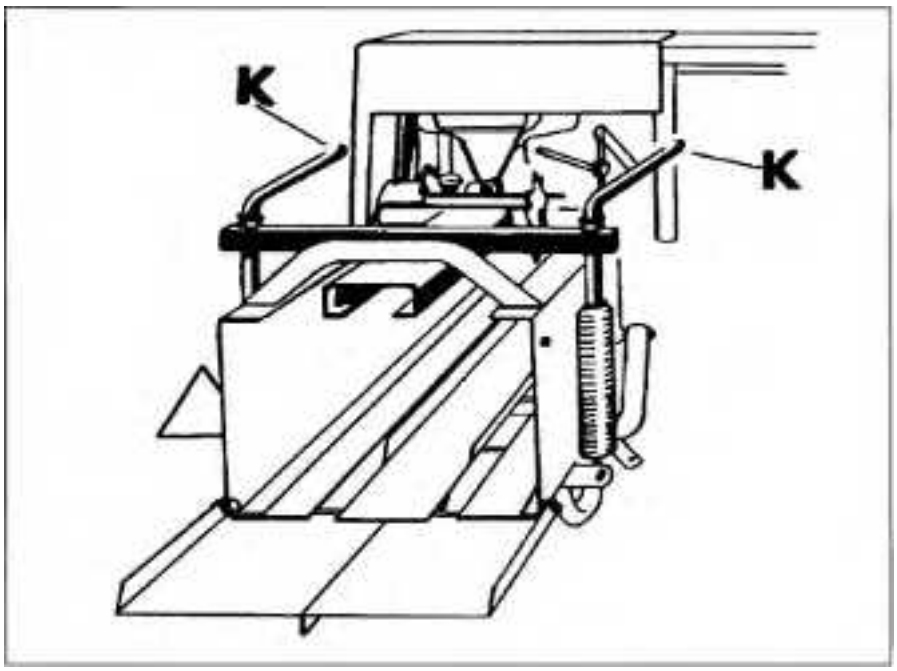


Fig.15 Compaction rate regulation

5.3.9. Adjusting the metal plate chute.

The metal plate chute is used for placing bales on the field (Fig.16) This working method of the machine

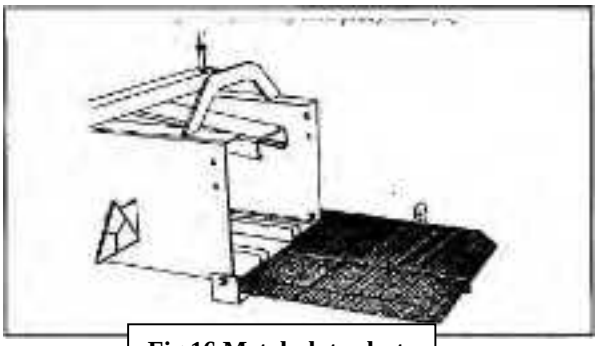


Fig.16 Metal plate chute

allows the achieving of the highest efficiency, because there are no other efficiency limiting factors. For the purpose of working on slopes and in case of collecting material from narrowly spaced material rolls, a half of the metal plate chute may be removed (Fig.17). In such a case bales will be placed to the side of the baler.

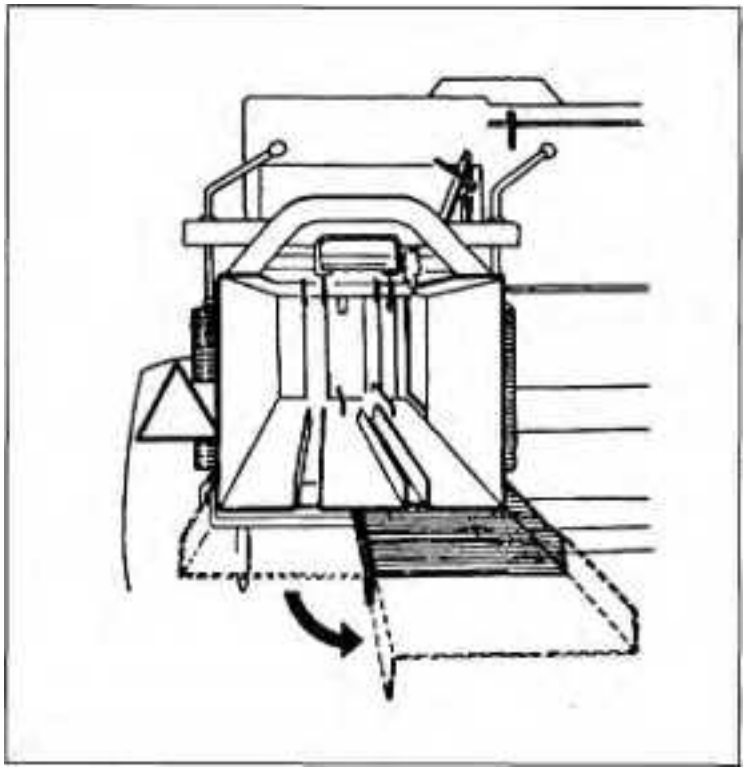


Fig. 17 Folded chute

5.3.10. Assembling the rear bale skid ramp.

The below specified activities must be performed by at least 2 people.

The rear bale skid ramp is assembled by means of two plates and bolts M12x25 fixed to the pressing chamber and may remain permanently fixed to the machine. In the transport position the skid ramp is folded and fixed to the holder with a snap fastener (Fig.18). In the operation position the bale skid ramp is unfolded and set by means of a chain and a catch located on the pressing chamber (Fig.19)

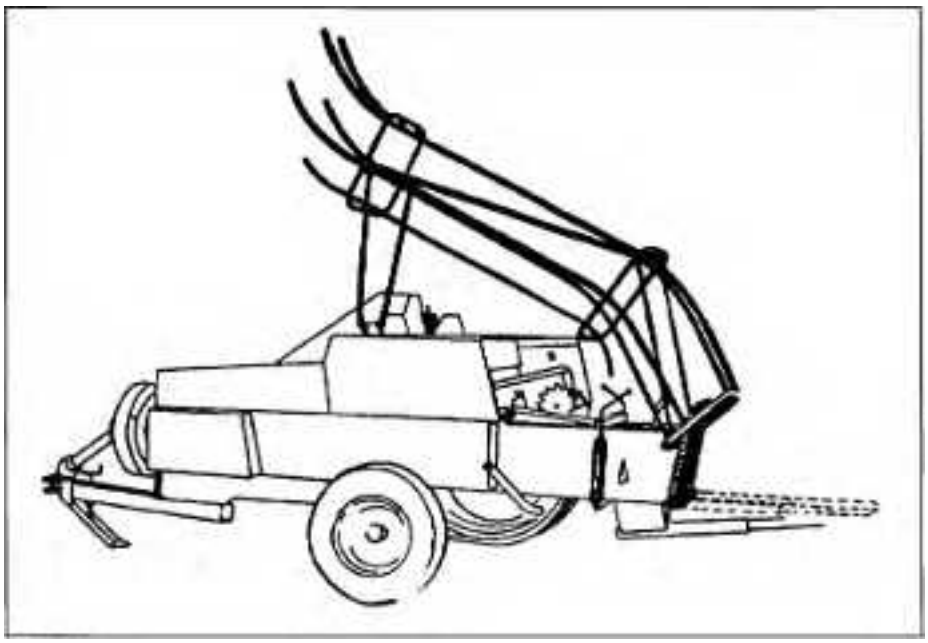


Fig. 18. Transport position of the bale skid ramp

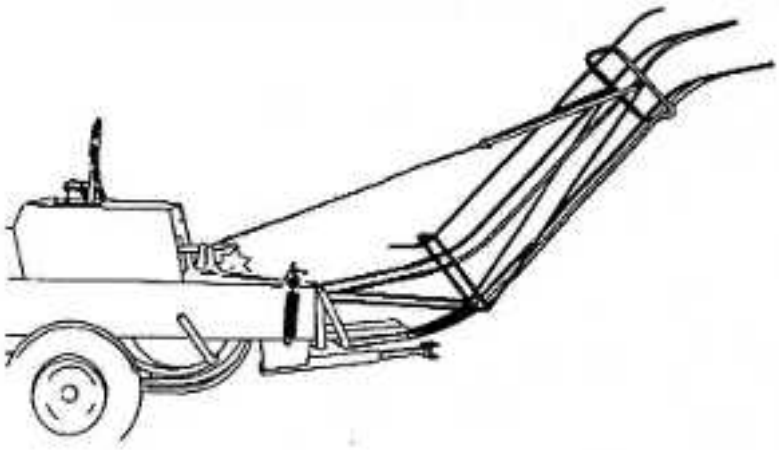


Fig. 19. Operation position of the bale skid ramp

The bale skid ramp should be positioned in such a way as to achieve a bale feeding height of 2.3 m to 2.8 m. The bale skid ramp should be suspended freely on a chain and should not be supported on the trailer side wall because while turning and on very uneven surfaces the trailer or the skid ramp may be damaged.
When the bale skid ramp is used, the springs should be loosened i.e. the compaction rate should be reduced for bales, because they are additionally pressed by the bales located on the skid ramp.
The rear drawbar is used for hitching a trailer to the baler and it should be always assembled together with the bale skid ramp.

Two axle trailers of allowable total weight up to 5.6t may be hitched to the baler.

The bale skid ramp is fixed under the pressing chamber by M12x35 bolts. It has regulated length which allows hitching various trailers.
Stretcher bar A Fig. 20 is an additional reinforcement which is assembled together with the rear drawbar.

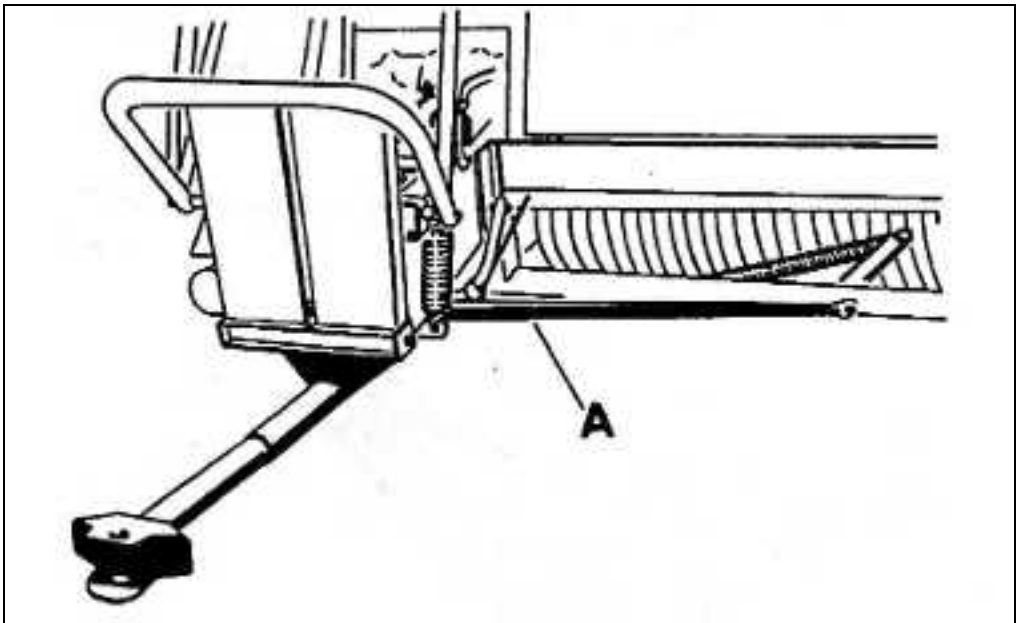


Fig. 20 Rear drawbar and the stretcher bar

All the elements of the bale skid ramp are presented in the catalogue of parts in the table 20. In case of difficult soil conditions it is recommended to use tyres for the following wheels:
-wheel next to the pressing chamber 11.5x15-6PR-AM4-1
-wheel on the side of the pick-up 10 x 15 -6PR-AM4-1

5.4. *Baler operation*

It is recommended to operate the baler at its nominal working speed while collecting medium size swaths. The working speed should be adjusted in such a way as to avoid clogging of the baler. The working speed must not exceed 8 km/h. Rotation speed of the tractor transmission shaft must be 540 rpm regardless of the driving speed. Reduction of the rotation speed results in dangerous clogging of the baler.

A balanced crank-piston system is applied in the balers to reduce vibrations of the baler during its operation, decreasing power consumption, improving working conditions of the operators and reducing wear of parts.

While operating the baler, special attention should be paid to checking the reliability of bolt connections 1 and 2 (Fig. 22) of the counterweight with arms and the crank, particularly in initial stage of operation.

In case of any disassembling of the crank, the counterweight should be assembled in such a way as to assure that there is no friction between the plate and cooperating parts of the baler i.e. connecting -rod and chain of the pick-up drive.

The ends of the pick-up fingers should not touch the ground during operation because harvest material may be contaminated. Gauge wheel of the pick-up is already properly positioned. The distance between the pick-up fingers and the ground is changed by changing the position of the gauge wheel (Fig.21).

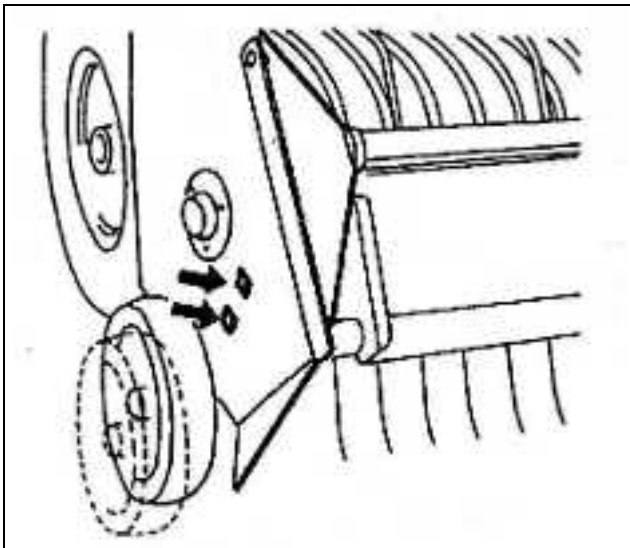


Fig. 21. Regulation of pick-up wheel

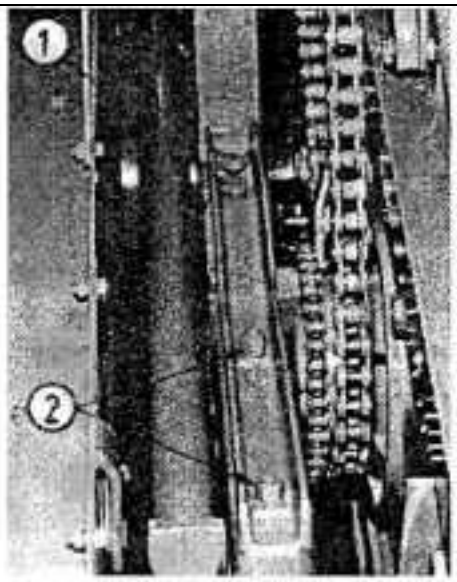


Fig. 22 Balancing system

Pressure of the gauge wheel on the ground is regulated by means of the relief spring Fig.23

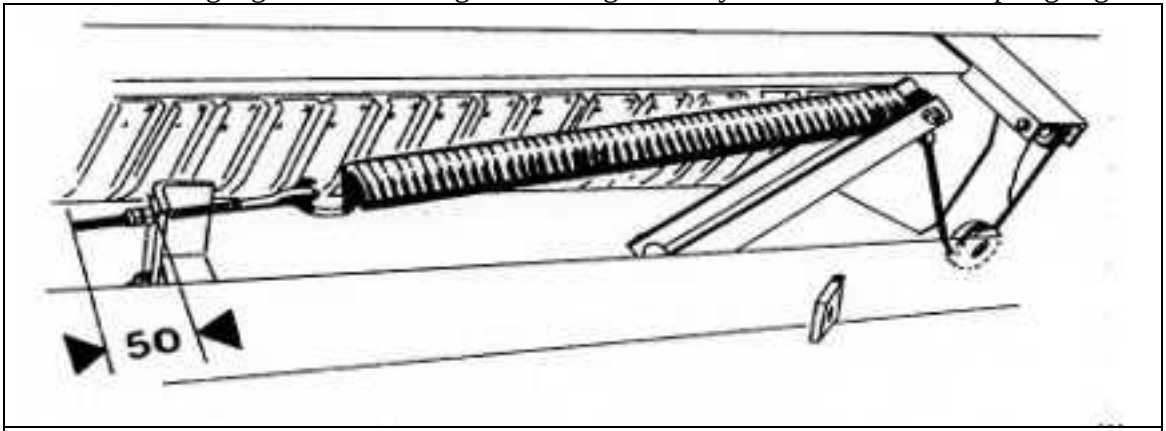


Fig. 23. Relief spring of the pick-up

Pay attention to the PTO drive shaft while taking sharp turns.

In order to assure proper durability of the shaft the drive should be switched off while taking sharp turns!

6. Technical service.

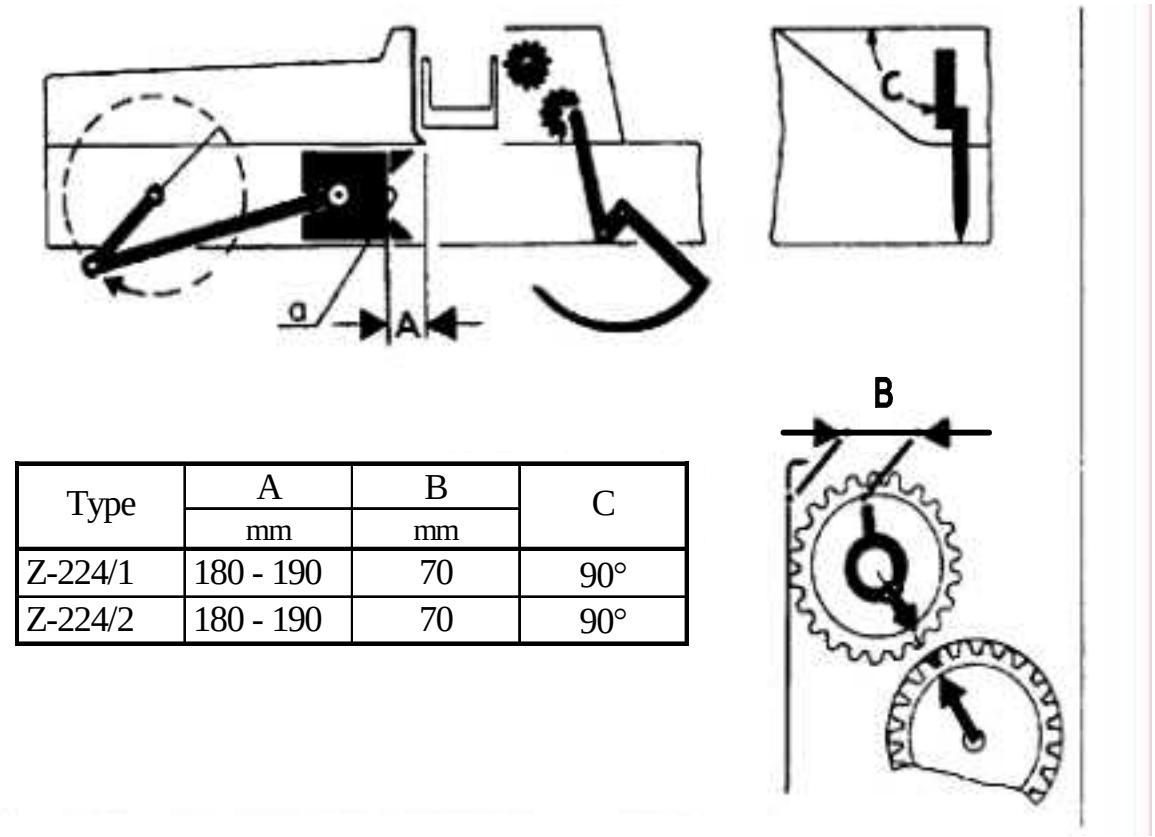
6.1. *Regulating main operating units.*

In order to carry out the proper setting of operating units during repairs or inspection works it is necessary to check the following:

1. Setting of the piston with regard to the feeder.
2. Setting of the knotter shaft clutch with regard to the transmission shaft.
3. Setting of the knotting needles.
4. Setting of the needles with regard to the piston.
5. Resetting of the needles with regard to the piston.
6. Setting of the needles with regard to the knotters.
7. Setting of the twine retainers with regard to the needles.
8. Setting of the piston and the knives.

6.1.1. Setting of the piston with regard to the feeder.

Rotating the flywheel , move the piston to the position shown by Fig.24



Type	A	B	C
	mm	mm	
Z-224/1	180 - 190	70	90°
Z-224/2	180 - 190	70	90°

Fig.24 Setting of the piston with regard to the feeder

If the fingers of the feeder are positioned vertically downwards (C=90º), the dimension A, from the face surface of the piston to rear edge of the side wall of the feeder chamber, is 180-190 mm or the face surface of the piston is visible in the hole on the side wall of the pressing chamber. Next, with the fingers of the feeder positioned vertically (C=90º), set the dimension B, measured from the rear wall of the feeder chamber to the point marked on the gear wheel, at 70 mm.

Assemble the chain in such a way as to assure tightening of its lower part. After fastening the chain of main drive, unlock the tightener, rotate the flywheel several times and check the dimension 180-190mm.

6.1.2. Setting of the knotter shaft clutch with regard to the transmission shaft.

During assembly of the knotters, both gear wheels (gear wheel and cam disc) should be positioned in such a way as to assure that the marked tooth under the key in the gear wheel enters the marked notch of the cam disc wheel (Fig.24).

6.1.3. Setting of the knotting needles.

In their rest position, the ends of the needles should be located at the position D = 60-75mm Fig.25 with regard to lower surface of the chamber bottom. Corrections can be made by screwing in or screwing out the rocker string of the needles.

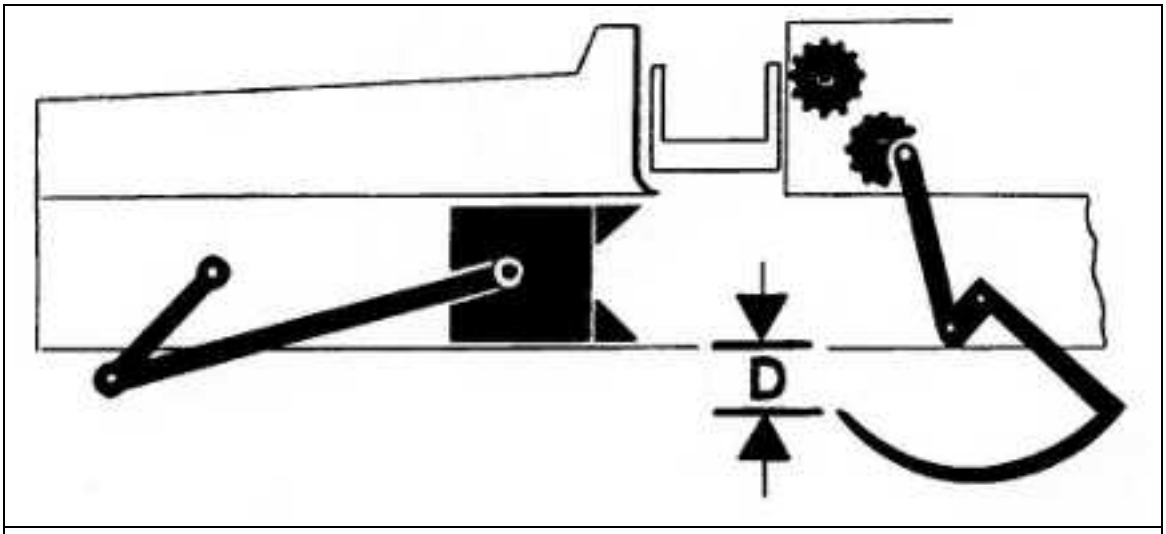


Fig. 25. Setting of the needles

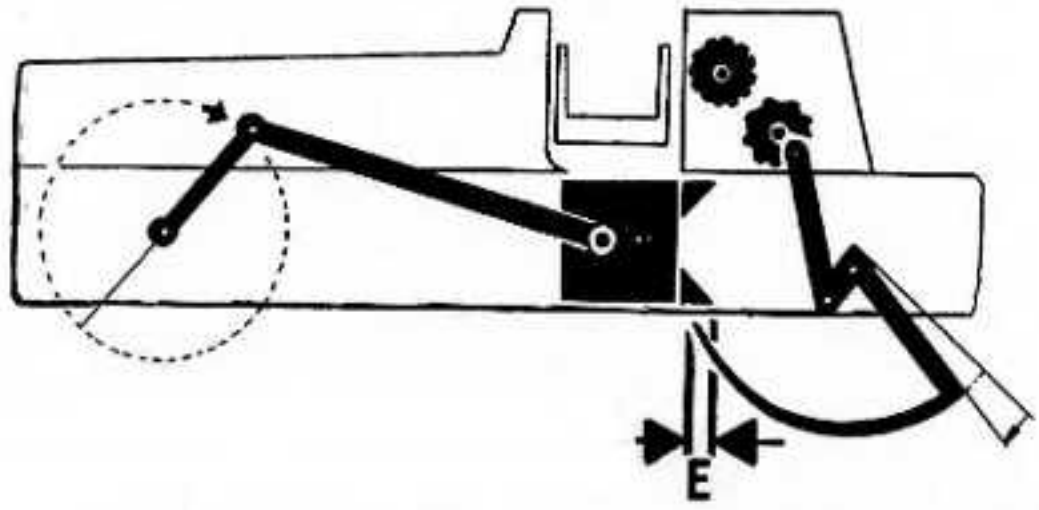
6.1.4. Setting of the needles with regard to the piston.

Setting should be carried out in such away as to assure upwards movement of the needles in the grooves of the piston. The tops of the needles must enter the grooves at a distance of E= 70-100mm behind the tops (teeth) of the piston Fig.26. If this condition is not fulfilled, the previous settings must have been carried out in an incorrect way. In such a situation the synchronization must be checked and corrected according to the specified sequence. If, after checking, the dimension is still incorrect, it is necessary to make corrections (changes) of the chain wheel position on the transmission shaft of the feeder (3 key grooves in the hub).

The needles will not be damaged during knotting operation only if dimension E is maintained.

6.1.5. Resetting of the needle with regard to the piston.

Switch on the mechanisms (for this purpose, rotate the switch star) and rotate the flywheel in the direction indicated by an arrow, until the needles are located at the height of the chamber bottom, check the dimension E Fig.26. If the setting is to be corrected, it is necessary to disassemble the main drive chain and set it in such a way as to assure that the clutch disk of the knotters S is not out of gear Fig.27.



Insert the protecting element of the connecting link of the chain in the direction opposite to the chain movement direction, on the side facing the gear, and next, check dimension E and synchronization of other units, rotating the flywheel in the direction indicated by the arrow.

6.1.6. Setting of the needles with regard to the knotters.

The needles should be set in such a way as to assure that they lightly touch the knotter body in points X and move in the interval 4-6 above the catcher Fig.28. The distance between the needles and catcher disks can be increased by loosening A bolts and tightening bolt B. The distance can be decreased by loosening bolts B and tightening bolts A Fig.29.

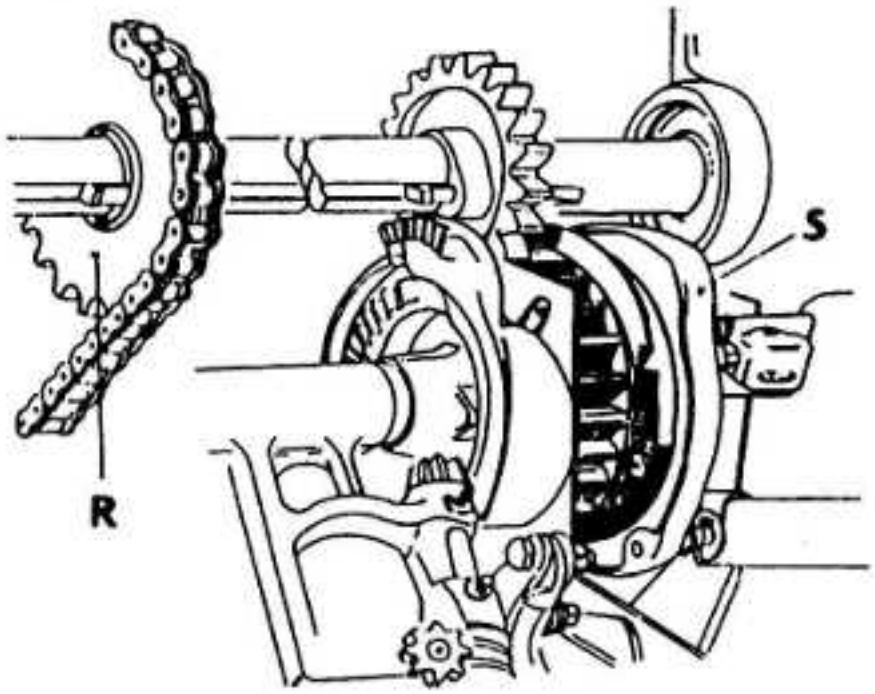
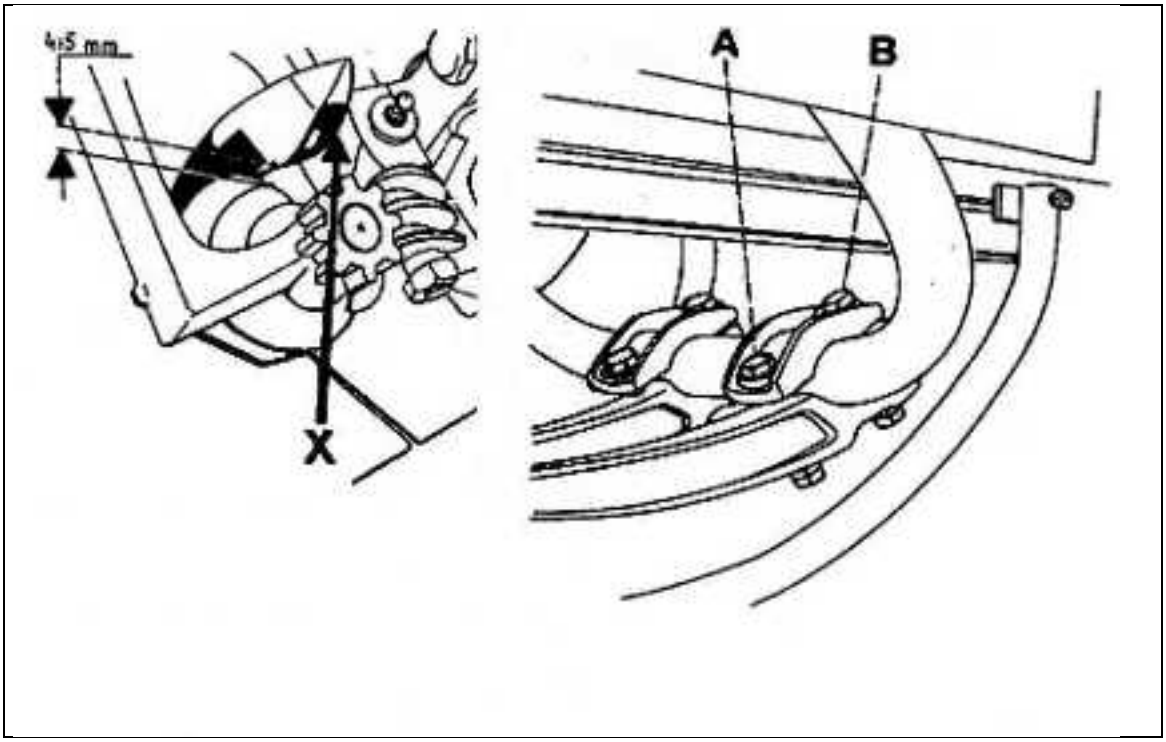


Fig. 27. Resetting of the needles with regard to the piston


4±5 mm
X
A
B

6.1.7. Setting of the twine retainers with regard to the needles.

In order to set the twine retainers, set the knotting mechanisms and rotate the flywheel in the direction indicated by the arrow, until the ends of the needles in their return movement, are located over the table of the knotting mechanisms. The distance between the retainer N and the internal edge of the needle should be 3-5mm Fig.30 and Fig.31. Regulation of the twine retainer can be performed in the following way; loosen the bolt P, move the retainers N and secure them again by striking with a centre punch. In the rest position, the sharp end of the twine retainer will be placed again at the distance of about 50±2mm from the opposite edge of the needle slot in the table of the knotting mechanisms. Corrections can be made by screwing in or screwing out of string Z. In order to avoid exceeding the dead centre by both twine retainers N (Fig.31), the adjusting screw S is located on part of the steering shaft. The distance between the adjusting screw S and the buffer T should be approximately 1mm at the moment when the steering roll R Fig.30 and Fig. 31 is located at the highest point of the cam race of the knotter drive disk.

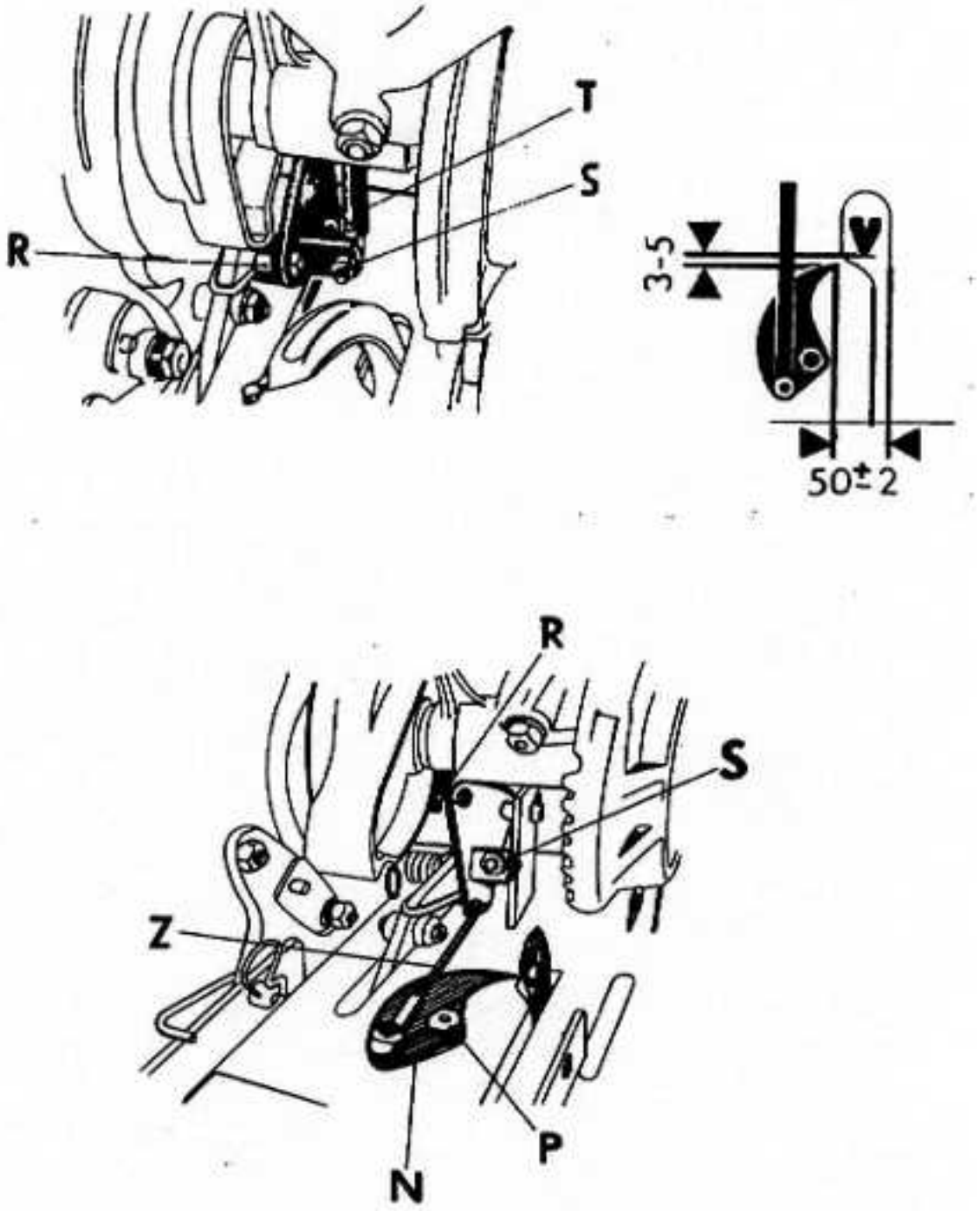


Fig.30 Setting the twine retainers I
Fig.31 Setting the twine retainers II and III

6.1.8. Setting of the piston and the knives.

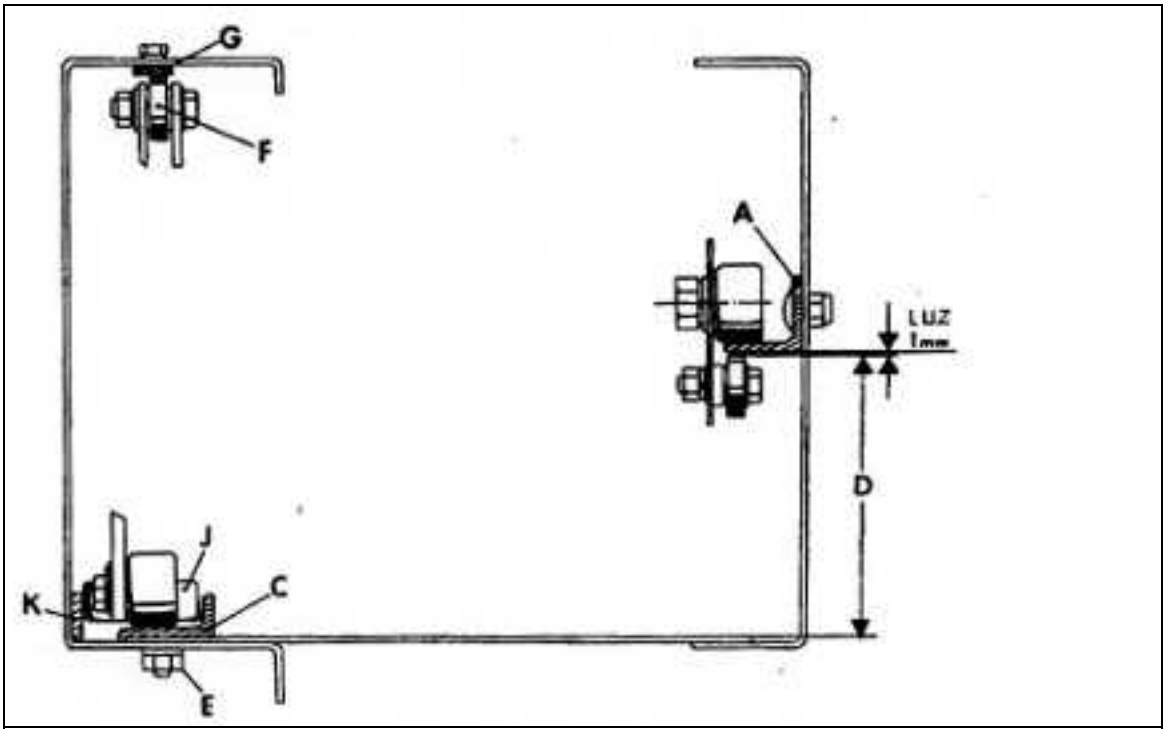


Fig.32. Setting of the piston with regard to the chamber

Fix the guide rail A Fig.32. in parallel to the chamber bottom at the distance of D=196mm. Move the piston with a loosened knife the previous dead centre and move the loosened guide rail C in parallel to the side in such a way as to assure that the guide rolls J adhere to the guide rail C on one side and to the chamber wall on the other side. Tighten firmly the front screws E. Next, move the piston to the rear dead centre and also set properly the guide rail C in this position. Tighten firmly all bolts E. Move front upper guide roll F located in a skew groove closely to the upper guide G.
Adjust the rail R to the roll S by means of T bolts with minimum clearance of 0.5mm.
Cutting slot S between the blades of the knives (piston L and pressing chamber M) should be 0.5-1.0mm. In such a situation the cutting strength has the minimum value Fig.33. The knives should always be sharp. The knife of chamber M may be used as a double sided knife. During sharpening and replacing of the piston knife, the flywheel should be immobilized.

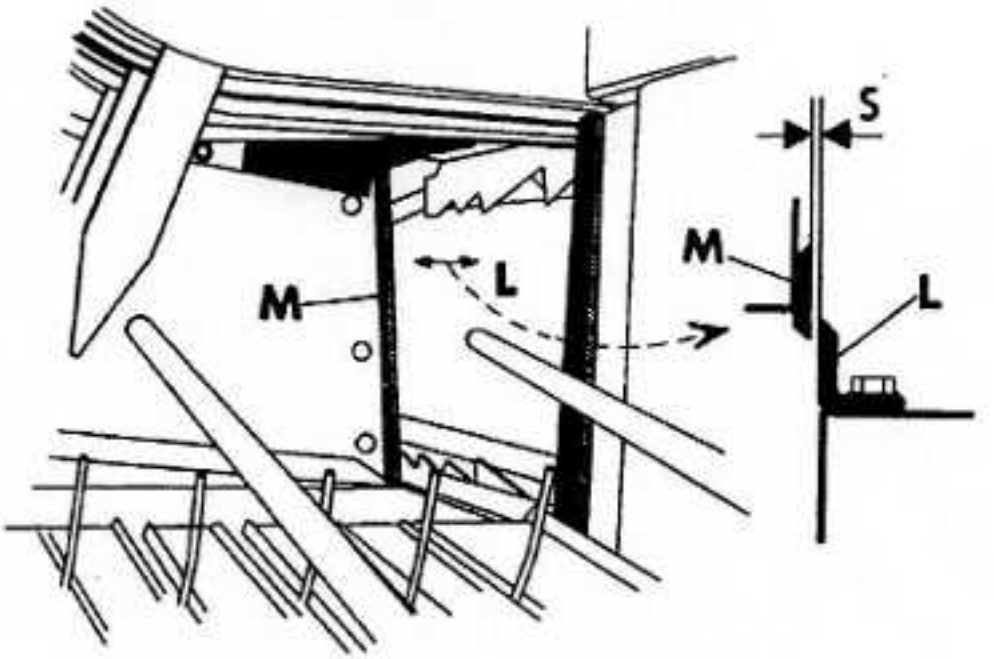


Fig.33. Setting of the cutting slot between the knives

6.1.9. Regulation of the main chain tensioner.

The main driving chain is tightened by the tensioner wheel Fig.34, which is pulled out by a spring and because of this the tension value is constant.

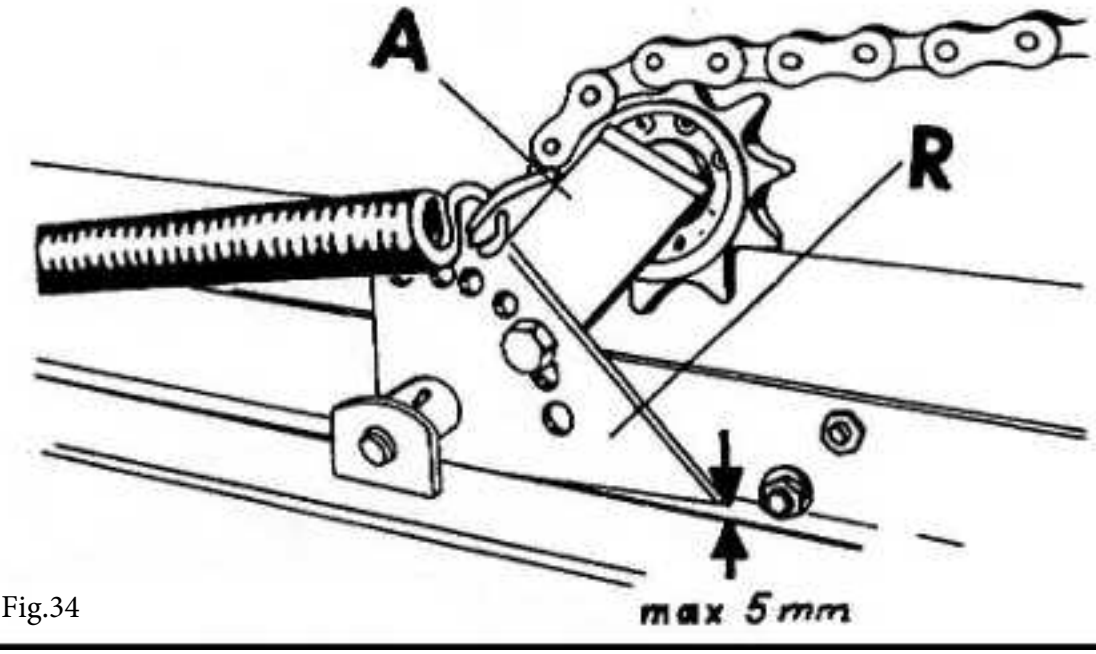


Fig.34

The return buffer R, placed on the arm of the tightener wheel A, is used in order to prevent the return of the tensioner wheel. The return buffer must be fixed by screws to the arm in such a way as to assure possibility of return movement (chain loosening). In the initial stage of the machine operation, when the chain is being extended, it is necessary to control and correct the return buffer setting. Such activity is aimed at preventing the chain skipping during possible reverse rotation of the machine mechanisms.

Wet straw and hay must not be pressed due to the possibility of a drive system defect, danger of the baler clogging or breaking of the needles.

Before any activity connected with the removal of clogging, the tractor engine should be switched off. The tractor connected to the machine should be secured against possible start-up by any unauthorized persons.

6.1.10. Recoil mechanism.

The return buffers R Fig. 35, which are pressed by springs and used for holding pressed material, must be always movable. During working stroke of the piston, the return buffers are hidden and when the piston is withdrawn, they enter the pressing chamber again. Immobilizing of the buffer results in pressure of straw on the needles, which consequently might be broken.

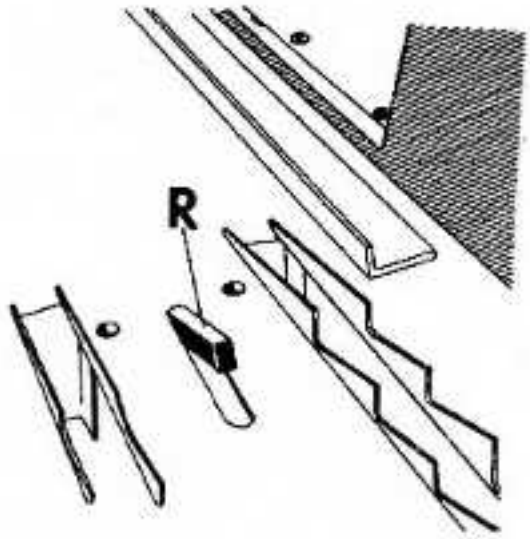


Fig.35 Recoil mechanism

6.1.11. Regulation and adjustment of the feeder.

In order to obtain straight bales with different material collection conditions, adjusting lever S is used to regulate steplessly. Additionally, finger Z of the feeder may be fixed by bolts N in four different positions:

-bale curving to the left Fig.36; screw out adjusting lever S, increasing X value in this way or lower finger Z

-bale curving to the right; screw in adjusting lever S, decreasing X value in this way or lift finger Z.

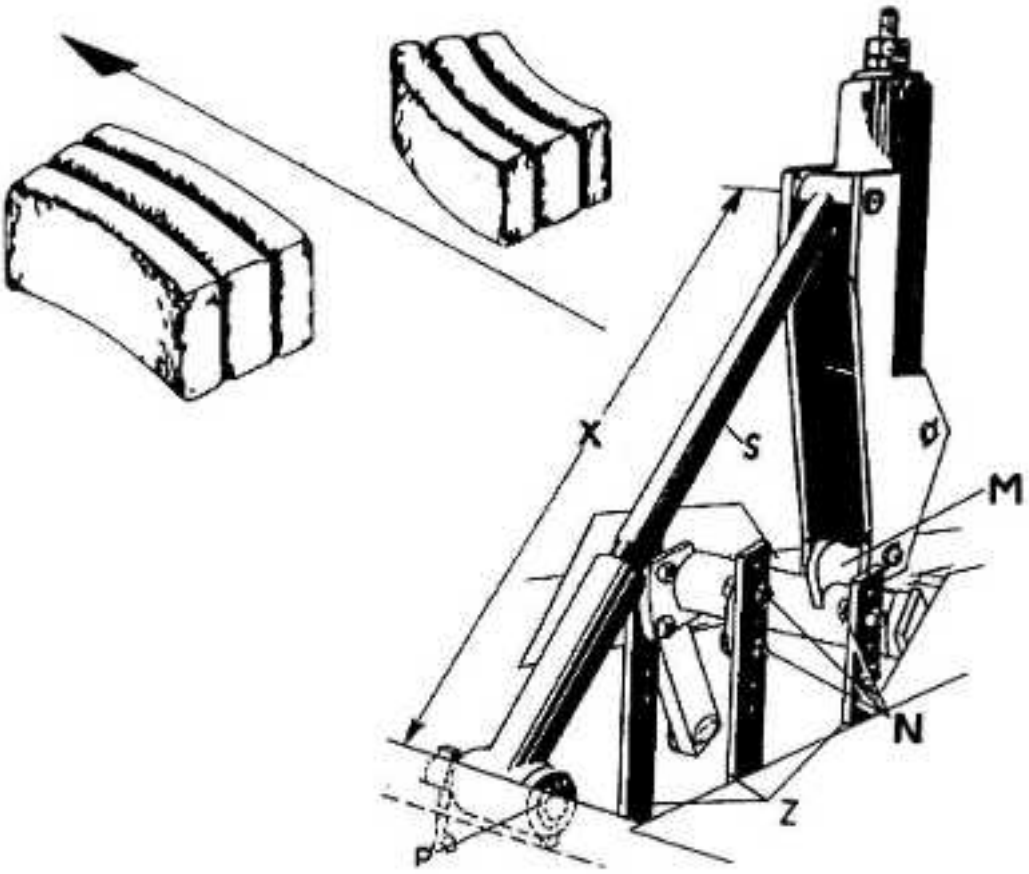


Fig.36 Regulation of the feeder.
Driving direction

Normal distance X between the rotation centres is 640mm. After setting the X distance, the P pin should be secured once more against falling out. Additionally, rotating the flywheel of the machine, check sufficient distance between ends of the piston and fingers of the feeder.

Automatic mechanism M in the the feeder, protects the feeding fingers against overloading. When overloading occurs the automatic mechanism causes backwards deflection of the feeder's fingers and switching off is accompanied by a loud crack. If, after hearing this signal, the tractor driver stops the machine for a short time, without switching off the baler drive, the automatically returning fingers of the feeder will remove the clogging. Spiral roller will automatically adjust to all material collection conditions and amounts of transported material. The driving chain of the spiral roller is automatically tightened.

6.1.12. Pick-up shaft clutch.

The overload, one-way clutch of the PTO drive shaft Fig. 37 is adjusted to A torque of 900Nm.

After longer idling time of the machine, for example during winter time, loosen the 6 nuts which press the disc, rotate the clutch for a short time and tighten the nuts to their previous position and secure them

with lock-nuts Fig.37.

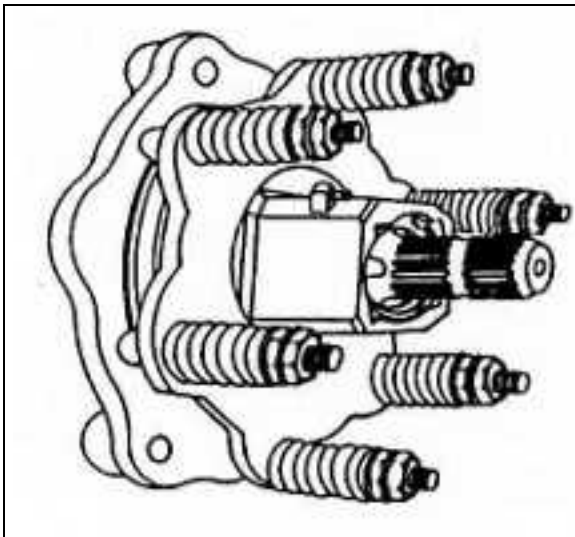


Fig.37. The overload, one-way clutch

6.1.13. Flywheel clutch.

Slip moment of the flywheel clutch *Fig.38*, amounting to 2600-2900Nm, is achieved by tightening the disk springs C with a nut A, until they are squeezed to a flat position.

A damaged clutch facing should be replaced. In case of replacement, the clutch facing B should operate with a newly adjusted torque of 400-500Nm in order to completely run-in the clutch facing surface. Next, loosen the nut A, clean the grooves of the clutch facing, retighten the nut and secure it. The clutch is ready for usage. After longer idling time of the machine, for example during winter time, release the clutch before next usage (separate friction disks) by pulling away the flywheel from the clutch disk with impulse motions using a lever applied to several places on the circumference.

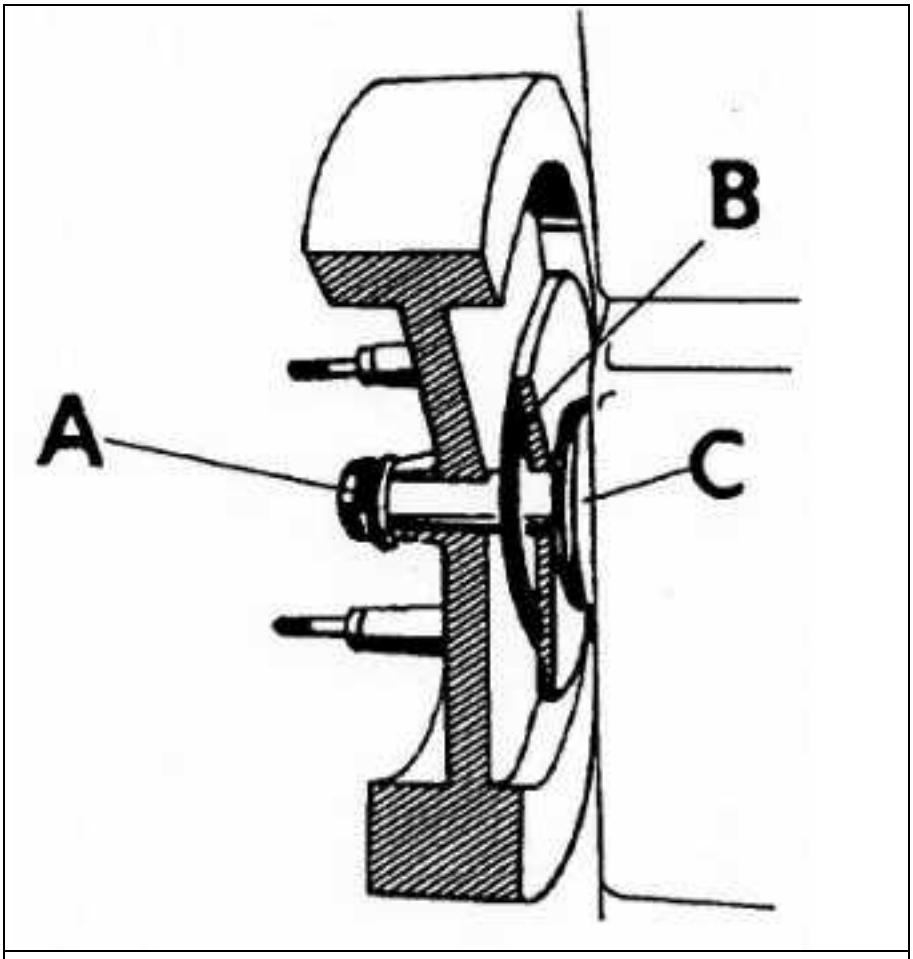


Fig.38. Flywheel

6.1.14. Pick-up clutch.

The baler is equipped with the overload friction clutch in order to avoid damages of the pick-up during operation in unfavourable conditions. The clutch is adjusted to the torque of 450±50Nm. During replacement of the clutch facing, run-in the clutch 10 times at 5 sec. intervals at the torque of 150Nm and 86 rpm.

6.1.15. Feeder clutch.

Deflection torque of the feeder's forks is set at the manufacturing plant and is 1995-1100Nm. This torque must not be regulated by the machine user.

6.1.16. Protection of the needles.

A shear bolt in the pull rod of the needle rocker is used for protecting the needles from breaking. After shearing of the bolt, remove defect cause, install a new needle of strength class 8.8 and carry out regulation of the needles.

6.1.17. Adjusting the knotter shaft brake.

The brake of shaft B Fig.39 is properly adjusted when the springs F are clamped to the length L=23-24 mm.

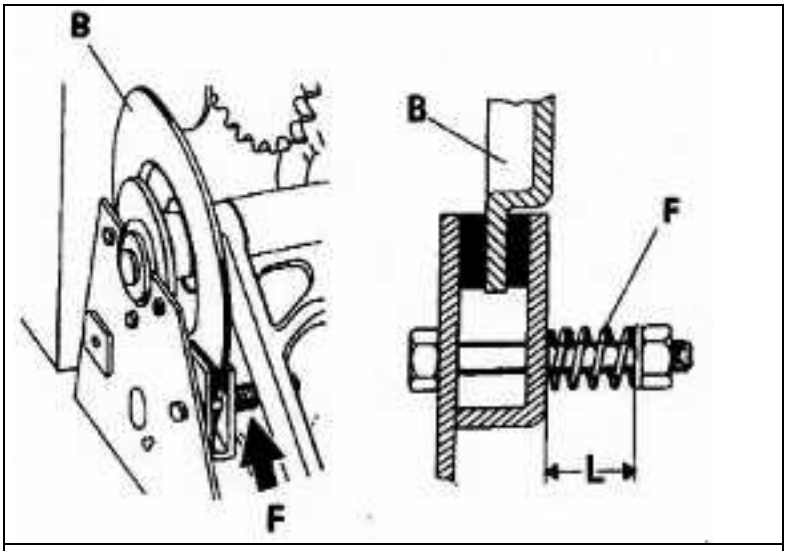


Fig.39. Knotter shaft brake

6.2. *Knotter.*

6.3. ***Operation method.*** Figures from 40 to 45 show specific operation stages of the knotters and general twine flow. The end of the twine and its remains are tightened by means of the kneader 1 in a groove of the catcher 2. From here, the twine is carried above the groove **b** and the jaw 3 of the finger of the knotter through the arm guide 4 and further over the top of the needle and the twine tightener to the twine coil box.

The twine wraps three sides of the bale.

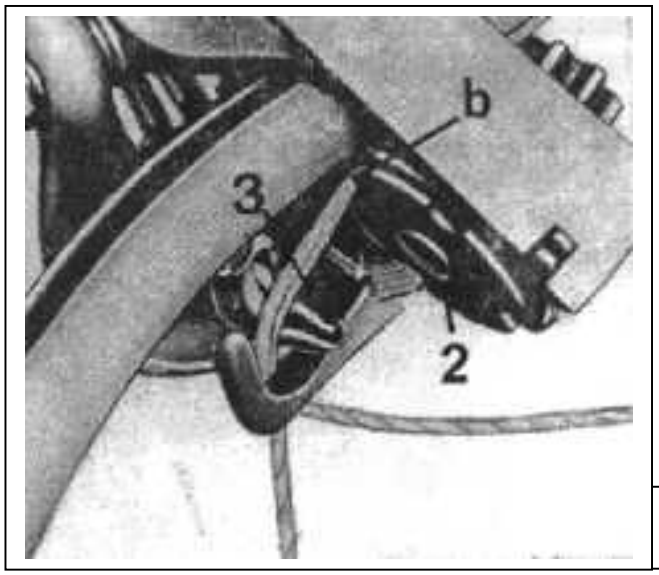


Fig.41

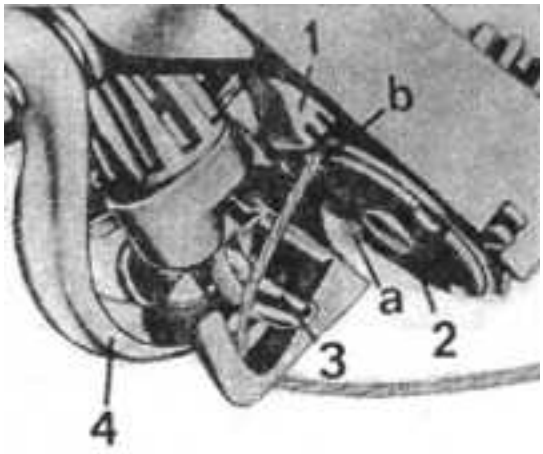


Fig. 40

After operation starting the needle lays the twine around the fourth side of the pressed bale and carries it further over clamped jaw of the finger 3 to open groove **b** of the catcher 2. At the moment when the needle and the piston reach their position (dead position) both twines are clamped in the groove of the catcher. The remaining part of the twine in the groove is released as a result the catcher rotation. When both twines are clamped in the groove **b,** the knotter's finger rotates and makes a loop around itself.

After rotation by about 180º the roller of the jaw of the knotter's finger drives on the cam of the knotter's body, which results in opening the jaw of the knotter's finger.
In the mean time, the catcher rotates so far that, after about 270ºrotation of the knotter's finger, two twines clamped in the knotter are positioned at the proper height and slide between the jaw and the knotter's finger.

After about 340º rotation of the knotter's finger the cam reaches its end. The jaw of the knotter's finger is closed by the holder which is released by the spring and both twines are held in the jaw. After a further 360º rotation of the knotter's finger, the cam is again placed in the rest position, the catcher ends its rotation by 90º and opened groove **c** is placed between rear half of the cleaner and rear nose of the twine holder.

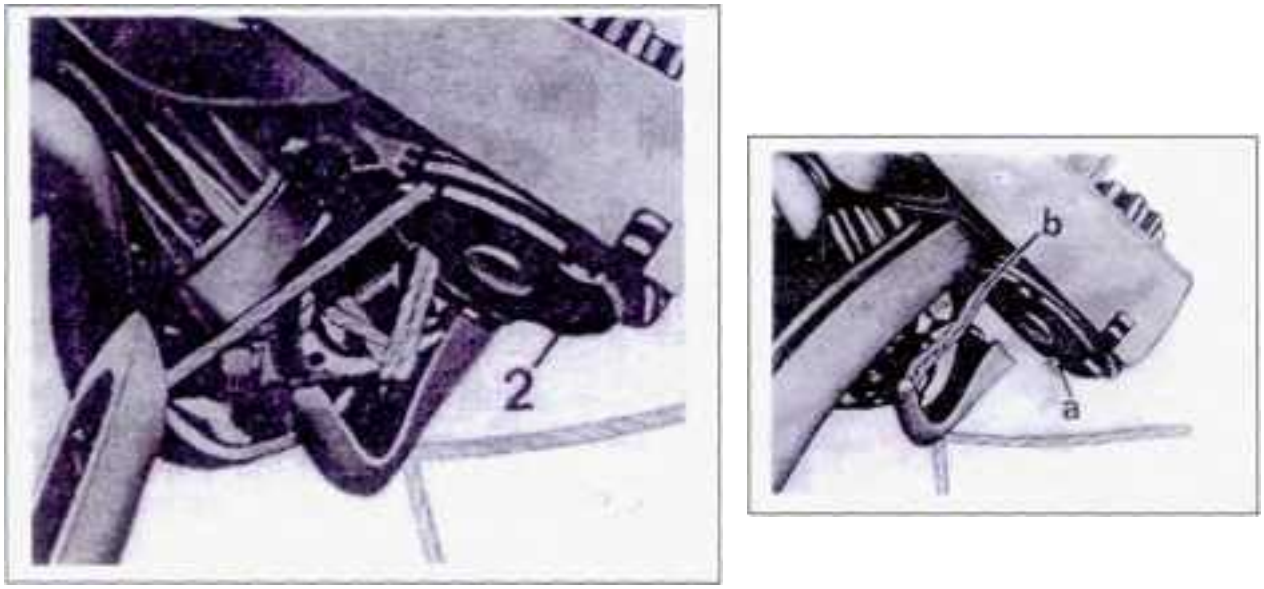


Fig.42.

Both edges assure good guiding of the twine. The second half of the cleaner cleans the groove off the twine waste ends, if they do not fall out by themselves.
The twine which is jammed in the groove b is inserted to the groove **c** by the returning needle. The knife lever 4 deflects forward and cuts with its blade 5 both twines which are jammed in the jaw of the knotter's finger and in the catcher. The scraper 6 on knife lever 4 scrapes the loop laid around the knotter's finger and carries the loop through the twine ends which are jammed in the jaw and in the knotter's finger, creating a knot in this way.

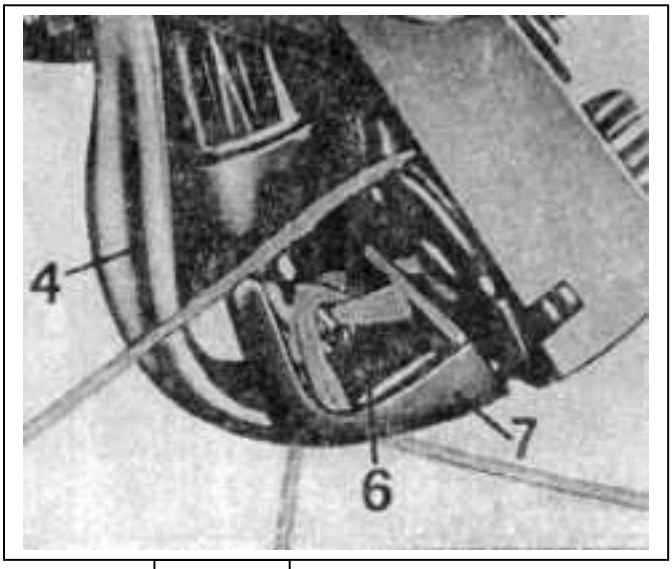


Fig.44

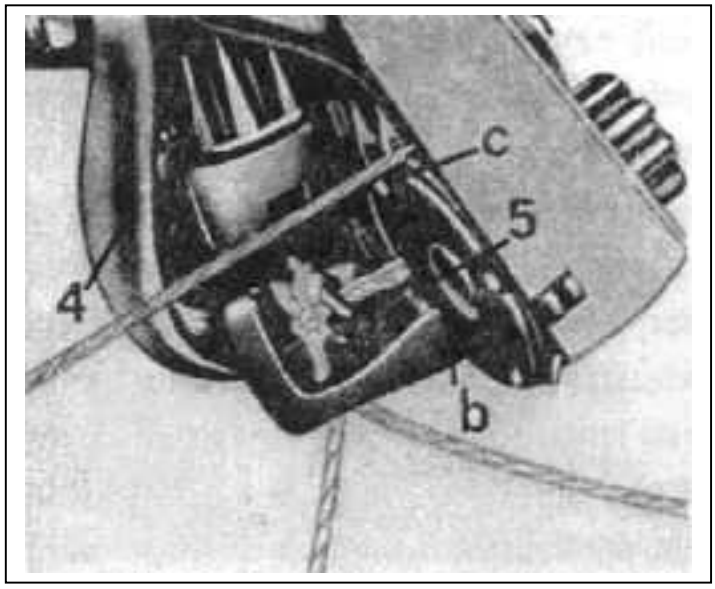
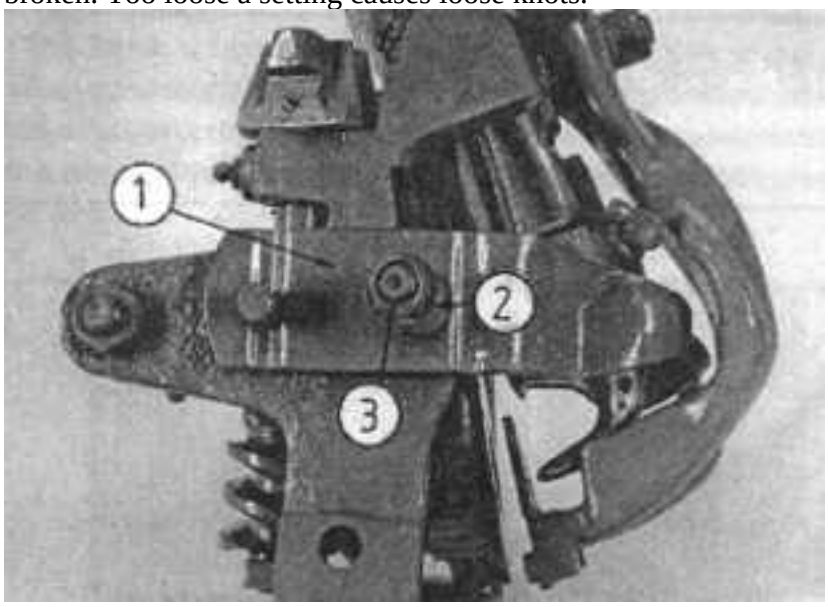


Fig.43.

By means of further rotation of the knife lever the knot is scraped from the knotter's finger and jammed ends of the twine are pulled out from the jaw and the knotter's finger. At the same time the needle is withdrawn further. For the time being, the needle has put aside the twine on the arm 7 of the knife lever 4 which is tilted forward, in order to protect the twine from being scraped by twine loop from the knotter's finger. Only after the knotting operation is completed, the knife lever is withdrawn and the twine is slid off the lever's arm 7 and slides to the twine guide (on the knife lever).
The twine guide on the knife lever is shaped in such a way that the twine falls down exactly on the jaw of the knotter's finger. The needle is withdrawn to the lower dead centre and a next piston stroke begins.

6.3.1. Kneader.

The kneader Fig.46 1 is tightened by pressure spring 2 regulated by means of a nut 3. In case of excessive pressure of the kneader the knot remains caught on the knotter's finger and the twine is broken. Too loose a setting causes loose knots.



6.3.2. Twine catcher.

The groove of the catcher (Fig.47, Fig.48) 4 must be located between the rear nose of the twine kneader 5 and the rear half of the cleaner 6 in order to assure precise laying of the twine. At least two knotting cycles must be carried out in order to check proper location of the groove. Both guiding edges of the rear noses of the twine kneader must then enter 1-2 mm to the groove and maintain the dimension of 4mm between the edge of the catcher's groove and the kneader's nose. In order to set the catcher, it is necessary to release the nut 7 on the worm shaft. The worm is released by light striking of the shaft face. Proper location of the groove may be obtained by proper fixing of the worm with the nut. However, the worm may be fixed with the nut only when there is no twine in the twine retainer. Pressure strength of the twine in the catcher is regulated by hexagonal screw 8, which tightens the kneader through the spring and the lever 9 (Fig.48). The screw of the lever is secured with a lock-nut.

The kneader should clamp the twine only to such a degree as to assure that the twine is not pulled out from the kneader during the knotting operation. As a result of excessive clamping the twine will spilt. The clamping force should be adjusted in proportion to bale weight increase or bale humidity. Type and humidity of the pressed material require various settings, which, if it is necessary, should be adjusted in working conditions.

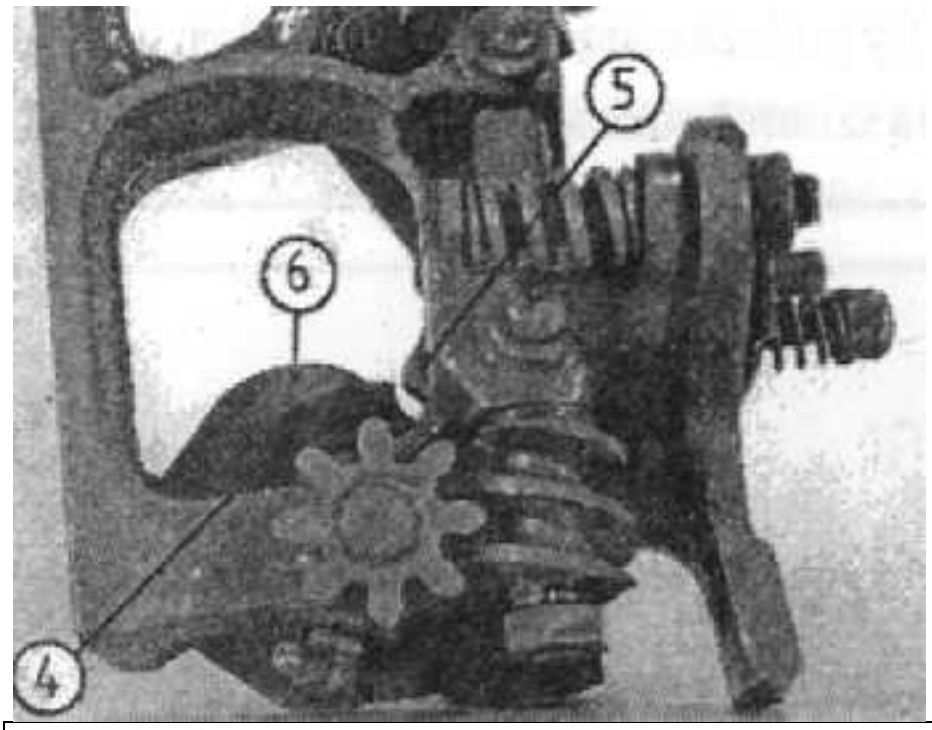


Fig.47

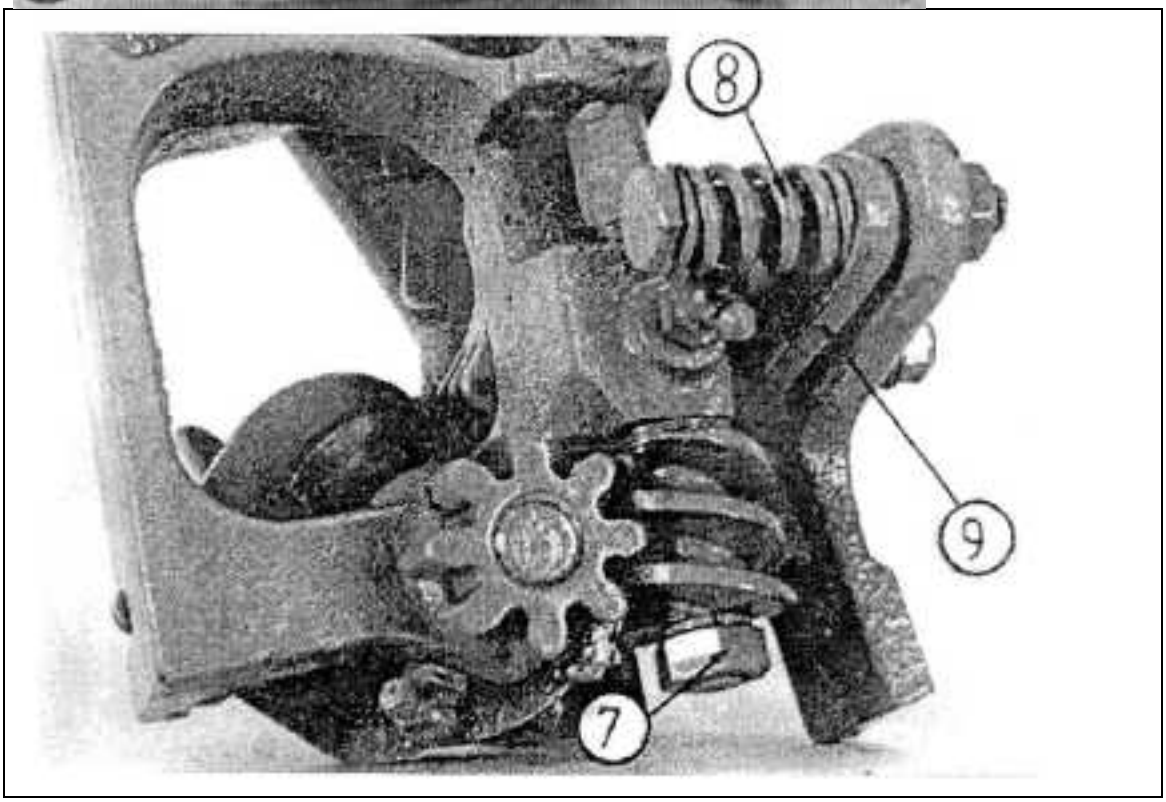


Fig.48.

6.3.3. Knife lever.

The knife lever 1 has three following tasks:
-cutting of the twine between the catcher and the knotter's finger,
-pulling off a loop or a ready knot,
-guiding of the twine.

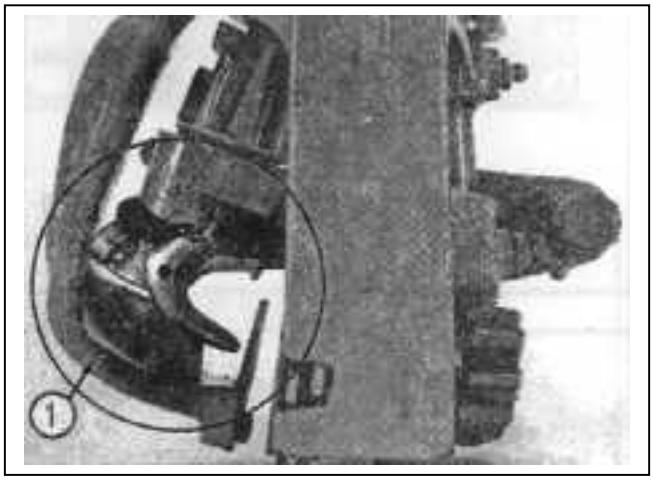
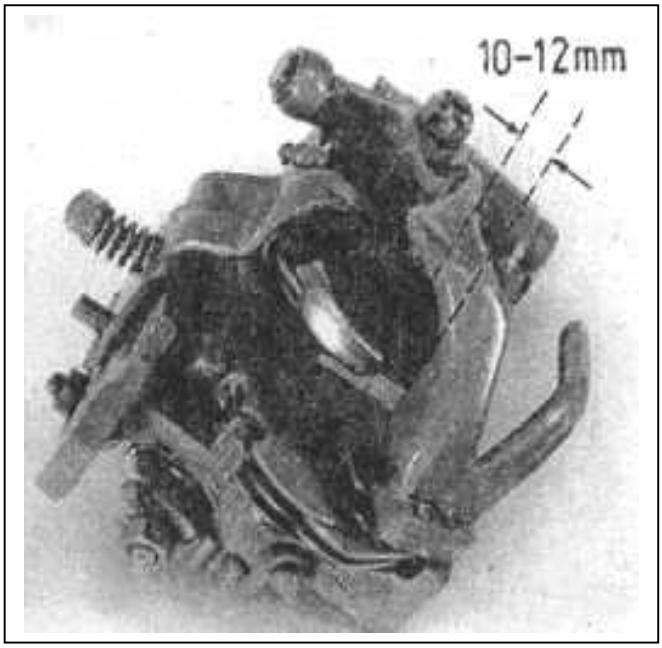


Fig.49



6.3.4. Operation inspection.

The knife lever 1 Fig.50 should be adjusted in such a way as to assure free rotation of the knotter's finger. Scrapping part the knife lever 2 Fig.50 should touch the ridge of the knotter's finger.
The stroke of the knife lever should assure reliable scrapping of a knot from the knotter's finger.

In the dead centre of the knife lever, the scrapping part should be located 10-12mm from the top of the knotter's finger. The distance should be checked by switching on the drive of the knotters, carrying out one manual knotting and specifying the biggest spacing according to *Fig.51*. In order to carry out required setting of the lever it is necessary to adjust the fixing of the knotter to the table of the knotting mechanism (fixing pins H with a spring plug) and tilt the knotter's body K upwards Fig.54. Now, the knife lever can be adjusted by striking it with a hammer or using a special wrench Fig. 53. The knife lever, due to the fact that it guides the twine, must have all its edges rounded as well as smooth surfaces, especially in the place marked with a circle on the Fig.52. The knife, as a replaceable part, is fixed to the knife lever by means of two hexagonal screws. Special attention should be paid to the condition of the knife blade. If twine ends are cut unevenly and are shreded, it is necessary to sharpen the knife (carry out knife sharpening on average every 50 working hours).

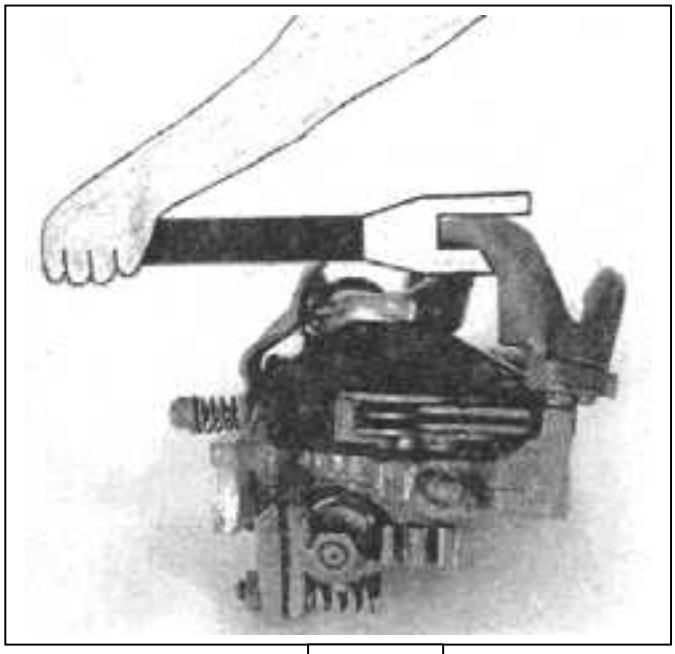


Fig.52

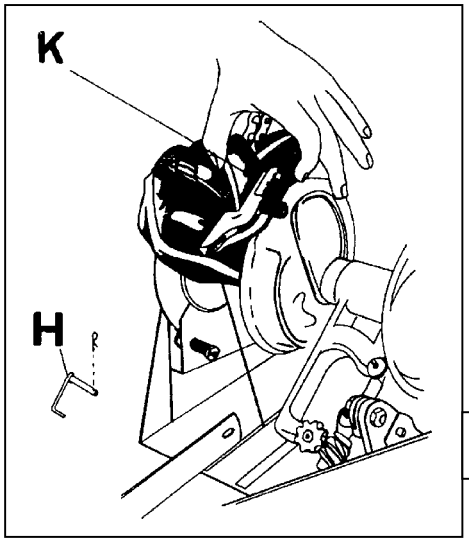


Fig.53

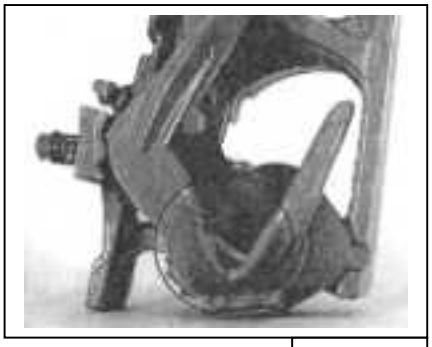


Fig.54

6.4. *Daily maintenance*

1. Lubricate in accordance with the lubrication instruction of the baler and PTO drive shaft.
2. Check the setting of the knotter knife lever, adjust in cases where the lever does not touch the finger.
3. Check tension of the chains.
4. **After each operating day, it is necessary to remove bales from the pressing chamber; otherwise the material swollen during the night will make it difficult to start the baler the next day.**

6.5. *Lubrication*

Regular lubrication of the baler mechanisms according to the below specified recommendations is crucial for durability of the machine.

6.5.1. Lubrication safety

Lubrication of the baler may be carried out only after the machine drive and the tractor engine have been switched off!
The tractor connected to the machine which is being lubricated should be secured against possible start-up of the tractor by unauthorized persons.

6.5.2. Lubrication intervals.

Lubricate the rolling bearings of the following units every 90 working hours:

- feeder steering rod
- feeder bearing
- needle rocker
- knotter disc resistance washers
- piston pin bearing
- drive chain tensioner
- jointed shaft of the pick-up drive
- drive worm

Lubricate the rolling bearings of the following units every 12 working hours:

- jointed shaft
- knotter shaft clutch
- knotters
- needle string

Lubricate the driving wheel bearings once a year.
Check oil level in the transmission once a year.

6.5.3. Types of grease.

All lubrication points, except the final drive, lubricate with grease ŁT-43.
Add oil Hipol 15 to the final drive.

6.5.4. Lubrication table

Table 1

Figure marking	Lubrication place	Number of lubrication points	Lubricant	Lubrication frequency [h]
1	Jointed shaft	3	Grease ŁT-43	12
2	Feeder steering	2	As above	90
3	Feeder bearing	5	As above	90
4	Knotter shaft clutch	1	As above	12
5	Knotters	14	As above	12
6	Needle string	2	As above	12
7	Needle rocker	2	As above	90
8	Knotter disc resistance washers	2	As above	90
9	Piston pin bearing	1	As above	90
10	Main chain tensioner	1	As above	90
11	Jointed shaft of the pick-up drive	2	As above	90
12	Drive worm	3	As above	90
13	Driving wheel bearing	2	As above	Once a year
14	Final drive	1	*	Once a year

- Add only Hypol 15 oil. Fill up to the inspection bolt.

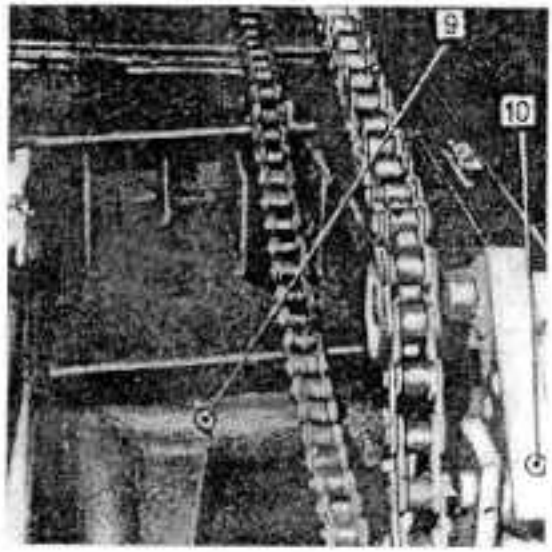


Fig.55

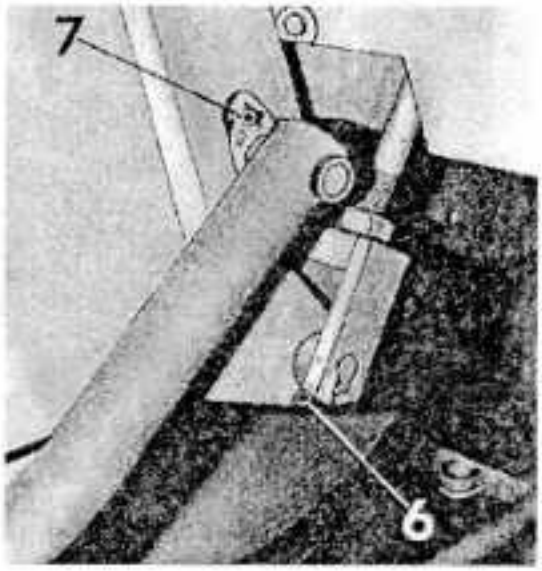


Fig.56

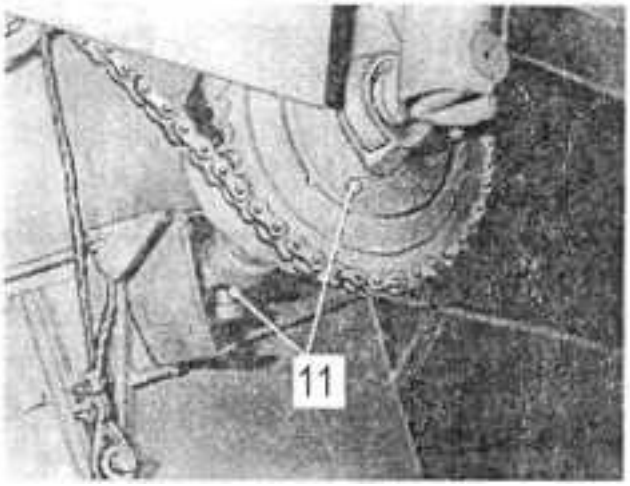


Fig.57

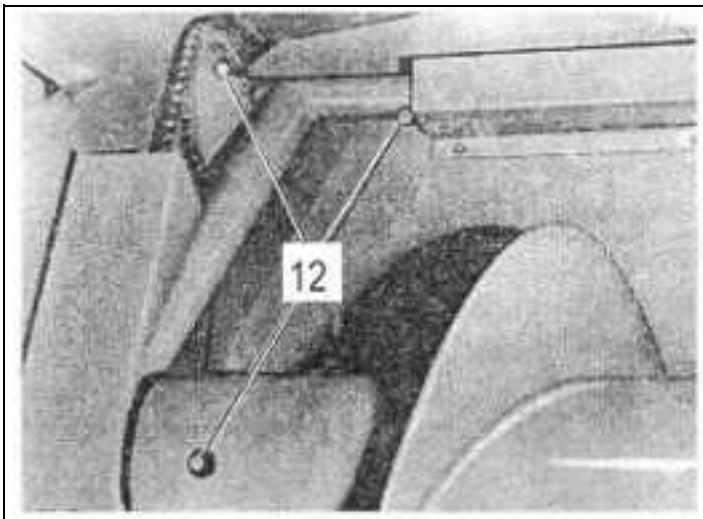


Fig.58

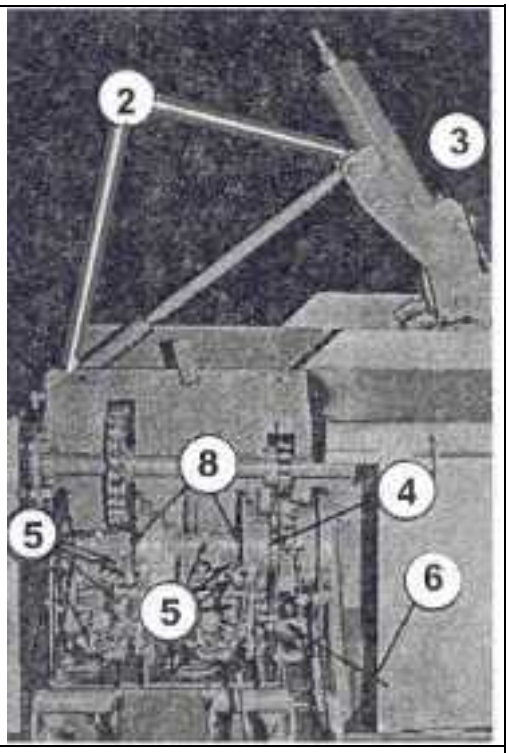


Fig.59

Fig.60

6.5.5. Details concerning lubrication.

The greaser should be used for lubrication of bearings of the working units. Grease ŁT-43 should be forced into grease nipples until fresh grease flows out through the holes in bearing covers.

The above specified recommendations should be adhered to exactly.

6.6. *Reasons for baler malfunction, and repair methods.*

Remember that only usage of proper twine combined with proper operation and maintenance can assure defect-free operation of the knotters.

Table 2 Reasons for baler malfunction

Malfunction	Reason	Repair method
Machine clogging	Non-compliance to working conditions requirements	Rotations of the tractor transmission shaft must be 540 rpm regardless of the driving speed. Adjust working speed of the machine depending on the material. Point 5.4
	Too much material in the feeding unit (spiral roller-fork feeding unit). Automatic overload clutch has been switched on–a distinguishable click is heard when the clutch is switched on.	Stop driving the machine, without switching off the baler drive. Automatically returning fingers of the feeder will remove the clogging by themselves. Point.6.1.11
	Too much material on the pick-up and required rotations of the PTO shaft are not maintained	Adhere to the requirements specified in Point.5.4 in compliance with safety regulations:  **Before any activity connected with the removal of clogging, the tractor engine should be switched off. The tractor connected to the machine that is being lubricated should be secured against possible start-up by any unauthorized persons.**
Breaking of a knotting needle	Solid objects in needle grooves. Incorrect needle setting. Worn-out clutch of knotting mechanisms.	Remove objects causing the defect and clean the piston grooves. Readjust the needles. Replace the clutch of the knotting mechanism. Readjust the needle drive.
	Clogged grooves in the piston.	During pressing of short material and

		partially wilted hay, piston grooves should be regularly checked and cleaned in case of contamination.
Incomplete collection of material from the field	Pick-up drum located too high in relation to the ground. Too many broken springs of the pick-up. Excessive driving speed.	Set the pick-up drum at lower position. Replace broken and bent springs of the pick-up. Drive more slowly without reducing the speed of the tractor power transmission drive shaft.
Fuzzed bales	Blunt knives of the piston and the pressing chamber. Incorrect knife location.	Sharpen the knives or rotate them in the pressing chamber. Set the guiding rails of the piston and adjust the piston knife. Knife clearance should be approx. 0.5-1.0mm.
Irregular bale length.	Switch arm is sliding. Non-uniform material feeding. Switch bar is very worn out. Drive wheels are loose. Too much material for one piston stroke.	Readjust the switch arm. Pay attention to uniform material feeding. Replace worn-out parts. Tighten the hexagonal nut. Increase the rotations of the transmission shaft, collect smaller swathes or reduce driving speed.

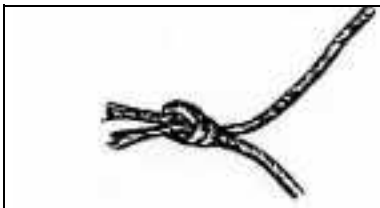


Fig. 61

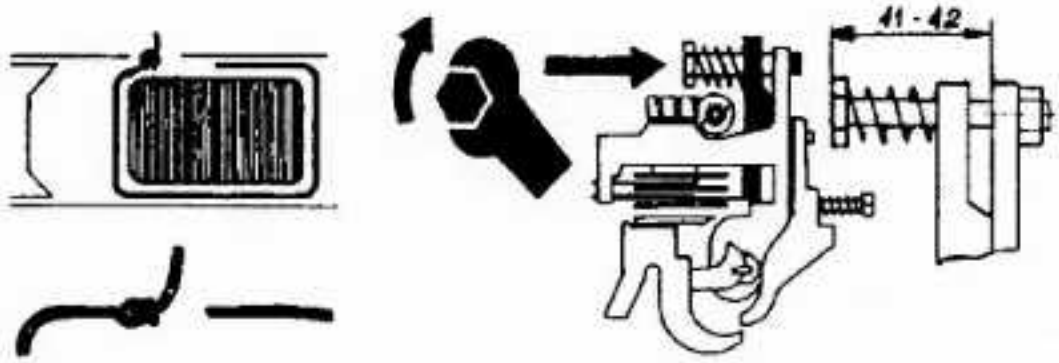


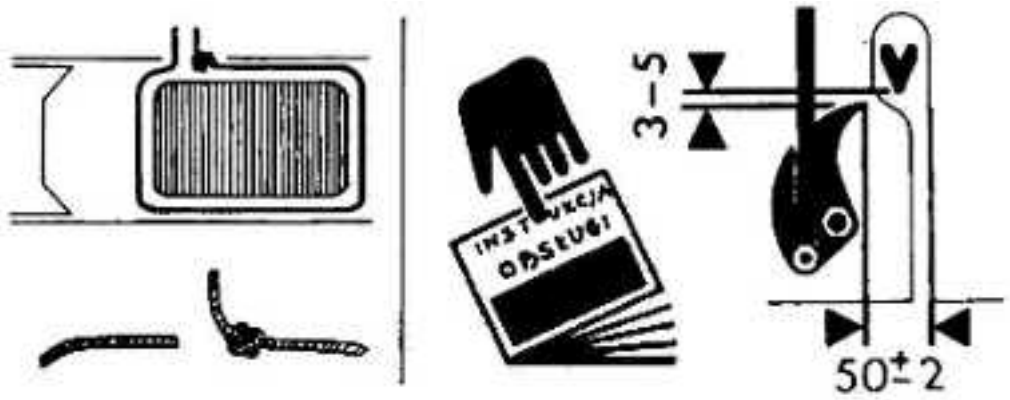
Fig.62

6.6.1. Causes of knotting errors and the methods of removal.

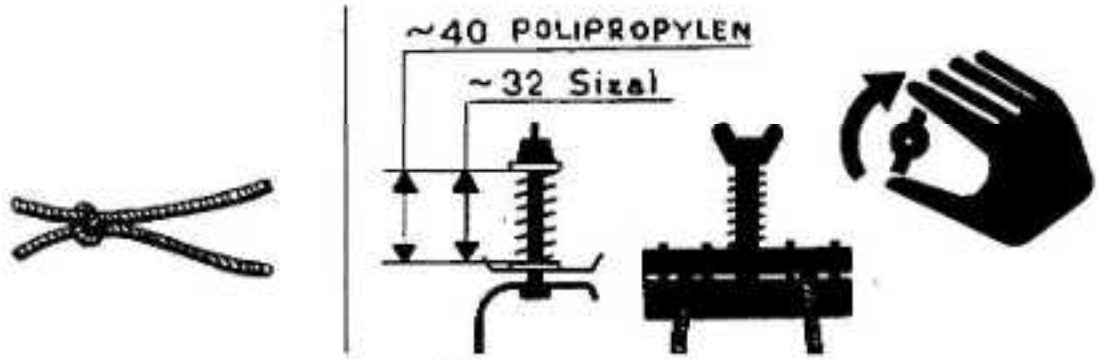
Table 3 Knotting errors

Malfunction description, knotting error	Reason	Repair methods
Knotting twine has not wrapped the whole pressed	Insufficient tightening of the twine catcher.	Tighten the holder spring by tightening (½ - 1 rotation) of the bolt

bale, a knot is located only at the front end of the twine (from the piston end)		Fig.62
Knotting twine has wrapped the whole pressed bale; a knot is located only at the rear end of the twine (from the end of the pressing chamber).	Twine is not caught by the retainer or is not properly delivered to the knotter.	Check setting of the twine retainer. The distance between the retainer and the needle should be 3-5 mm. The dimension measured from the end of the twine retainer to the second edge of the needle slot in the table of the knotting mechanisms Fig.63 should be 50±2 mm.
The knot is too loose.	Spring of the kneader is insufficiently tightened.	Slightly tighten the tightening nut of the holder spring Fig.66
Single knot is located at the end of the twine, the second end of the twine is only threaded.	Twine is insufficiently tightened. Twine is delivered too high and is not laid at the end of the knotter's finger.	Twine tightener should be regulated, by tightening the wing nut (½ rotation) Fig.64 Remark! Twine must be always located between the two guide pins in the twine tightener. Check the location of the twine retainer and adjust it if necessary Fig.63
A knot remains on the knotter's finger, twine is breaking.	Pressure spring is too tight. Kneader spring is too tight. Knife lever does not scrape the knot.	Loosen slightly the nut on the kneader bolt (½ -1 rotation). Release the kneader spring (½ -1 rotation Fig. 65. The knife lever should be adjusted in the way shown on [*translator's note: broken sentence in the origina- urwane zdanie*]
Twine end is in the knot and creates a loop.	Lever stroke is too small.	The knife lever should be adjusted in such a way as to assure that the distance between its scrapping edge and the end of the knotter's finger is 10-12 mm at maximum tilt (Fig.51 and Fig. 67)
Twine ends are fuzzed and have unequal length	Blunt knife. Pressed bales are too small.	Replace or sharpen the knife. Tighten the springs regulating the pressing force.
Twine is fuzzed or broken just behind a knot.	Scrapping edge of the knife lever pushes too hard on the ridge of the knotter's finger during knot scrapping. Rough surface of the knife lever on the on the twine race.	Regulate the knife lever. Assure free rotation of the knotter's finger. Scrapping edge of the knife lever should lightly touch the ridge of the knotter's finger. Smooth the surface of the twine race.



Rys. 63



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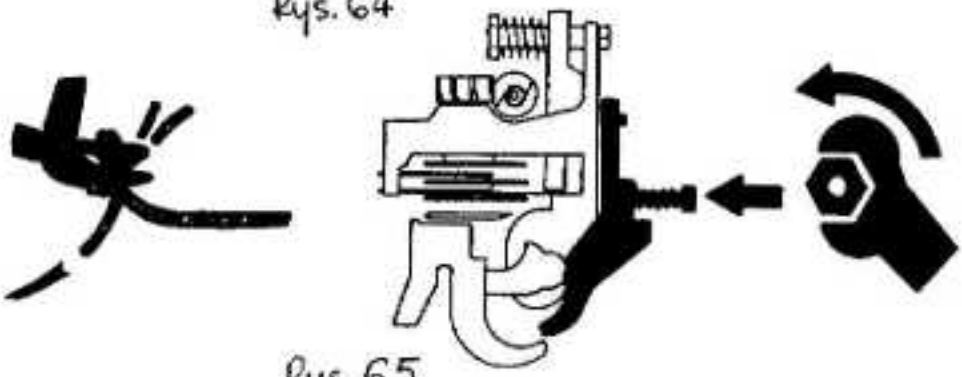

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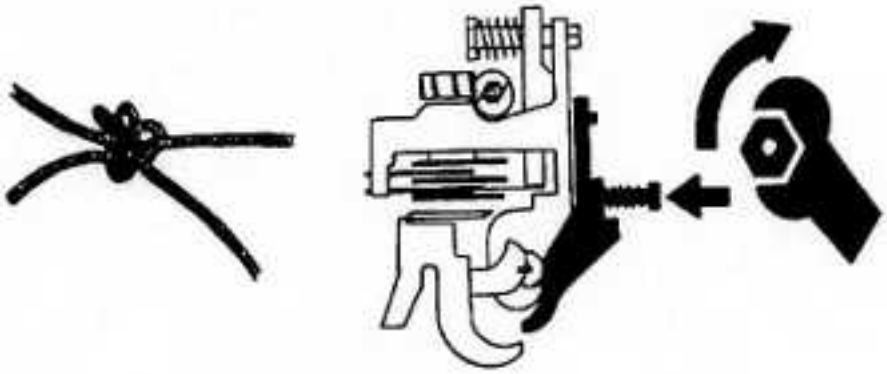

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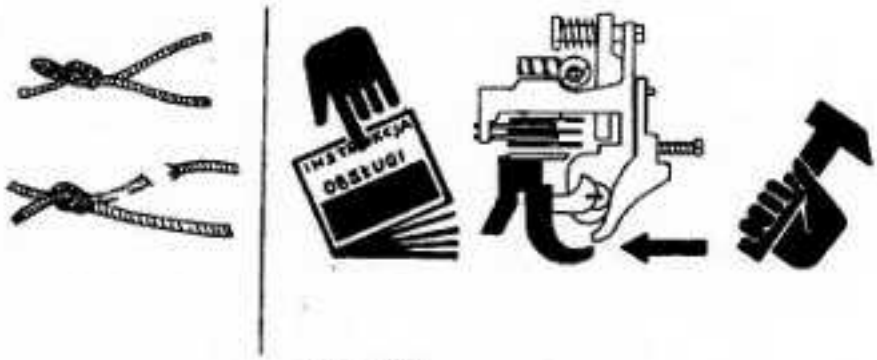
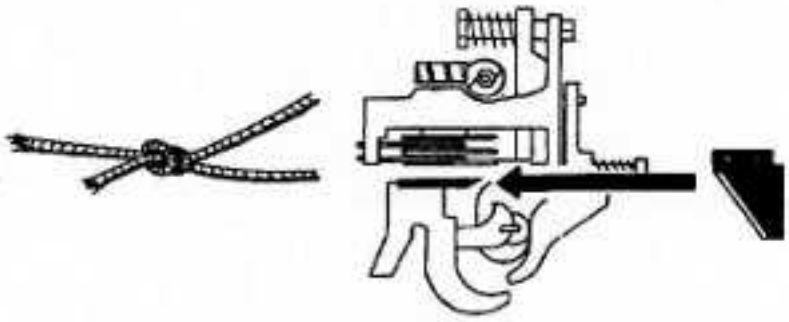


Rys. 67



Rys. 68

6.7. *Baler maintenance.*

In order to assure proper and defect-free operation of the machine, the user must carry out periodical maintenance overhauls.
After the end of the working season or before the storage period of the baler it is necessary to carry out the following activities:

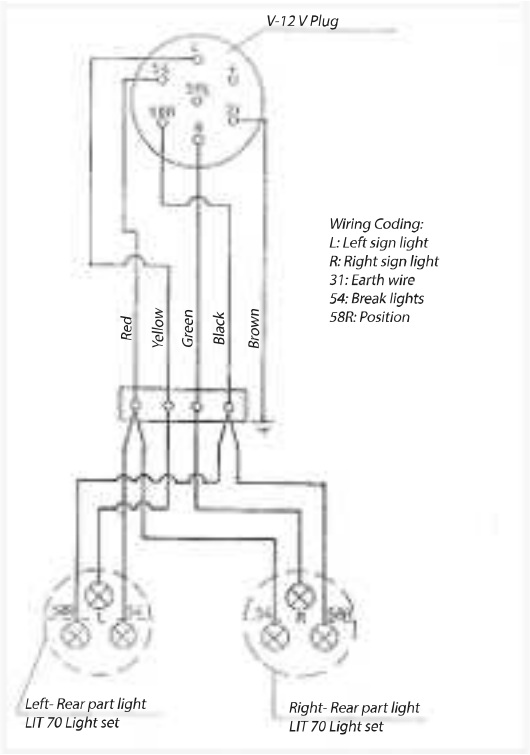
- carry out internal and external cleaning of the machine
- lubricate the mechanisms in accordance with the lubrication table
- the pressing chamber which is shiny and smoothed as a result of friction should be protected against corrosion (cover with grease, do not paint)
- shiny parts of the knotter should be cleaned and lubricated
- damaged paint on other baler components should be repaired with ani-corrosion paint
- the machine should be placed on supports in a roofed room (driving wheel tyres should not touch the ground).

7. Disassembly and used part disposal.

After the operation period, when the baler is scrapped, it is necessary to drain oil from the transmission to a vessel and give it to a fuel station, disassemble the baler's units, segregate them according to material types and take them to waste collection points.

8. Additional information

8.1. Baler electrical wiring diagram



Baler electrical wiring diagram.

9. The residual risk description.

The highest risk occurs when there are unauthorized persons (in particular children) and animals are close to the working machine. The risk increases if not enough attention is paid to the guidelines in this user manual and the warning stickers, in particular during:

- baler cleaning
- clogging removal
- correcting of pressed material during operation of the baler
- checking of mechanisms while the baler is operating
- carrying out regulations of the feeder, needles and piston adjustments when the baler is working.

9.1. *Evaluating the residual risk during the baler operation.*

If:

- the User Manual is carefully studied
- unauthorized persons are not allowed to approach the working baler closer than 3 m from the pick-up side
- children are not allowed to approach the working machine
- the baler is used in accordance with its designation
- only the operator may operate the baler (after careful study of the User Manual and safety regulations)

- periodical overhauls are carried out by trained persons
- the machine is secured during its repairs and daily maintenance,

the user's risk should be excluded.

Warning! A residual risk occurs if you do not read the described prohibitions and guidelines carefully enough and do not comply with them!

10. **Information on servicing and post-warranty repairs**.

All the repairs during the warranty period should be performed by authorized service mechanics of the seller or manufacturer of the machine. It is recommended that after the warranty period the repairs are performed by qualified mechanics.
Warranty details are specified in the warranty card.

The CE and B certificates are valid only when the original …… accessories and spare parts are used.

11. The list of standards according to which the baler components are manufactured;

PN-H-93000	Rolled bars
PN-H-93014	Bright bars
PN-H-92120	Metal plate
PN-H-92131	Sheet metal
PN-H-74219	Seamless tubes
PN-M-82007	Round washers
PN-M-82008	Round spring washers
PN-M-85111	Spring mounting rings
PN-M-82101	Bolts with incomplete thread
PN-M-82105	Bolts with thread on all their length
PN-M-82144	Regular nuts
PN-M-82175	Self-locking nuts
PN-M-82314	Set screws
PN-M-83002	Pins
PN-M-84168	Chains
PN-M-85005	Keys
PN-M-85023	Spring-type straight pins

Product validation

Product .....……..... Type ..... No.....
Manufacturer: …… **– KONYA/TURKEY**
User:
User's name / full name/ and address:…….……..
- farm size: up to 100ha, up to 500ha, up to 1000ha, over 1000ha*
- brand, type and power of the tractor used to work with the machine - …….
- operation life: start date ……., end date .....

Requirements of quantity and range of work:

Defects that occurred during work in the operating season
-....., - .....…....,
-....., - .....,

Overall machine evaluation:
- suitability for assumed purposes: good , average , bad

- failure frequency low, medium, high

- daily servicing operations: not arduous, too labour consuming very arduous

- hitching to the tractor: easy, difficult, v. difficult
- design aesthetics: good, acceptable , bad
- danger for operators: small, medium, high
- danger for unauthorized persons and environment: small, medium, high

Personal evaluation of the product:
.....……
……...
Suggested changes:
.....
* delete inapplicable

…….....
Stamp and signature of the person filling in the form

C Series No.

WARRANTY CARD

BALER .....TYPE Z-.....

SERIAL NO.....

The manufacturer guarantees the proper operation and quality of the purchased machine and agrees to cover the costs of its repairs if damage or manufacturing defects occur during the warranty period.
The lodged complaint will be acknowledged only if it is ascertained that the machine has been used properly and in accordance to the user manual. The complaint is valid only upon presentation of the warranty card.

Date of sale.....
(day, month in words, year – to be filled in by the seller upon sale)

This warranty is valid for the period of 18 months from the date of sale.

The warranty service, on behalf of the manufacturer is performed by:

Contractor's name: .....
(to be filled in by the seller)

Contractor's address: .....
(to be filled in by the seller)
.....
.....

……
(signature and stamp of the seller)

<u>NOTE FOR THE BUYER</u>: The buyer should read the Warranty Card carefully and not accept it if it is incomplete or includes any corrections.

GENERAL WARRANTY CONDITIONS

1. The warranty applies to the faults and damages that occurred through the fault of the manufacturer, resulted from defects of the material, improper processing and incorrect assembly.

2. During the warranty period, the manufacturer or the seller agrees to repair the claimed equipment free of charge and cover the costs of spare parts, labour and travel.

3. The warranty does not cover the parts subject to normal wear and tear in the course of operation before the expiry of the warranty period. In case of Z-224/1/2/3 balers such parts include light bulbs in the electrical installation, safety bolt M6x35-8.8 and spring pin 8x50 in the jointed shaft of the pick-up and spring fingers of the pick-up.

4. The user lodges a complaint directly with the seller or to the performer of warranty services, defined by the seller in the warranty card, within a period not longer than 14 days from the occurrence of the failure.

5 The repair, considered as justifiable and resulting from a valid warranty, should be performed forthwith, but not later than 14 days from the moment of notification and physical availability of the machine for repair, unless the user has given a written consent to extend this period.

6. The person authorized for the warranty service is entitled to exchange the machine for a new one in case of 4 material failures of the same unit or part.

7. Any damages to the machine occurring during the warranty period through the fault of the user may be fixed at the user's cost only by the manufacturer's representative or persons authorized by the manufacturer.

8. To retain the warranty rights to the machine, the user (operator) should be trained and have a valid certificate concerning safe use and operation regulations. The seller or manufacturer service department organizes trainings and issues certificates at the first start-up of the machine.

If the machine is made available for use by another user, an authorized person is obliged to train this person.

9. The warranty becomes void in the following cases:
a. damage to the machine is caused by accidental event or collision on the road, regardless of the quality and technical efficiency of the machine
b. any modifications or changes performed without the manufacturer's written consent;
c. lack of confirmation in the machine warranty card of performance of obligatory overhauls and first start-up;
d. lack of proper care and operating the machine for purpose that it was not designed for, as well as continuing to use the machine with faulty units
e. if the damaged machine has not been presented for inspection before repair;
f. if repairs were performed by unauthorized persons;
g. if the user does not allow the repair to be performed or the legitimacy of the complaint to be reviewed.

I have read the warranty conditions

.....

(Date and signature of the user) Stamp of the sales outlet

S SeriesNo.

COMPLAINT CARD

High compaction rate baler Z-..... Serial No. .....

Date of purchase.....
(the sales outlet fills in the day, month and year)

Complaint Protocol No. .....

Fill in both sides of the card and send to the manufacturer together with the complaint protocol.

Note: Fill in the card carefully.

Stamp of the sales outlet

S Series No.

COMPLAINT CARD

High compaction rate baler Z-..... Serial No. .....

Date of purchase.....
(the sales outlet fills in the day, month and year)

Complaint Protocol No. .....

Fill in both sides of the card and send to the manufacturer together with the complaint protocol.

Note: Fill in the card carefully.
Stamp of the sales outlet

S Series No.

COMPLAINT CARD

High compaction rate baler Z-..... Serial No. .....

Date of purchase.....
(the sales outlet fills in the day, month and year)

Complaint Protocol No. .....

Fill in both sides of the card and send to the manufacturer together with the complaint protocol.

Note: Fill in the card carefully.

Stamp of the sales outlet

S Series No.

COMPLAINT CARD

High compaction rate baler Z-..... Serial No. .....

Date of purchase.....
(the sales outlet fills in the day, month and year)

Complaint Protocol No.....

Fill in both sides of the card and send to the manufacturer together with the complaint protocol.

How you should use this catalogue

The catalogue contains diagrams and text tables of the subassemblies with assembly parts specification.

1. establish the assembly where the following ay:
2. find the corresponding assembly diagram, and the necessary part in it;
3. when you find the number of the part on the diagram, in the appropriate table you can find also its name, drawing or standard number and quantity required for a machine.

Notice!

Read notes contained in the tables.

How you should order spare parts

When ordering spare parts every time you should indicate:

1. name and exact address of the orderer;
2. type of the machine, its serial number and the year of production;
3. exact name of the spare part together with the table number and the position in the table where the necessary part is (and possibly drawing or standard number);
4. quantity required.

In case of receiving an order which does not contain all the data stated above, AGROMASTER. does not take responsibility if the order is not fulfilled correctly.

Notice!

This catalogue contains spare pats list for the machines in standard version. If you order a special version, the actual list, the part numbers and indexes may differ from the list in this catalogue.

It is especially important for the balers with knotters other than AGROMASTER standard ones. When ordering spare parts, please remember to put the name of the knotter:

Rasspe twine knotters, Rasspe wire knotters or Gallignani wire knotters.

Liste of contents:

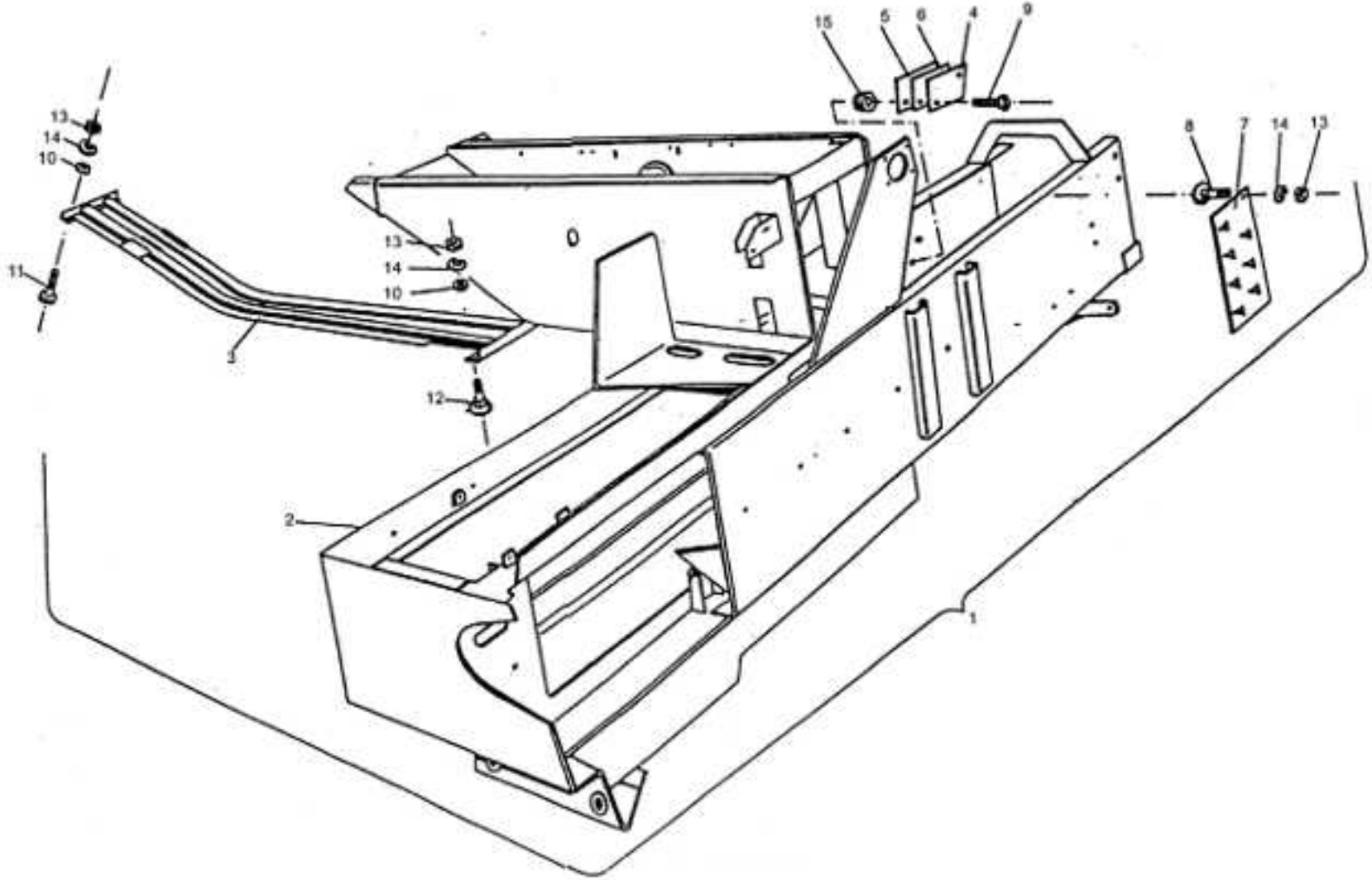


Table 1
Assembly 010 – Body

Assembly 010 – Body **Table 1**

				Quantity required		
				Z-224/1	Z-224/2	
1	2025-010-500.03		Body complete assembly (pos. 2-15 + table 2)	1	1	order separately
2	2024-010-510.03	2024-010-510.03	Body complete welded	1	1	
3	2024-010-590.01	2024-010-590.01	Rail cpliwelded	1	1	
4	2023-010-214.00	2023-010-214.00	Washer	1	1	
5	2023-010-215.00	2023-010-215.00	Plate I	1	1	
6	2023-010-216.00	2023-010-216.00	Plate II	1	1	
7	2012-010-112.00	2012-010-112.00	Plate	2	2	
8	PN-87/M-82406	0653-513-109zn	Bolt M8x25-4.8	8	8	
9	PN-85/M-82105	0653-513-025zn	Tap screw M8x30-5.8	2	2	
10	8900-071-020.80	0829-401-613	Round washer 8,4x24x3	9	9	
11	PN-85/M-82105	0653-132-073zn	Bolt M8x25-8.8B	3	3	
12	PN-76/M-82406	0653-513-049zn	Bolt M8x25-4.8B	3	3	
13	PN-86/M-82144	0653-523-002zn	Nut 8.8B	14	14	
14	PN-77/M-82008	0653-191-007zn	Spring washer Z8,2	14	14	
15	PN-86/M-82175	0653-156-014zn	Self retaining nut M8-8B	2	2	

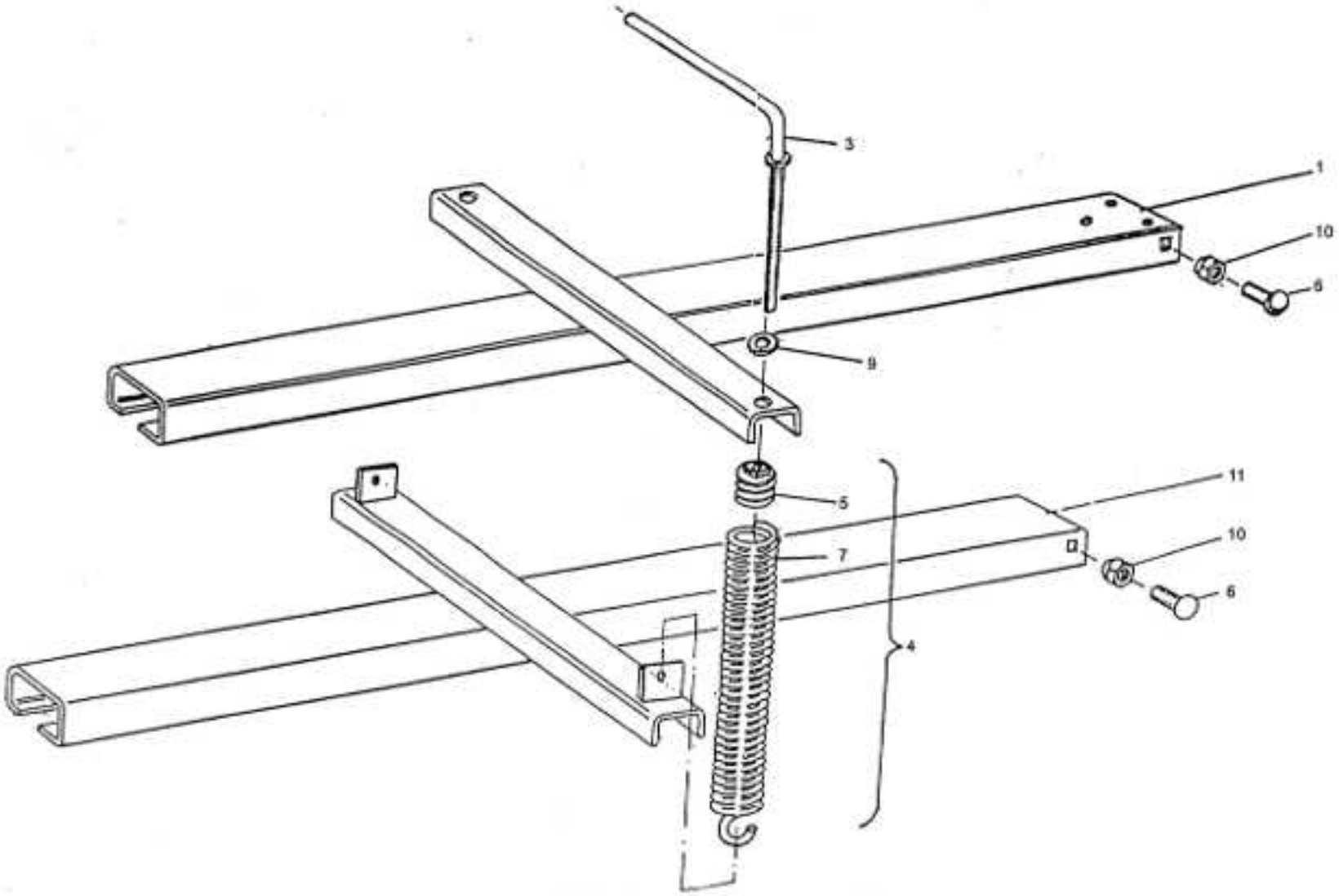


Table 2
010 – Rear chute complete

Assembly 010 – Rear chute complete **Table2**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2024-010-560.00	2024-010-560.00	Rear chute complete welded	1	1	Order separately
3	2023-010-610.00	5223-010-600.00	Adjusting screw complete	2	2	
4	2023-010-501.00	2023-010-501.00	Spring complete (pos. 5+7)	2	2	
5	2023-010-001.00	2023-010-001.00	Spring's nut (prime coating)	2	2	
6	PN-87/M-82406	0653-513-07 Izn	Bolt M12x35-4.8	2	4	
7	8900-097-678.11	8900-097-678.11	Tension spring	2	2	
9	PN-78/M-82005	0653-184-003 zn	Washer 19	2	2	
10	PN-86/M-82175	0653-156-015 zn	Self retaining nut M12-8B	2	4	
11	5224-010-540.00	5224-010-540.00	Bottom chute complete	0	1	

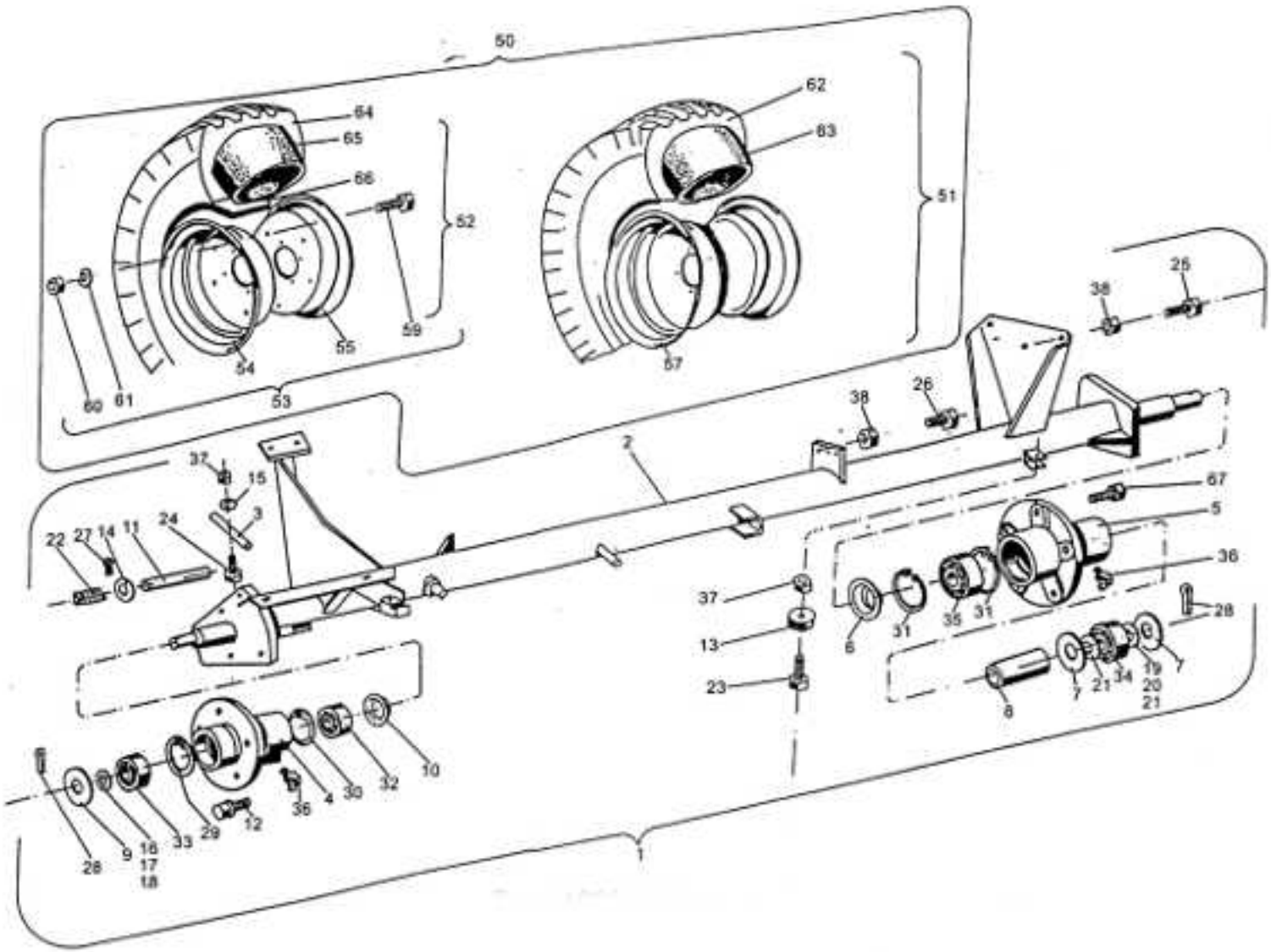


Table 3
Assembly 020 - Axle

Assembly 020 - Axle **Table 3**

No on diagranm	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2024-020-900.00	2024-020-900.00	Axle cpl.assembly (pos. 2+2a)	1	1	
2	2024-020-910.00	2024-020-910.00	Axle welded	1	1	
2a	2024-020-920.00	2024-020-920.00	Axle pin welded	1	1	
3	2024-020-123.01	2024-020-123.01	Lever	1	1	
4	2023-020-001.01	2023-020-001.01	Hub right	1	1	
5	2023-020-005.00	2023-020-005.00	Hub left	1	1	
6	2023-020-110.00	2023-020-110.00	Cover	1	1	
7	2024-020-111.00	2024-020-111.00	Washer	2	2	
8	2023-020-113.00	2024-020-111.00	Spacing sleeve	1	1	
9	2023-020-115.00	0829-402-112	Washer	1	1	
10	2023-020-117.00	2023-020-115.00	Cover	1	1	
11	2023-020-126.00	2023-020-117.00	Clevis pin	1	1	
12	2010-020-106.01	2023-020-126.00	Wheel bolt M16	5	5	
13	1430-130-110.00	0829-401-064	Roller	1	1	
14	089-000709-1.202	1362-490-007	Washer 21x32x2	1	1	
15	089-000710-2.080	0829-401-523	Round washer 8,4x24x3	1	1	
16	089-000712-0.206	0829-401-613	Shim 25x35x0,3	1	1	
17	089-000712-0.208	0829-402-064	Shim 25x35x0,5	1	1	
18	089-000712-0.213	0829-402-059	Shim 25x35x1	1	1	
19	089-000712-0.266	0829-402-060	Shim 30x42x0,3	1	1	
20	089-000712-0.268	0829-402-061	Shim 30x42x0,5	1	1	
21	089-000712-0.273	0829-402-062	Shim 30x42x1	2	2	
22	089-000975-5.511	0829-402-063	Spring 3,2x25x64,4	1	1	
23	PN-85/M-82101	8900-097-555.11	Bolt M8x30-8.8B	1	1	
24	PN-85/M-82105	0653-513-036 zn	Bolt M8x25-8.8B	1	1	
25	PN-85/M-82105	0653-132-073 zn	Bolt M12x25-8.8B	3	3	
26	PN-85/M-82105	0653-132-098 zn	Bolt M12x30-8.8B	3	3	
27	PN-85/M-82001	0651-610-009 zn	Cotter pin S-Zn-5x36	1	1	
28	PN-76/M-82001	0651-610-088 zn	Cotter pin S-Zn-8x50	2	2	

Assembly 020 – Axle **Table 3**

No on diagram	Drawing or standard number	Index		Quantity required		Notes
				Z-224/1	Z-224/2	
29	PN-76/M-85111	0639-361-053	Spring retaining ring W52	1	1	
30	PN-81/M-85111	0639-361-054	Spring retaining ring W55	1	1	
31	PN-81/M-85111	0639-362-006	Spring retaining ring W85	2	2	
32	PN-80/M-86100	0631-113-008	Ball bearing 6006 Z	1	1	
33	PN-80/M-86100	0631-114-043	Ball bearing 6205 Z	1	1	
34	PN-80/M-86100	0631-113-011	Ball bearing 6206 Z	1	1	
35	PN-80/M-86100	0631-114-052	Ball bearing 6209 Z	1	1	
36	PN-76/M-86003	0659-000-033	Grease fitting St M8x1/45°	2	2	
37	PN-86/M-82175	0653-156-014zn	Self retaining nut M8-8B	2	2	
38	PN-86/M-82175	0653-156-015zn	Self retaining nut M12-8B	6	6	
50	2023-160-500.01		Wheel (pos.551+52)	1	1	order separately
51	5269-040-500.00	0829-405-340	Left wheel 10x5 cpl. (pos.57+62+63)	1	1	
52	5225-160-520.00	5225-160-520.00	Right wheel 23x5 cpl.(pos.53+64+65)	1	1	
53	5225-160-530.00	0829-401-006	Rim 23x5 cpl. (pos. 54+55+59+60+61)	1	1	
54	5225-160-100.00		Flange I of the right wheel	1	1	order pos. 53
55	5225-160-101.00		Flange II of the right wheel	1	1	order pos. 53
57		0829-405-031	Tire rim 9,0x15,3	1	1	
59	PN-85/M-82105	0653-131-014zn	Bolt M12x1,25x30-8.8B	7	7	
60	PN-86/M-82144	0653-154-022zn	Nut M12x1,25-8B	7	7	
61	PN-77/M-82008	0653-192-003zn	Spring washer Z12,2	7	7	
62	PN-81/C-94300/052		Tire 10,0/75-15,3-8PR-AM41	1	1	order pos. 51
63	PN-85/C-94300/078		Tube 10,0/75-15,3 GPso016-Ms	1	1	order pos. 51
64	PN-85/C-94300/054	1371-710-002	Tire 23x5-6PRD-84-1SWW1371-71	1	1	
65	PN-83/C-94300/080	1371-710-001	Tube 23x5 Swscl-50 Ms SWW1371- 622	1	1	
66	TWT-76	1371-790-001	Tube guard 23x5	1	1	
67	PN-88/S-9124060	0653-134-005zn	Bolt BM18x1,5x25-8.8B	6	6	

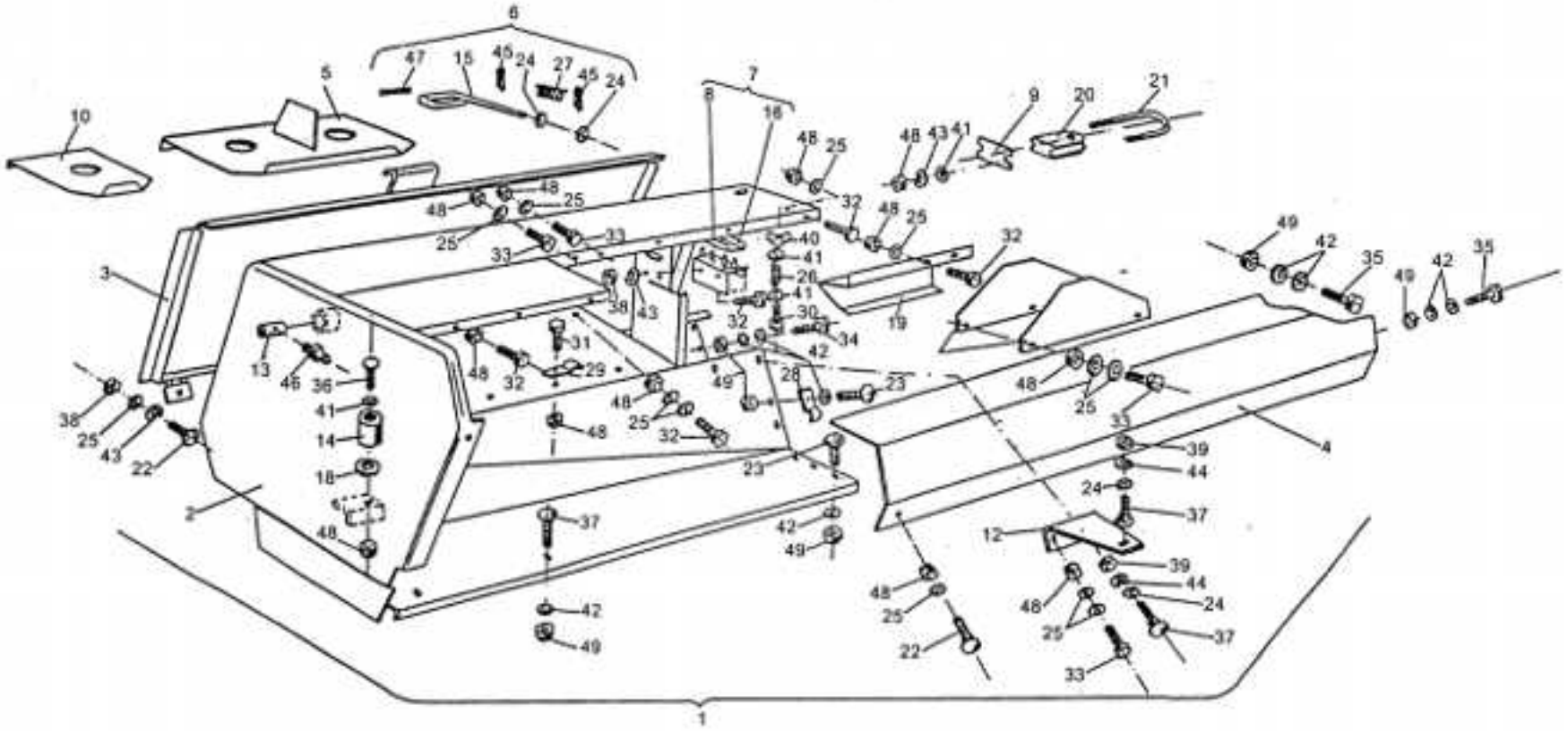


Table 4
Assembly 030 – Feeder table

Assembly 030 – Feeder table **Table 4**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2024-030-500.30		Feeder table copal. (pos. 2-49)	1	1	order separately
2	2024-030-510.00	2024-030-510.02	Feeder table body	1	1	
3	2024-030-560.00	2024-030-560.00	Twine chamber's cover cpl.	1	1	
4	2024-030-590.00	2024-030-590.00	Front cover cpl.	1	1	
5	2023-030-620.00	2023-030-620.00	Bottom plate cpl.	2	2	order separately
6	2023-030-680.01		Cover's closing cpl.	2	2	order separately
7	2023-030-690.00		Idler cpl. (pos. 8+16)	1	1	
8	2023-030-900.00	2023-030-900.00	Idler	1	1	
9	5224-070-304.00	1362-529-030	Washer	2	2	
10	2024-030-114.00	2024-030-114.00	Floor plate	1	1	
11	2024-030-116.00	2024-030-116.00	Feeder cover	2	2	
12	2024-030-119.00	2024-030-119.00	Support	1	1	
13	2023-030-141.00	2023-030-141.00	Bearing sleeve	1	1	
14	2023-030-142.00	0829-401-054	Bumper	1	1	
15	2023-030-145.00	2023-030-145.00	Grip	2	2	
16	2023-030-147.00	2023-030-147.00	Pressing plate	1	1	
17	2023-030-161.00	2023-030-161.00	Round washer	1	1	
19	2023-030-164.01	2023-030-164.01	Cover	1	1	
20	5224-070-307.00	1613-923-001	Grommet	2	2	additional 3 pcs in equimpent
21	2010-070-127.01	0829-401-036	Grommet support	2	2	
22	PN-87/M-82406	0653-132-022zn	Bolt M6x25-4.8B	4	4	
23	PN-87/M-82406	0653-513-049zn	Bolt M8x25-4.8B	7	7	
24	089-000709-1.082	0829-401-612	Washer flat 8,4x24x3	3	3	
25	089-000709-2.060		Washer flat 6,44x18x2	26	26	
26	089-000709-3.811	8900-097-538.11e	Push spring 1,2x8x42-10	1	1	
27	089-000709-4.013	0829-401-504	Push spring 1,3x13x69-10	2	2	
28	089-002550-0.062	0890-025-500.062	Grip	1	1	
29	089-002550-0.096	0890-025-500.096	Grip	2	2	

Assembly 030 – Feeder table **Table 4**

No on diagram	Drawing or standard number	Index	Description			Notes
30	PN-85/M-82101	0653-132-076zn	Bolt M6x55-5.8B	1	1	
31	PN-85/M-82105	0653-311-037zn	Bolt M6x12-5.8B	2	2	
32	PN-85/M-82105	0653-132-091zn	Bolt M6x16-5.8B	13	13	
33	PN-85/M-82105	0653-132-019zn	Bolt M6x20-8.8B	6	6	
34	PN-85/M-82105	0653-134-041zn	Bolt M8x20-8.8B	2	2	
35	PN-85/M-82105	0653-132-073zn	Bolt M8x25-8.8B	3	3	
36	PN-85/M-82215		Bolt M6x50-4.8B	1	1	
37	PN-87/M-82406	0653-513-049zn	Bolt M8x25-4.8B	4	4	
38	PN-86/M-82144	0653-322-007zn	Nut M6-8B	5	5	
39	PN-64/M-82439	0653-523-002zn	Nut M8-8B	1	1	
40	PN-64/M-82439	0653-171-004zn	Wing nut M6-4	1	1	
41	PN-78/M-82005	0653-182-001zn	Round washer 6,4	7	7	
42	PN-78/M-82005	0653-182-061zn	Round washer 8,4	20	20	
43	PN-77/M-82008	0653-191-005zn	Spring washer Z6,1	9	9	
44	PN-77/M-82008	0653-191-007zn	Spring washer Z8,2	1	1	
45	PN-76/M-86003	0651-610-078zn	Cotter pin S-Zn-3,2x18	4	4	
46	PN-76/M-86003	0659-000-033	Grease fitting St M8x1/45°	1	1	
47	PN-88/C-89209	1361-156-018zn	Pipe OZ PCW – black 7x1,0	2	2	
48	PN-86/M-82175	0653-156-018zn	Self retaining nut M6-8B	28	28	
49	PN-86/M-82175	0653-156-014zn	Self retaining nut M8-8B	15	15	

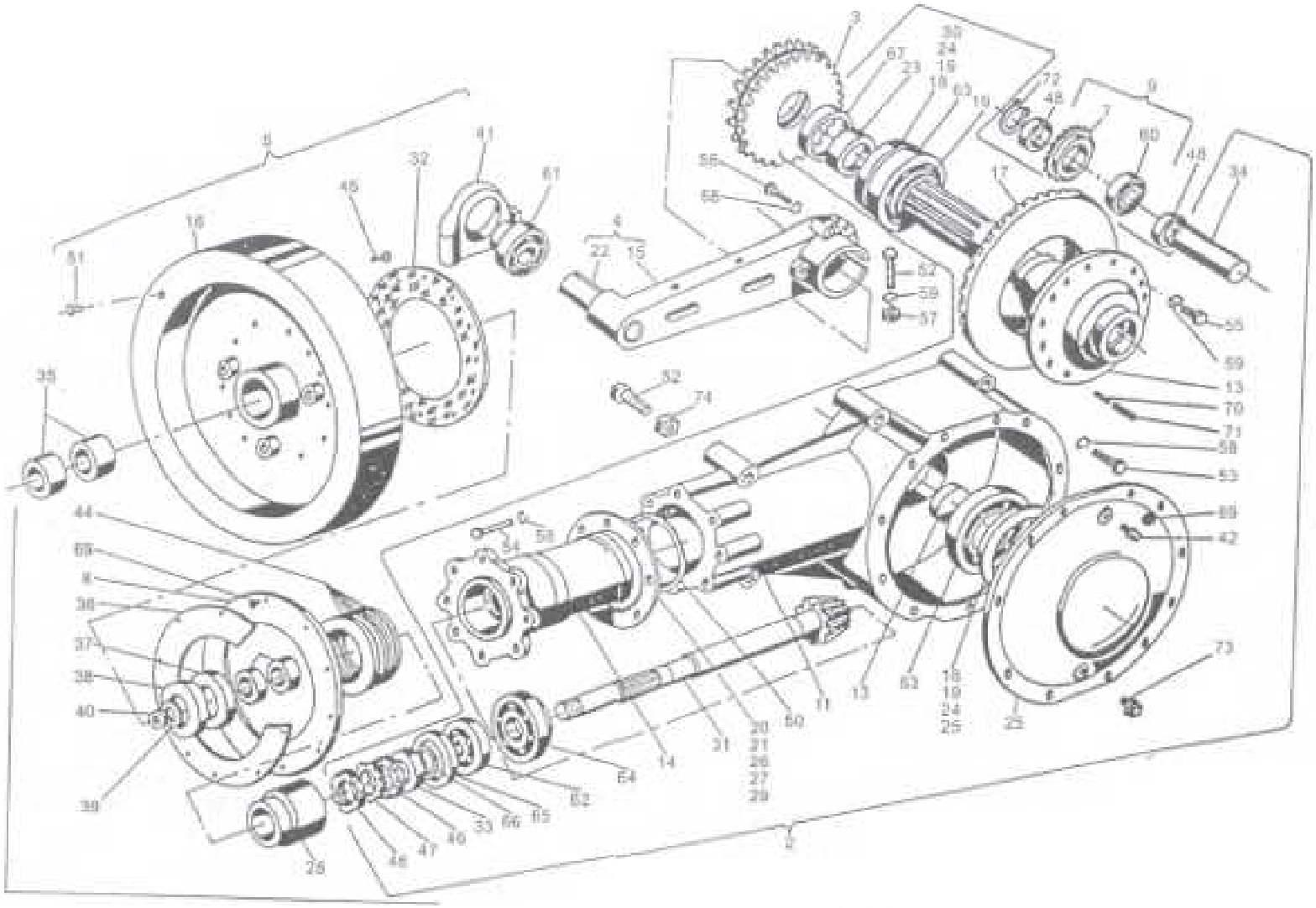


Table 5
Assembly 040 - Gearbox

Assembly 040 – gearbox **Table 5**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2025-040-500.00		Gearbox cpl.	1		
2	2025-040-501.00	0829-401-105	Axis gear assembly	1	1	
3	2024-040-520.02	2024-040-520.02	Sprocket wheel cpl.	1	1	
4	2024-040-530.10	2024-040-530.10	Crank cpl. (pos. 15+22)	1	1	
5	2024-040-550.03c	2024-040-550.03c	Flywheel cpl.	1	1	
6	2025-040-900.00	0829-401-817	Crown gear + shaft with gear wheek (pos. 17+31)	1	1	order together with pos. 10
7	2023-040-510.10	2023-040-510.10	Sprocket wheel	1	1	Wheel pair 0829-401-817
8	2023-040-520.04	0829-401-375	Control wheel	1	1	
9	2023-040-530.10	2023-040-530.10	Sprocket wheel cpl. (pos. 7+60)	1	1	
10	2023-040-550.02	0829-401-076	Clutch plate (pos. 8+36+69)	1	1	
11	2024-040-001.03	0829-401-199	Gearbox body	1	1	order together with pos. 5
12	2024-040-002.03	0829-402-046	Cover	1	1	
13	2024-040-003.01	0829-401-088	Gearbox shaft	1	1	
14	2024-040-004.01	0829-401-089	Bearing sleeve	1	1	
15	2024-040-005.10		Crank	1	1	
16	2024-040-006-02		Flywheel	1	1	order pos. 4
17	2025-040-101.00		Crown gear	1	1	order pos. 5
18	2024-040-104.00	0829-401-109	Shim	2	2	order pos.6-wheel pair 0829-401-817
19	2024-040-105.00	0829-401-360	Shim	4	4	
20	2024-040-106.01	0829-401-110	Shim	2	2	
21	2024-040-107.01	0829-401-709	Shim	2	2	
22	2024-040-108.00		Clevis pin	1	1	
23	2024-040-109.01	0829-401-062	Ring	1	1	
24	2024-040-111.00	0829-401-362	Shim	4	4	
25	2024-040-112.00	0829-401-059	Shim	1	1	
26	2024-040-113.01	0829-401-710	Shim	1	1	
27	2024-040-114.01		Shim	1	1	

Assembly 040 – gearbox **Table 5**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
28	2024-040-118.01	2024-040-118.01	Sleeve	1	1	
29	2024-040-124.00	0829-401-365	Shim	1	1	
30	2024-040-125.00	0829-401-111	Shim	1	1	
31	2024-040-150.00	0829-401-108	Shaft with gear wheel	1	1	Order pos.6-wheel pair 0829-401-817
32	2023-040-102.05	0829-401-115	Lining	1	1	
33	2023-040-110.01	0829-401-041	Ring	1	1	
34	2024-040-120.02	2024-040-120.02	Clevis pin	1	1	
35	2023-040-128.00	0829-402-058	Bearing sleeve	2	2	
36	2023-040-133.02	2023-040-133.02	Pressure plate's ring	1	1	
37	2023-040-134.00	0829-401-113	Washer	1	1	
38	2023-040-142.03	2023-040-142.03	Washer	1	1	
39	2023-040-144.00	2023-040-144.00	Washer	1	1	
40	2023-040-145.00	0653-524-003zn	Nut M36x1,5	1	1	
41	2012-040-003.00	2012-040-003.00	Bearing housing	1	1	
42	2-0002-933-871.00		Vent valve	1	1	
43	088-000443-0.380		Closing cover 63	1	1	
44	088-002093-2.120	8800-209-321.20	Disc spring	6	6	
45	088-00733-4.625	0653-112-008	Rivet Ms6x25-8	6	6	
46	088-070852-0.048	0829-401-916	Nut M48x1,5-8	2	2	
47	088-070852-0.048	0829-401-363	Washer A48	1	1	
48	2023-040-162.00	0829-401-038	Sleeve	2	2	
49	089-000789-1.891	0829-401-217	Ring RDR-95x2NB70	1	1	
50	089-000789-1.891		Ring RDR-134x3NB70	1	1	
51	089-002705-2.251		Hole plug 31,8	1	1	
52	PN-85/M-82105		Bolt M16x120-8.8B	8	8	
53	PN-85/M-82105	0653-133-161zn	Bolt M12x35-8.8B	11	11	
54	PN-85/M-82105	0653-514-016zn	Bolt M12x40-8.8B	8	8	
55	PN-85/M-82105		Bolt M16x40-10.9B	9	9	
56	PN-87/M-82302	0653-311-040zn	Bolt M12x55 -8.8B	3	3	

Assembly 040 – Gearbox **Table 5**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
57	PN-86/M-82144	0653-324-006zn	Nut M16-8B	2	2	
58	PN-77/M-82008	0653-192-003zn	Spring washer Z12,2	22	22	
59	PN-85/M-86100	0653-191-902zn	Spring washer Z16,3	11	11	
60	PN-73/M-86120	0631-113-026	Ball bearing 6206-2RS	1	1	
61	PN-86/M-86220	0631-214-062	Ball bearing A211	1	1	
62	PN-86/M-86220	0653-140-011	Cone bearing 30210	1	1	
63	PN-86/M-86220	0653-150-006	Cone bearing 30219	2	2	
64	PN-86/M-86220	0635-150-005	Cone bearing 31313	1	1	
65	PN-60/M-86961	1373-111-036	Gasket ring 50,2x3	1	1	
66	PN-72/M-86964	1373-119-810	Ring A70x90x10	1	1	
67	PN-72/M-86964	1373-119-811	Ring A105x130x12	1	1	
68	PN-69/M-86970	0653-712-018	Gasket 10x14x1	1	1	
69	PN-89/M-82952	0653-114-039	Rivet 5x28	6	6	
70	PN-89/M-85023		Spring pin 10x36	3	3	
71	PN-89/M-85023		Spring pin 16x36	3	3	
72	PN-81/M-85111	0639-361-013	Spring ring Z30	1	1	
73	PN-76/M-74392	0614-113-001	Plug 1/2”T9	2	2	
74	PN-86/M-82175	0653-156-019zn	M16-8B	6	6	

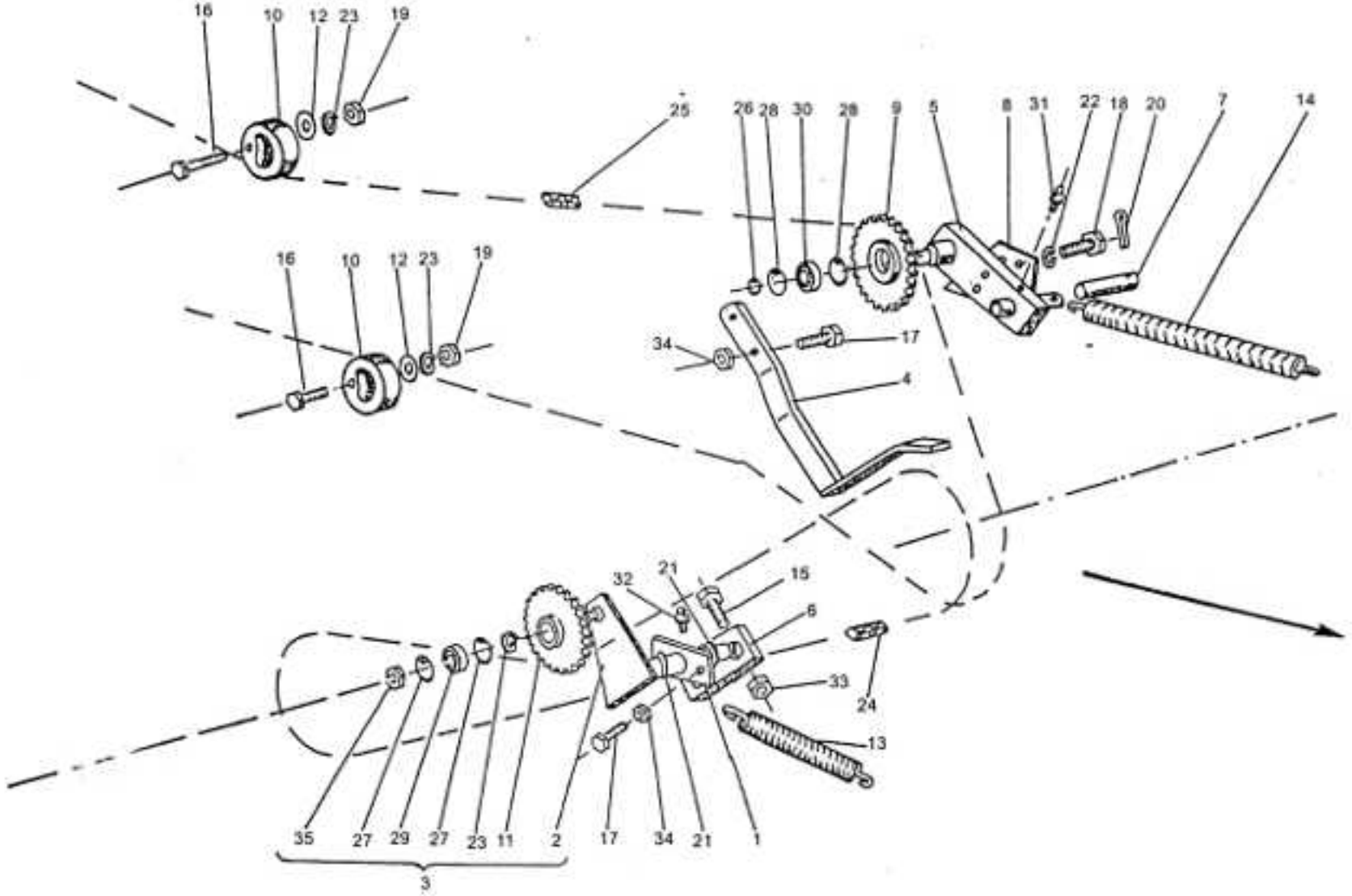


Table 6
Assembly 040 – Chain tensioner

Assembly 040 – Chain tensioner **Table 6**

No on diagram	Drawing or standard number	Index	Description	Quantity required			Notes
				Z-224/1	Z-224/2		
1	2024-040-510.01	2024-040-510.01	Hub cpl.	1	1		
2	2024-040-540.01	2024-040-540.01	Chain tensioner	1	1		
3	2024-040-560.00	2024-040-560.00	Chain tensioner cpl.	1	1		
4	2024-040-570.00	2024-040-570.00	Cover cpl.	1	1		
5	2023-040-580.02t	2023-040-580.02t	Sprocket wheel support cpl.	1	1		
6	2024-040-123.00	2024-040-123.00	Arm	1	1		
7	2023-040-140.00	0829-401-383	Clevis pin	1	1		
8	2023-040-141.02	2023-040-141.02	Idler plate	1	1		
9	2010-040-004.01	2010-040-004.01	Sprocket wheel Z10	1	1		
10	2010-060-144.00	1362-490-006	Tensioner roller	2	2		
11	2010-130-012.01	0829-401-073	Sprocket wheel	1	1		
12	089-000710-3.120	0829-401-892	Round washer 13x40x3	2	2		
13	089-000976-5.911	8900-097-659.11	Tension spring	1	1		
14	089-000976-5.916	8900-097-659.16	Tension spring 4/20/284-64	1	1		
15	PN-85/M-82101	0653-132-133zn	Bolt M6x40-8.8B	1	1		
16	PN-85/M-82101	0653-133-033zn	Bolt M12x65-8.8B	2	2		
17	PN-85/M-82105	0653-132-073zn	Bolt M8x25-8.8B	4	4		
18	PN-85/M-82105	0653-133-047zn	Bolt M10x20-8.8B	1	1		
19	PN-86/M-82144	0653-323-022zn	Nut M12-8B	2	2		
20	PN-76/M-82001	0651-610-029zn	Cotter pin S-Zn-5x50	1	1		
21	PN-78/M-82007	0653-183-006zn	Washer for screw 17A	2	2		
22	PN-77/M-82008	0653-183-021zn	Spring washer 10,2	1	1		
23	PN-77/M-82008	0653-192-002zn	Spring washer 12,2	3	3		
24	PN-77/M-84168	0829-402-105	Chain 10B-154 PS	1	1		
	PN-83/M-86168	0652-313-025	Chain link 10B-Ps 5/8”	as per request			
25	PN-77/M-84168	0829-402-106	Chain 16Bx-158 PS	1	1		
	PN-83/M-86168	0652-313-030	Chain link 16BX	as per request			
26	PN-81/M-85111	0639-361-008	Spring retaining ring Z20	1	1		

Assembly 040 – Chain tensioner **Table 6**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
27	PN-81/M-85111	0639-361-044	Spring retaining ring W32	2	2	
28	PN-81/M-85111	0639-361-050	Spring retaining ring W47	2	2	
29	PN-85/M-86100	0631-113-031	Ball bearing 6201 ZZ	1	1	
30	PN-85/M-86100	0631-113-070	Ball bearing 6204 ZZ	1	1	
31	PN-76/M-86002	0659-000-035	Grease fitting St M8x1	1	1	
32	PN-76/M-86003	0659-000-033	Grease fitting St M8x1/45°	1	1	
33	PN-86/M-82175	0653-156-018zn	Self retaining nut M6-8B	1	1	
34	PN-86/M-82175	0653-523-002zn	Self retaining nut M8-8B	4	4	
35	PN-86/M-82175	0653-156-015zn	Self retaining nut M12-8B	1	1	

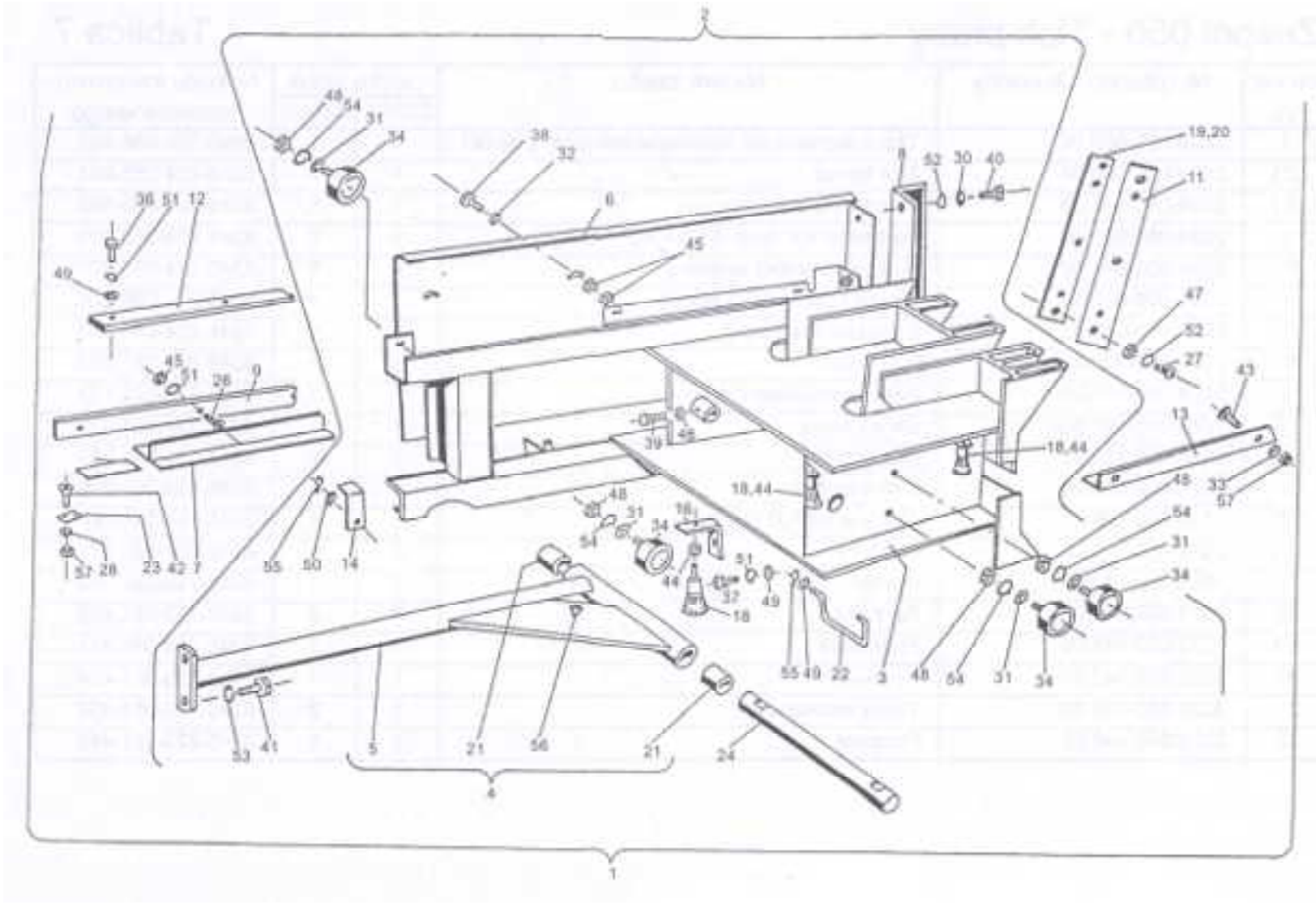


Table 7
Assembly 050 - Plunger

Assembly 050 – Plunger **Table 7**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2024-050-600.30		Plunger with rails cpl. assembly (pos.2-50)	1	1	order separately
2	2024-050-500.04	2024-050-500.04	Plunger cpl.	1	1	
3	2024-050-510.03	2024-050-510.03	Plunger assembly welded	1	1	
4	2024-050-520.00z	2024-050-520.00z	Connecting rod cpl. (pos. 5+21+56)	1	1	
5	2024-050-530.00z	2024-050-530.00z	Connecting rod assembly welded	1	1	
6	2024-050.620.00	2024-050-620.00	Plunger side plate	1	1	
7	2024-050-630.03	2024-050-630.03	Rail assembly	1	1	
8	2024-050-113.03	2024-050-113.03	Plunger knife	1	1	
9	2024-050-115.03	2024-050-115.03	Guiding rail	1	1	
10	2024-050-121.00	2024-050-121.00	Bottom rail	1	1	
11	2024-050-122.01	2024-050-122.01	Chamber knife	1	1	
12	2024-050-123.00	2024-050-123.00	Rail	1	1	
13	2024-050-126.01	2024-050-126.01	Left rail	1	1	
14	2023-050-117.00	2023-050-117.00	Angle bar	1	1	
16	2023-050-132.00	2023-050-132.00	Grip	1	1	
18	5223-050-810.00	2886-300-001	Brush	4	4	
19	2023-050-141.00	2023-050-141.00	Washer	1	1	
20	2023-050-142.00	2023-050-142.00	Washer	1	1	
21	2023-050-145.00z	2023-050-145.00z	Sleeve	2	2	
22	2023-050-146.02z	2023-050-146.02	Hook	1	1	
23	2023-050-154.01	2023-050-154.01	Support	1	1	
24	2213-040-101.03	2213-040-101.03	Plunger pin	1	1	
26	PN-85/M-82207	0653-332-025zn	Tap screw M8x25-5.8A	5	5	
27	088-0007991-0.372	0653-135-045zn	Tap screw M12x35-10,9	3	3	
28	089-000709-1.101	0829-401-512	Special washer 10,5x30x3 Zn	7	7	
30	089-000710-0.184	0829-401-893	Washer 13x28x3	6	6	
31	089-000710-0.264	0829-401-532	Washer 27x34x3	9	9	
32	089-000710-1.103	0829-401-920	Round washer 9x22x3	4	4	
33	5223-050-305.00	5223-050-305.00	Round washer 11x30x5	5	5	

Assembly 050 – Plunger **Table 7**

No on	Drawing or standard number	Index	Description	Quantity required		Notes
34	089-000896-1.052	0631-213-024	Special roller CBK-320	10	10	
36	5224-088-122.00	0653-311-902zn	Bolt M8x12	5	5	
37	PN-85/M-82105	0653-312-014zn	Bolt M8x16-8.8N	1	1	
38	PN-85/M-82105	0653-132-102zn	Bolt M8x30-8.8B	4	4	
39	PN-85/M-82105	0653-132-060zn	Bolt M10x30-8.8B	2	2	
40	PN-85/M-82105	0653-514-016zn	Bolt M12x40-8.8B	3	3	
41	PN-85/M-82105	0653-514-021zn	Bolt M14x40-8.8B	2	2	
42	5224-088-120.00	0653-133-004zn	Bolt	7	7	
43	PN-87/M-82406	0653-135-244zn	Bolt M10x30-8.8B	5	5	
44	PN-86/M-82144	0653-322-007zn	Nut M6-8B	4	4	
45	PN-86/M-82144	0653-523-002zn	Nut M8-8B	13	13	
46	PN-86/M-82144	0653-322-022zn	Nut M10-8B	3	3	
47	PN-86/M-82144	0653-323-022zn	Nut M12-8B	3	3	
48	PN-86/M-82144	0653-323-007	Nut M16x1,5-10B	10	10	
49	PN-78/M-82005	0653-182-061zn	Washer 8,4	10	10	
50	PN-78/M-82005	0653-182-003zn	Washer 10,5	1	1	
51	PN-77/M-82008	0653-191-007zn	Spring washer Z8,2	11	11	
52	PN-77/M-82008	0653-192-003zn	Spring washer Z12,2	7	7	
53	PN-77/M-82008	0653-192-004zn	Spring washer Z14,2	2	2	
54	PN-77/M-82008	0653-191-902zn	Spring washer Z16,3	10	10	
55	PN-76/M-82001	0651-610-078zn	Cotter pin S-zn-3,2x18	1	1	
56	PN-76/M-82002	0659-000-035	Grease fitting St M8x1	1	1	
57	PN-86/M-82175	0653-156-022zn	Self retaining nut M10-8B	11	11	

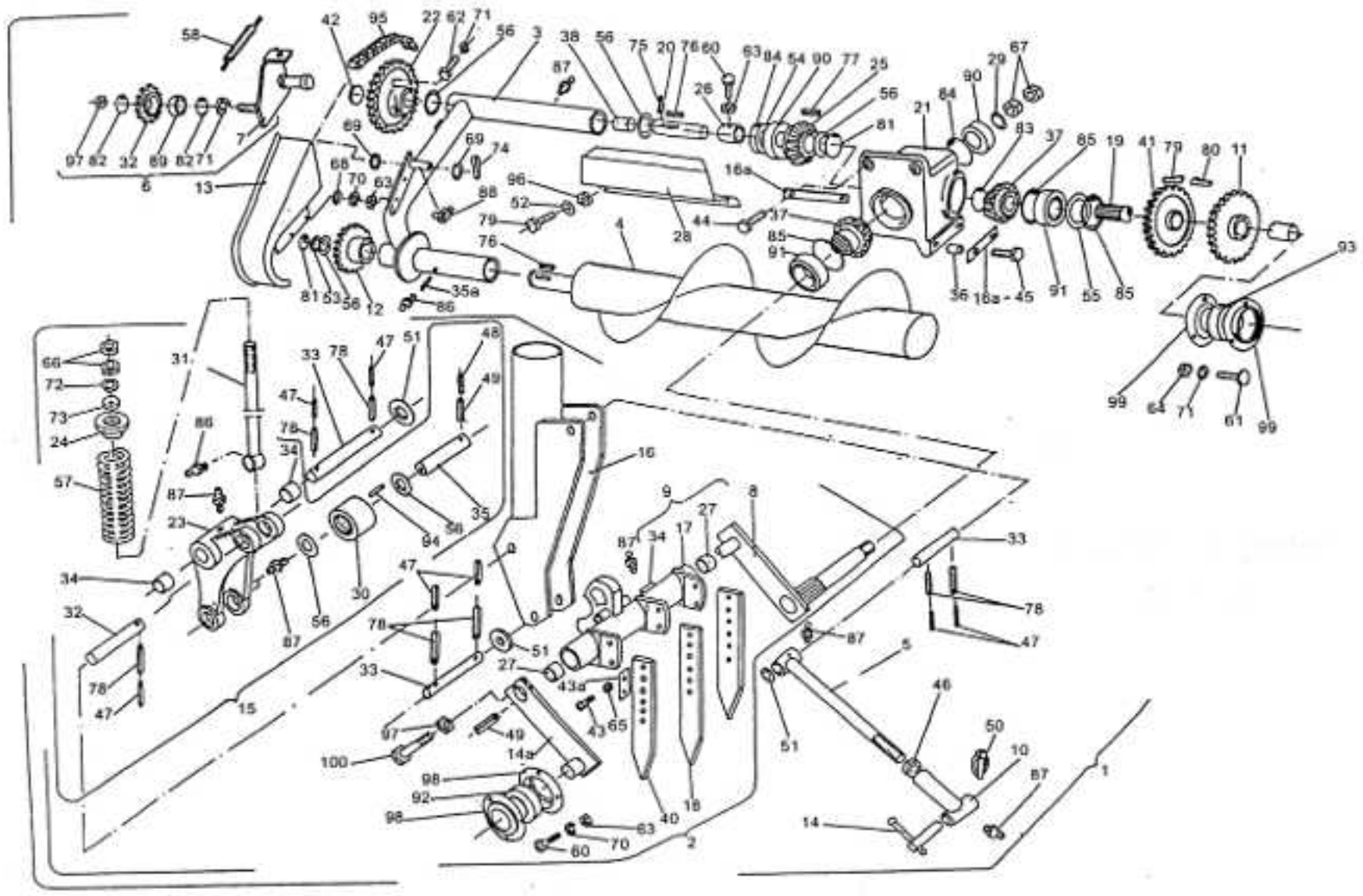


Table 8
Assembly 060 - Feeder

Assembly 060 – Feeder **Table 8**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2024-060-500.30		Feeder cpl. (pos. 1-99)	1	1	order separately
2	2024-060-700.00	2024-060-700.00	Fitter cpl. assembly	1	1	
3	2024-060-530.02	2024-060-530.02	Rotating arm	1	1	
4	2024-060-540.04	2024-060-540.04	Auger	1	1	
5	2024-060-560.02	0829-401-192	Lever cpl.	1	1	
6	2024-060-610.00	2024-060-610.00	Idler cpl.	1	1	
7	2024-060-620.00	2024-060-620.00	Idler body	1	1	
8	2024-060-660.00c		Crank arm right cpl.	1	1	
9	2024-060-701.00c	2024-060-701.00c	Clutch pipe cpl. (pos.17+27434414a+49a+100)	1	1	Order with pos.14a as crank cpl. 2024-060-650.01c
10	2023-060-550.01	2023-060-550.01	Hub welded	1	1	
11	2023-060-560.03	2023-060-560.03	Sprocket wheel Z24	1	1	
12	2023-060-580.01	2023-060-580.01	Sprocket wheel	1	1	
13	2023-060-660.00	2023-060-660.00	Cover cpl.	1	1	
14	2023-060-690.00	2023-060-690.00	Lock pin	1	1	
14a	2023-060102.03	0829-401-204	Crank arm left	1	1	
15	2023-060-813.00	2023-060-813.00	Clutch lever cpl.	1	1	
16	2023-060-820.02	2023-060-820.02	Feeder body	1	1	
16a	5223-060-300.00	5223-060-300.00	Two hole tab washer	2	2	
17	2024-060-004.01	2024-060-004.01	Clutch pipe	1	1	
18	2024-060-109.01	2024-060-109.01	Feeder arm long	2	2	
19	2024-060-112.01	2024-060-112.01	Driving shaft	1	1	
20	2024-060-113.04	2024-060-113.04	Driving shaft	1	1	
21	2023-060-001.02	2023-060-001.02	Gearbox body	1	1	
22	2023-060-007.03	2023-060-007.03	Sprocket wheel Z36	1	1	
23	2023-060-014.00	2023-060-014.00	Toggle	1	1	
24	2023-060-015.02	2023-060-015.02	Control wheel	1	1	
25	2023-060-100.01	2023-060-100.01	Sprocket wheel	1	1	

Assembly 060 – Feeder **Table 8**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
26	2023-060-135.00	2023-060-135.00	Retainer ring	1	1	
27	2023-060-132.00	0542-110-004	Bearing sleeve	1	1	
28	2023-060-145.01	2023-060-145.01	Cover	1	1	
29	2023-060-155.00	2023-060-155.00	Washer	1	1	
30	2023-060-164.01	2023-060-164.01	Ring	1	1	
31	2023-060-166.00	2023-060-166.00	Pull rod	1	1	
32	2023-060-167.00	0829-401-845	Clevis pin	3	3	
33	2023-060-168.01	0829-401-843	Clevis pin	3	3	
34	2023-060-169.00	0829-401-401	Sleeve	4	4	
35	2023-060-170.00	2023-060-170.00	Bearing pin	1	1	
35a	2023-070-144.01	0829-401-210	Greaser pipe	1	1	
36	1321-052-150.01	0829-401-570	Spacing sleeve	2	2	
37	2010-060-109.01	2010-060-109.01	Sprocket wheel	2	2	
38	2010-060-127.00	0542-120-002	Slide bearing	4	4	
39	2010-130-012.01	0829-401-073	Sprocket wheel	1	1	
40	2022-060-132.01	2022-060-132.01	Feeder arm short	1	1	
41	2023-080-138.00	2023-080-138.00	Sprocket wheel	1	1	
42	088-000443-0.280		Cover	1	1	
43	5223-080-301.00		Washer	3	3	
43a	088-000931-8.433		Bolt	6	6	
44	PN-85/M-82101	0653-132-087zn	Bolt M12x45-8.8B	2	2	
45	PN-85/M-82101	0653-514-010zn	Bolt M12x40-10.9B	2	2	
46	8800-093-622.42	0653-524-019	Nut M24x1,5	1	1	
47	5224-060-302.00		Pin	7	7	
48	PN-89/M-85023	0653-512-021	Spring pin 5x24	1	1	
49	PN-89/M-85023	0653-512-115	Spring pin 8x50	2	2	
50	088-011023-5.061		Pin 6	1	1	
51	089-000709-1.202	0829-401-523	Washer 21x32x2	3	3	
52	PN-59/M-82030	0653-182-023zn	Round washer 6,5	6	6	

Assembly 060 – Feeder **Tables 8**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-244/1	Z-224/2	
53	089-000712-0.273	0829-402-063	Shim 30x42x1	1	1	real quantity used in a particular machine may be different;order acc.to needs
54	089-000712-0.382	0829-401-051	Washer 50x62x0.1	2	2	
	089-000712-0.386	0829-401-032	Washer 50x62x0.3	2	2	
	089-000712-0.388	0829-401-033	Washer 50x62x0.5	1	1	
	089-000712-0.393	0829-401-037	Washer 50x62x1	1	1	
55	089-000712-0.502	0829-401-068	Washer 70x90x0.1	2	2	Real quantity used in a particular machine may be different;order acc.to needs
	089-000712-0.506	0829-401-063	Washer 70x90x0.3	2	2	
	089-000712-0.508	0829-401-070	Washer 70x90x0.5	1	1	
	089-000712-0.513	0829-401-211	Washer 70x90x1	1	1	
56	089-000713-0.260	8900-071-302.60	Washer 30x42x2,5	11	11	
57	089-000975-7.904	8900-097-579.04	Spring	1	1	
58	089-000976-5.510	8900-097-655.10	Pull spring	1	1	
59	PN-85/M-82105	0653-132-047zn	Bolt M6x16-8.8B	3	3	
60	PN-85/M-82105	0653-132-019zn	Bolt M6x20-8.8B	4	4	
61	PN-85/M-82105	0653-132-098zn	Bolt M12x30-8.8B	4	4	
62	PN-85/M-82105	0653-514-016zn	Bolt M12x40-8.8B	1	1	
63	PN-85/M-82144	0653-523-002zn	Nut M8-8B	6	6	
64	PN-85/M-82144	0653-323-022zn	Nut M12-8B	4	4	
65	PN-85/M-82144	0563-323-022zn	Nut M12-8B	6	6	
66	PN-85/M-82144	0563-324-006zn	Nut M16-8B	2	2	
67	PN-85/M-82153	0653-524-020zn	Nut M24-0.5B	2	2	
68	PN-78/M-82005	0653-182-061zn	Round washer 8,4	2	2	
69	PN-78/M-82007	0653-191-010zn	Round washer 17	4	4	
70	PN-77/M-82008	0653-191-007zn	Spring washer Z8,2	5	5	
71	PN-77/M-82008	0653-182-003zn	Spring washer Z12,2	6	6	
72	5224-088-111.00	5224-088-111.00	Spherical washer 17	1	1	
73	5224-088-110.00	5224-088-110.00	Cone washer	1	1	
74	PN-76/M-82001	0651-610-080zn	Cotter pin S-Zn-6,3x36	1	1	
75	PN-76/M-82001	0651-610-093zn	Cotter pin S-Zn-6,3x40	1	1	

Assembly 060 – Feeder **Table 8**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
76	PN-70/M-85005	0653-513-037	Parallel key A8x7x28	2	2	
77	PN-70/M-85005	0653-513-039	Parallel key A8x7x32	1	1	
78	PN-89/M-85023	0653-512-112	Spring pin 6x40	7	7	
79	PN-73/M-85031	0653-513-040	Sunk key N12x8x50	1	1	
80	PN-73/M-85031	0653-513-004	Sunk key N12x8x60	1	1	
81	PN-81/M-85111	0639-361-013	Spring retaining ring Z30	2	2	
82	PN-81/M-85111	0639-361-043	Spring retaining ring Z32	2	2	
83	PN-81/M-85111	0639-361-016	Spring retaining ring Z38	1	1	
84	PN-81/M-85111	0639-362-007	Spring retaining ring W62	2	2	
85	PN-81/M-85111	0639-362-008	Spring retaining ring W90	3	3	
86	PN-76/M-86002	0659-000-003	Grease fitting St M6x1	2	2	
87	PN-76/M-86002	0659-000-035	Grease fitting St M8x1	7	7	
88	PN-76/M-86003	0659-000-033	Grease fitting St M8x1/45°	1	1	
89	PN-85/M-86100	0631-113-031	Ball bearing 6201 2Z	1	1	
90	PN-85/M-86100	0631-113-011	Ball bearing 6206 2RS	2	2	
91	PN-85/M-86100	0631-115-105	Ball bearing 6308 2RS	2	2	
92	PN-73/M-86120	0631-213-002	Ball bearing D205	1	1	
93	PN-73/M-86120	0631-233-019	Ball bearing D208	1	1	
94	PN-83/M-86456	0639-113-048	Needle roller P5x29,8-B5	21	21	
95	PN-83/M-86168	0829-402-089	Chain 10B-96Ps	1	1	
	PN-83/M-86168	0652-313-025	Chain link 10B-Ps 5/8”	as per request		
96	PN-86/M-82175	0653-156-018zn	Self retaining nut M6-8B	3	3	
97	PN-86/M-82175	0653-156-015zn	Self retaining nut M12-8B	2	2	
98	089-001442-0.025	8900-144-200.25	Housing P205	2	2	
99	089-001442-0.040	8900-144-200.40	Housing P208	2	2	
100	PN-85/M-82101	0653-134-010zn	Sruba M12x75-8.8B	1	1	

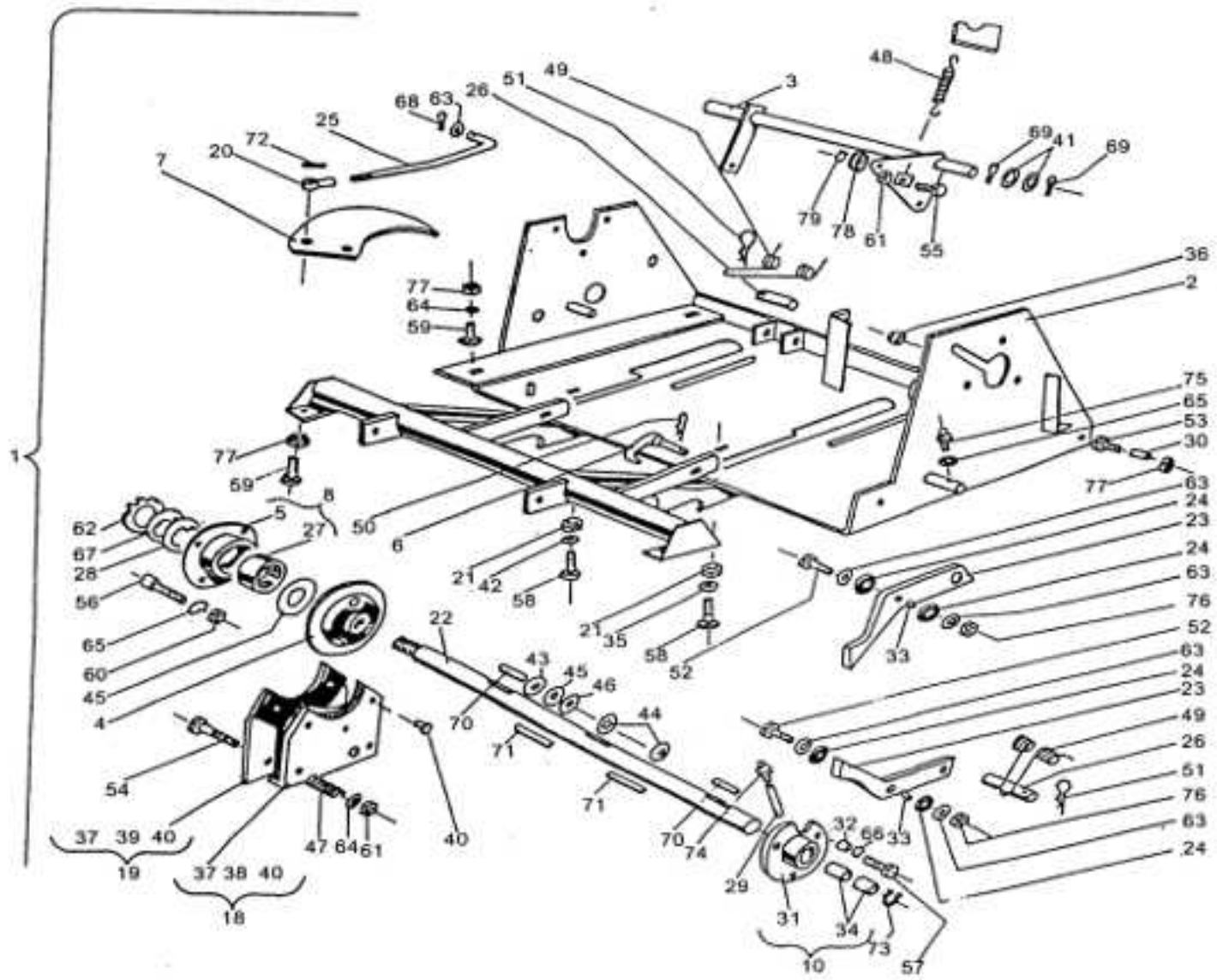


Table 9
Assembly 070 – Binding assembly

Assembly 070 – Binding assembly **Table 9**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2023-070-710.09	2023-070-710.09	Binding devices table with knotters cpl. assembly (pos. 2-77)	1	1	
2	2023-070-720.01c	2023-070-720.01c	Binding devices table cpl. welded	1	1	
3	5223-070-530.00	5223-070-530.00	Holders' shaft cpl. welded	1	1	
4	2023-070-540.01	2023-070-540.01	Brake flange cpl. welded	1	1	
5	2023-070-550.01	2023-070-550.01	Bearing housing cpl. welded	1	1	
6	2023-070-580.00	2023-070-580.00	Plug cpl. welded	2	2	
7	2023-070-590.02	2023-070-590.02	Holder cpl. welded	2	2	
8	2023-070-711.00	2023-070-711.00	Bearing housing with sleeve (pos. 5+27)	1	1	
9	2023-070-712.00	2023-070-712.10	Cam flange cpl. (pos. 12 in table 12)	1	1	
10	2023-070-714.00c	2023-070-714.00c	Knotter's shaft bearing with sleeves (pos. 31+34)	1	1	
11	2023-070-720.01c	2023-070-720.01c	Binding device's table cpl. welded with sleeves (pos. 2+36)	1	1	
12	2023-080-530.01	2023-080-530.01	Locking pawl cpl. (pos. 5 in table 12)	1	1	
13	2023-080-540.04	2023-080-540.04	Steering flange cpl. assembly (pos. 6 in table 12)	1	1	
14	2023-080-610.02	2023-080-610.02	Lever cpl. assembly (pos. 9 in table 12)	1	1	
15	2026-070-500.02	2026-070-500.02	Knotter cpl. assembly (pos. 1 in table 11)	2	2	
16	2026-070-004.03	2026-070-004.03	Drive flange right (pos. 9 in table 12)	1	1	
17	2026-070-005.03	2026-070-005.03	Drive flange left (pos. 10 in table 11)	1	1	
18	2012-070-540.00	2012-070-540.00	Inner brake flange cpl. (pos. 37+38+40)	1	1	
19	2012-070-550.00c	2012-070-550.00c	Outer brake flange cpl. (poz. 37+39+40)	1	1	
20	2023-070-005.01c	2023-070-005.01c	Lock	1	1	
21	2023-070-101.01	0829-401-993	Special nut	1	1	
22	2023-070-106.04	2023-070-106.04	Knotter shaft	1	1	
23	2023-070-125.02	2023-070-125.02	Recoil mechanism	3	3	
24	2024-070-541.02	0829-401-107	Rubber roller	6	6	

Assembly 070 – Binding assembly **Table 9**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
25	2023-070-128.02	2023-070-128.02	Pull rod	2	2	
26	2023-070-129.01	0829-401-359	Clevis pin	3	3	
27	2023-070-134.01	1362-490-004	Sleeve	1	1	
28	2023-070-135.02	2023-070-135.02	Special washer	1	1	
29	2023-070-144.01	0829-401-210	Greasy pipe	1	1	
30	2023-070-173.00	0829-402-057	Sleeve	3	3	
31	2023-070-172.01	2023-070-172.01	Shaft bearing	1	1	
32	2023-070-174.00	0829-401-148	Ring	3	3	
33	2023-070-180.00		Spacing sleeve	6	6	order pos. 24
34	2023-070-182.00	0829-402-074	Sleeve	2	2	
35	2023-070-185.00	2023-070-185.00	Washer	1	1	
36	2023-080-117.00	1362-490-002	Bearing sleeve	1	1	
37	2012-070-104.02	0829-405-361	Brake lining	2	2	
38	2012-070-105.00		Break disc outs.	1	1	order pos. 18
39	2012-070-106.00		Break disc ins.	1	1	order pos. 19
40	ZN-73/082-1121-081	0653-114-100	Rivet B4x10 Al.	6	6	
41	089-000710-0.261	0829-401-561	Round washer 17x28x1	2	2	
42	089-000712-4.255	0829-401-534zn	Round washer 11x30x5	1	1	
43	089-000712-0.282	0829-402-065	Spacer washer 25x45x0,1	4	4	
44	089-000712-0.286	0829-401-242	Spacer washer 25x45x0,3	2	2	
45	089-000712-0.293	0829-402-067	Spacer washer 25x45x1	9	9	
46	089-000713-0.280	8900-071-302.80	Thrust washer 25x45x2,5	4	4	
47	089-000975-5.811	0829-401-494	Spring 3,8x16x30x4	2	2	
48	089-000976-5.514	8900-097-655.14	Tension spring	1	1	
49	089-000977-6.511	8900-097-765.11	Torsion spring	3	3	
50	089-000992-0.091	0651-610-019	Cotter pin B3x58Zn	2	2	
51	089-000992-0.211	0829-800-001	Cotter pin B4x59 Zn	3	3	
52	PN-55/M-82101	0653-133-065zn	Bolt M8x55-8.8B	3	3	
53	PN-85/M-82101	0653-133-079zn	Bolt M10x40-8.8B	3	3	

Assembly 070 – Binding assembly **Table 9**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
54	PN-85/M-82101	0653-514-029zn	Bolt M10x60-8.8B	2	2	
55	PN-85/M-82105	0653-132-060zn	Bolt M10x30-8.8B	1	1	
56	PN-87/M-82302	0653-513-045zn	Bolt M8x25-8.8B	3	3	
57	PN-87/M-82302	0653-311-019zn	Bolt M10x20x-8.8B	3	3	
58	5224-088-107.00		Special bolt	2	2	
59	5224-088-113.00	0653-133-015zn	Special bolt	6	6	
60	PN-86/M-82144	0653-523-002zn	Nut M8-8B	3	3	
61	PN-86/M-82144	0653-322-022zn	Nut M10-8B	3	3	
62	PN-82/M-86478	0639-331-005	Castellated nut KM6	1	1	
63	PN-78/M-82005	0653-182-061zn	Round washer 8,4	8	8	
64	PN-78/M-82005	0653-182-003zn	Round washer 10,5	4	4	
65	PN-77/M-82008	0653-191-007zn	Spring washer Z8,2	4	4	
66	PN-77/M-82008	0653-192-001zn	Spring washer Z10,2	3	3	
67	PN-82/M-86482	0639-331-008	Tooth washer MB-6	1	1	
68	PN-76/M-82001	0651-610-020zn	Cotter pin S-Zn-3,2x16	1	1	
69	PN-76/M-82001	0651-610-004zn	Cotter pin S-Zn-4x25	2	2	
70	PN-70/M-85005	0653-513-039	Parallel key A 10x8x32	2	2	
71	PN-70/M-85005	0653-513-900	Parallel key B10x8x40	2	2	
72	PN-89/M-85023	0653-512-101	Spring pin 4x25	2	2	
73	PN-81/M-85111	0639-361-015	Spring retaining ring Z35	2	2	
74	PN-76/M-86002	0659-000-003	Grease fitting St M6x1	1	1	
75	PN-76/M-86002	0659-000-003	Grease fitting St M6x1	1	1	
76	PN-86/M-82175	0653-156-014zn	Self retaining nut M8-8B	1	1	
77	PN-86/M-82175	0653-156-022zn	Self retaining nut M10-8B	3	3	
78	PN-85/M-86100	0631-113-051	Ball bearing 6201 2RS	9	9	
79	PN-81/M-85111	0639-361-003	Spring retaining ring Z12	1	1	

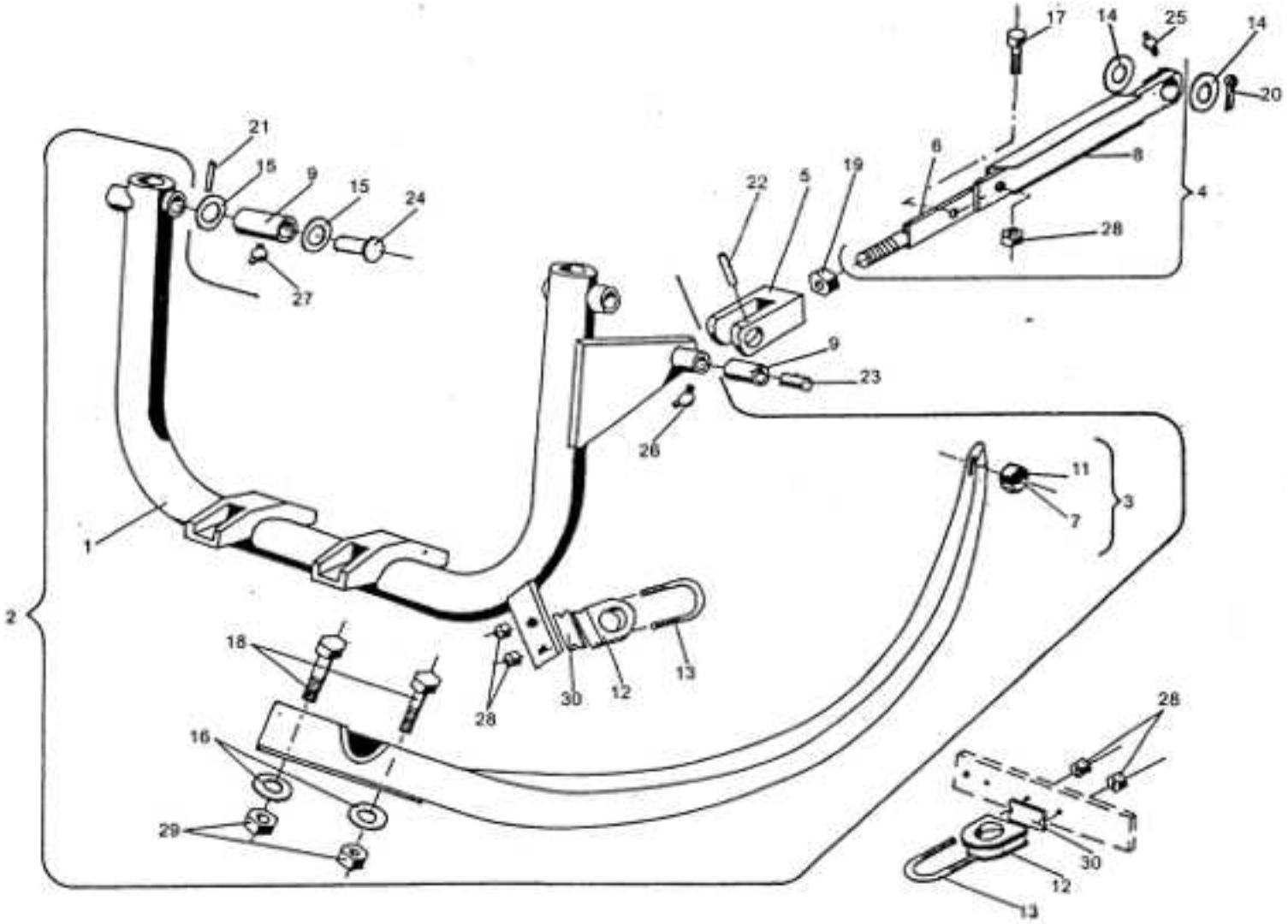


Table 10
Assembly 070 – Swinging arm with needles

Assembly 070 – Swinging arm with needles **Table 10**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2024-070-520.01	2024-070-520.01	Swinging needles' arm cpl. welded	1	1	
2	2024-070-530.02	2024-070-530.02	Swinging arm with needles cpl.	1	1	
3	5224-070-531.00	5224-070-531.00	Needle	2	2	
4	2024-070-800.00c	2024-070-800.00c	Swinging arm rod cpl.	1	1	
5	2023-070-560.01	2023-070-560.01	Swinging arm forks	1	1	
6	2024-070-810.00	2024-070-810.00	Swinging arm rod	1	1	
7	PN-88/M-82954	0653-114-007zn	Rivet 5x25	1	1	
8	2024-070-790.00	2024-070-790.00	Swinging arm welded	1	1	
9	2023-070-142.01	0829-401-036	Sleeve	2	2	
11	5224-070-199.00	0829-401-524	Roller	2	2	
12	5224-070-307.00	1613-923-001	Grommet	3	3	additional 3 pcs in equipment
13	2010-070-127.01	0829-401-036	Grommet support	3	3	
14	089-000709-1.201	0829-401-524	Round washer 21x32x1	3	3	
15	089-000710-0.310	0829-401-887	Round washer 21x30x1,5	4	4	
16	089-000710-3.555	0829-401-533	Round washer 13x30x4	4	4	
17	PN-85/M-82101	0653-312-025zn	Bolt M6x30-8.8B	1	1	additional 5 pcs in equipment
18	PN-85/M-82105	0653-138-008zn	Bolt M12x90-8.8B	4	4	
19	PN-86/M-82144	0653-524-008zn	Nut M20-5B	1	1	
20	PN-76/M-82001	0651-610-038zn	Cotter pin 4x32	1	1	
21	PN-89/M-85023	0653-512-107	Spring pin 5x32	2	2	
22	PN-89/M-85023	0653-512-108	Spring pin 5x40	1	1	
23	PN-90/M-83001	0829-401-189	Clevis pin 20x50/36	1	1	
24	PN-90/M-83002	0829-401-900	Clevis pin 20x90/83,5	2	2	
25	PN-76/M-86002	0659-000-03	Grease fitting St M6x1	1	1	
27	PN-76/M-86003	0659-000-015	Grease fitting St M6x1/45°	2	2	
28	PN-86/M-82175	0653-156-018zn	Self retaining nut M6-8B	7	7	
29	PN-86/M-82175	0653-156-015zn	Self retaining nut M12-8B	6	6	

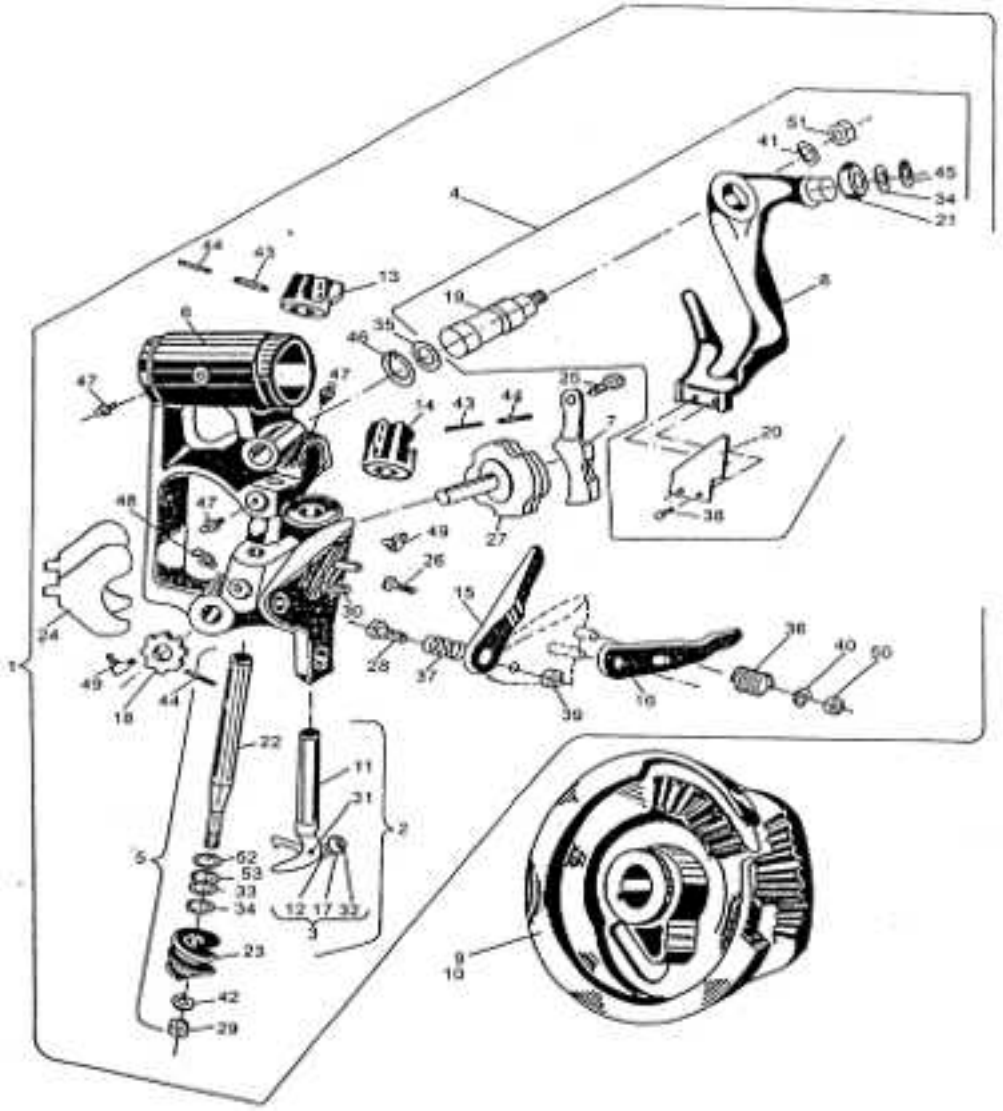


Table 11
Assembly 070 – Knotter cpl.

Assembly 070 – Knotter cpl **Table 11**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2026-070-500.02	2026-070-500.02	Knotter cpl. assembly (pos. 2-8+11-53)	1	1	
2	2026-070-510.11	2026-070-510.00	Bill hook cpl.	1	1	
3	2026-070-520.00	2026-070-520.00	Bill hook jaw cpl.	1	1	
4	2026-070-540.00	2026-070-540.00	Knife arm cpl.	1	1	
5	2026-070-550.00	2026-070-550.00	Worm shaft cpl.	1	1	
6	2026-070-560.00	2026-070-560.00	Knotter body	1	1	
7	2026-070-002.01z	2026-070-002.01z	Twine holder	1	1	
8	2026-070-003.10	2026-070-003.10	Knife arm	1	1	order pos. 4
9	2026-070-004.03	2026-070-004.03	Knotter's drive plate right	1	1	
10	2026-070-005.03	2026-070-005.03	Knotter's drive plate left	1	1	
11	2026-070-006.01	2026-070-006.01	Bill hook	1	1	order pos. 2
12	2026-070-007.01	2026-070-007.01	Bill hook jaw	1	1	order pos. 3
13	2026-070-009.00	2026-070-009.00	Sprocket wheel Z8	1	1	
14	2026-070-010.00	2026-070-010.00	Sprocket wheel Z8 – bill hook	1	1	
15	2026-070-012.01c	2026-070-012.01c	Lever	1	1	
16	2026-070-100.01	2026-070-100.01	Jaw cam	1	1	
17	2026-070-101.00	2026-070-101.00	Jaw roller	1	1	
18	2026-070-106.00	2026-070-106.00	Auger's wheel	1	1	
19	2026-070-107.00	0829-401-185	Clevis pin	1	1	
20	2026-070-108.10	2026-070-108.10	Knife	1	1	
21	2026-070-109.00	2026-070-109.00	Roller	1	1	
22	2026-070-110.00	0829-401-202	Auger shaft	1	1	
23	2026-070-111.00	2026-070-111.00	Auger	1	1	
24	2026-070-112.00	2026-070-112.00	Cleaner	2	2	
25	2026-070-113.00	2026-070-113.00	Special bolt M8x75	1	1	
26	2026-070-114.01	0653-132-020zn	Bolt M8x75	2	2	
27	2026-070-117.00	2026-070-117.00	Twine catcher	1	1	
28	2026-070-118.01	2026-070-118.01	Special bolt	2	2	
29	088-000934-3.101		Nut	1	1	

Assembly 070 – Knotter cpl Table 11

No on diagram	Drawing or standard number	Index		Quantity required		Notes
				Z-224/1	Z-224/2	
30	5224-070-300.00	0829-401-187	Pin	2	2	
31	088-00734-4.070	0653-512-116	Spiral pin 4x16	1	1	
32	PN-78/M-82006	0653-181-012zn	Washer 4,3	1	1	
33	089-000712-0.068	0829-401-198	Washer 15x22x0,5	2	2	
34	089-000712-0.073	0829-401-190	Washer 15x22x1	3	3	
35	089-000712-0.142	0829-401-889	Washer 20x28x0,5	3	3	
36	089-000975-4.732	0829-401-483	Spring 2x14x31x5	1	1	
37	089-000975-5.425	0829-401-495	Spring 3x15x28x4	1	1	
38	PN-85/M-82105	0653-131-003zn	Bolt M5x10-5.8B	2	2	
39	PN-85/M-82144	0653-322-022zn	Nut M10-8B	1	1	
40	PN-78/M-82005	0653-182-061zn	Washer 8,4	1	1	
41	PN-78/M-82005	0653-182-003zn	Washer 10,5	1	1	
42	PN-77/M-82008	0653-192-001zn	Spring washer Z10,2	2	2	
43	PN-89/M-85023	0653-512-104	Spring pin 3x20	3	3	
44	PN-89/M-85023	0653-512-106	Spring pin 5x22	1	1	
45	PN-81/M-85111	0639-361-004	Spring retaining ring Z14	1	1	
46	PN-81/M-85111	0639-361-008	Spring retaining ring Z20	1	1	
47	PN-78/M-86002	0659-000-035	Grease fitting St M8x1	4	4	
48	PN-78/M-86003	0659-000-033	Grease fitting St M8x1/45°	1	1	
49	PN-78/M-86003	0659-000-032	Grease fitting St M8x1/90°	2	2	
50	PN-86/M-82175	0653-156-014zn	Self retaining nut M8-8B	1	1	
51	PN-86/M-82175	0653-156-022zn	Self retaining nut M10-8B	1	1	
52	5224-070-301.00	0829-401-438	Washer 15x22x0,1	To needs		
53	5224-070-302.00	0829-401-412	Washer 15x22x0,3			

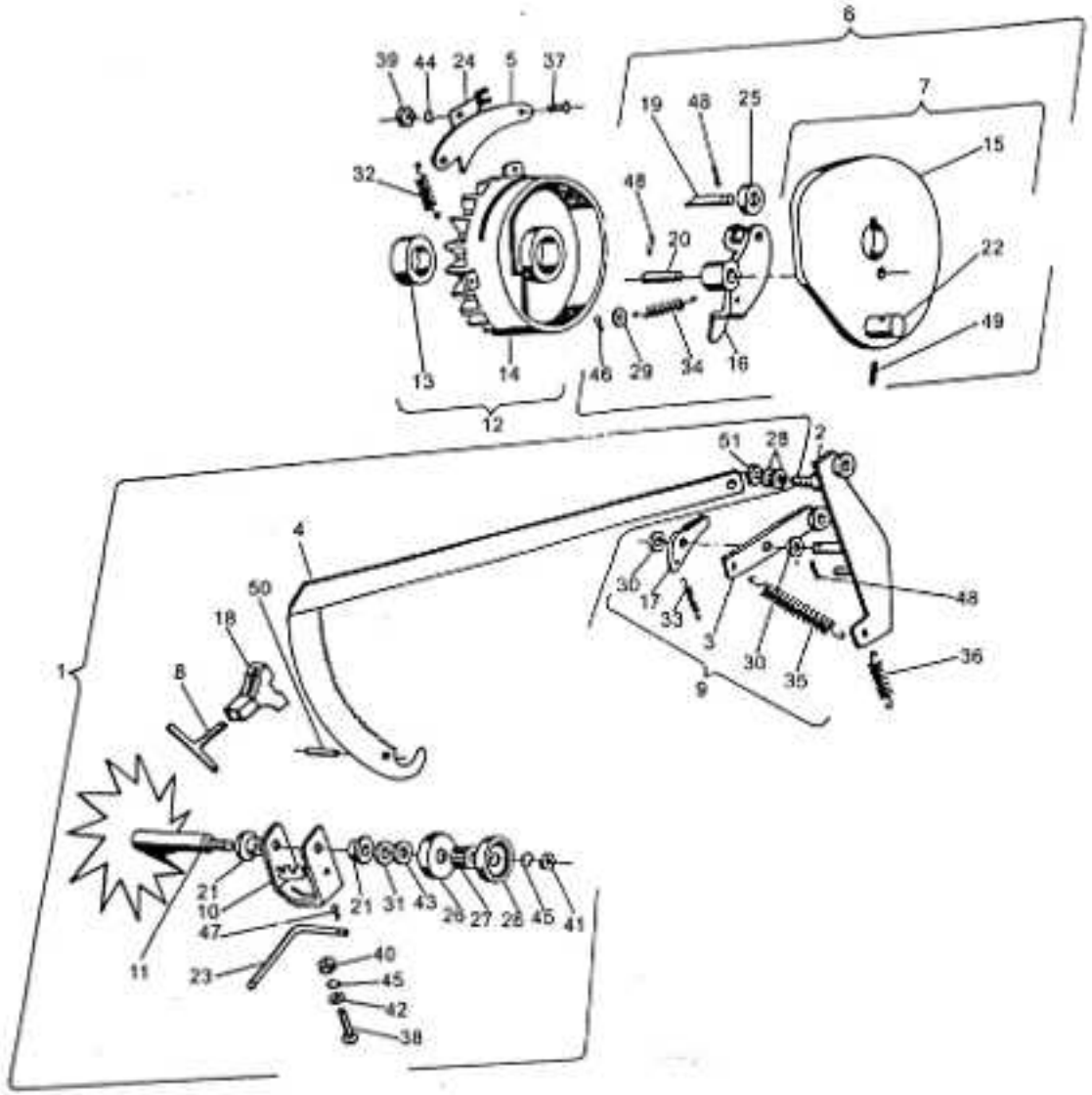


Table 12
Assembly 080 – Binding device switch

Assembly 080 – Binding device switch **Table 12**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2023-080-600.30		Binding device switch cpl. assembly	1	1	
2	2023-080-500.00	5223-080-500.00	Switch lever	1	1	
3	2023-080-510.00	5223-080-510.00	Safety lever cpl.	1	1	
4	2023-080-520.00	2023-080-520.00	Switch arm cpl.	1	1	
5	2023-080-530.01	2023-080-530.01	Locking pawl cpl. (pos. 12 in table 9)	1	1	
6	2023-080-540.4	2023-080-540.04	Steering flange cpl. assembly (pos. 13 in table 9)	1	1	
7	2023-080-541.02c	2023-080-541.02c	Steering flange with pin (pos. 15+22+49)	1	1	
8	2023-080-590.00	2023-080-590.00	Handwheel cpl.	1	1	
9	2023-080-610.02	2023-080-610.02	Switch lever cpl. assembly (pos. 14 in table 9)	1	1	
10	2023-080-630.00	2023-080-630.00	Star roller support	1	1	
11	5225-080-640.00	5225-080-640.00	Switch off star	1	1	
12	2023-070-712.10	2023-070-712.10	Disc with cam (pos. 13+14,pos. 9 in table 9)	1	1	
13	2023-070-173.00	0829-402-057	Bearing sleeve	1	1	order pos. 12
14	2023-080-001.11		Disc with cam	1	1	order pos. 7
15	2023-080-002.06		Disc with cam	1	1	
16	2023-080-003.04c	2023-080-003.04c	Latch	1	1	
17	2023-080-004.02c	2023-080-004.02c	Switch lever	1	1	
18	2023-080-500.00	5224-080-500.01	Switch clamp	1	1	
19	2023-080-102.03	0829-401-953	Roller pin	1	1	
20	2023-080-106.03	2023-080-106.03	Clevis pin	1	1	
21	2023-080-117.00	1362-490-002	Bearing sleeve	2	2	
22	2023-080-120.01	0829-401-350	Clevis pin	1	1	
23	2023-080-123.00	2023-080-123.00	Safety pin	1	1	
24	2023-080-136.00	2023-080-136.00	Stabilizer spring	1	1	
25	2010-080-106.02	2010-080-106.02	Latch roller	1	1	
26	2010-080-114.00	2010-080-114.00	Round feed wheel 13x28x2 Zn	2	2	

Assembly 80 – Binding device switch **Tablica 12 Table 12**

No on diagram	Drawing	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
27	2010-080-115.02	2010-080-115.02	Switch star roller	1	1	
28	089-000709-1.123	8900-070-911.23	Round washer 13x28x2 Zn	2	2	
29	089-000710-0.120	0829-401-884	Round washer 11x18x1,5	1	1	
30	089-000710-0.261	0829-401-561	Round washer 17x18x1	2	2	
31	089-000710-4.485	0829-401-891	Round washer 17x30x5	1	1	
32	089-000976-4.111	0829-401-472	Spring 1,4x12x53-24	1	1	
33	089-000976-4.520	0829-401-482	Spring 1,8x12x53-14	1	1	
34	089-000976-4.716	0829-401-519	Spring 2x14x55-13	1	1	
35	089-000976-5.111	8900-097-651.11	Spring 2x17x82-16	1	1	
36	089-000976-5.112	8900-097-651.12	Sprezyna 2,5x17x94-21	1	1	
37	PN-85/M-82207	0653-331-007zn	Tap screw M5x12-5.8	1	1	
38	PN-87/M-82406	0653-133-015zn	Bolt M10x25-5.8	2	2	
39	PN-86/M-82144	0653-321-003zn	Nut M5-5B	1	1	
40	PN-86/M-82144	0653-322-022zn	Nut M10-8B	2	2	
41	PN-86/M-82144	0653-154-007zn	Left-handed nut M10-8B	1	1	
42	PN-78/M-82005	0653-182-003zn	Washer 10,5	2	2	
43	PN-78/M-82007	0653-183-006zn	Washer for screw 17A	1	1	
44	PN-77/M-82008	0653-191-901zn	Spring washer Z5,1	3	3	
45	PN-77/M-82008	0653-192-001zn	Spring washer Z10,2	1	1	
46	PN-76/M-82001	0651-610-014zn	Cotter pin S-Zn-2x20	1	1	
47	PN-76/M-82001	0651-610-078zn	Cotter pin S-Zn-3,2x18	3	3	
48	PN-89/M-85023	0653-512-105	Spring pin 4x24	1	1	
49	PN-89/M-85023		Spring pin 5x28	1	1	
50	PN-89/M-85023	0653-512-111	Spring pin 6x28	1	1	
51	PN-86/M-82175	0653-156-015zn	Self retaining nut M12-8B	1	1	

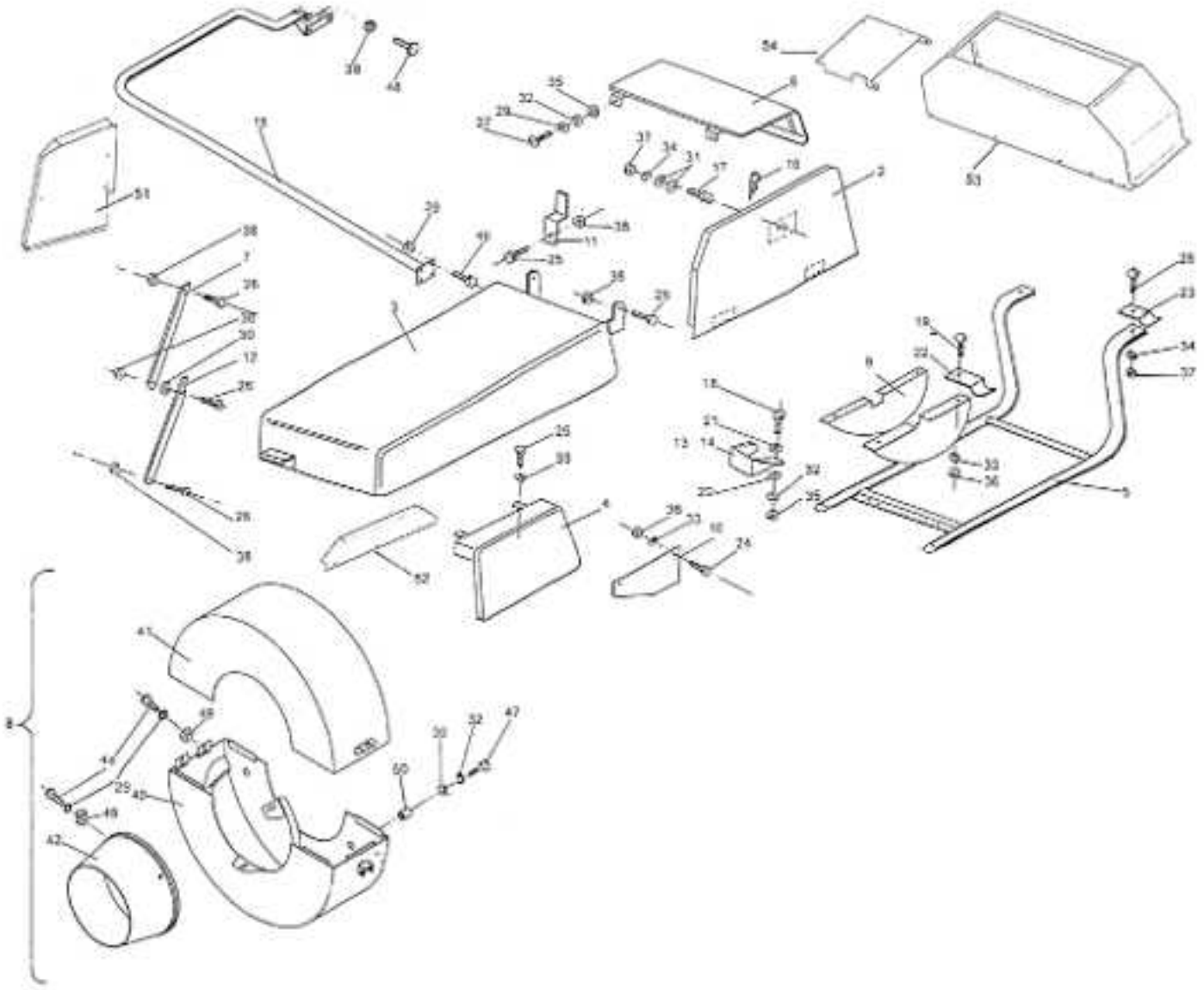


Table 13
Assembly 090 - Covers

Assembly 090 – Covers **Table 13**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2024-090-800.00		Covers complete assembly	1	1	order separately
2	2024-090-520.00	2024-090-520.00	Left cover cpl.	1	1	
3	2024-090-530.00	2024-090-530.00	Channel cover	1	1	
4	2024-090-540.00	2024-090-540.00	Gearbox cover cpl.	1	1	
5	2024-090-600.01	2024-090-600.01	Needles cover cpl.	1	1	
6	2023-090-560.00	2023-090-560.00	Knotters cover	1	1	
7	2023-090-570.00	2023-090-570.00	Upper skew rest cpl.	1	1	
8	5224-090-800.00	5224-090-800.00	Flywheel cover cpl. assembly	1	1	
9	2024-090-131.00	2024-090-131.00	Needles cover	2	2	
10	2023-080-132.01	2023-080-132.01	Chain cover	1	1	
11	2023-090-132.02	2023-090-132.02	Grip	1	1	
12	2023-090-138.00	2023-090-138.00	Bottom rest	1	1	
13	2023-090-121.01	2022-090-121.01	Left cover	1	1	
14	2023-090-122.01	2022-090-122.01	Right cover	1	1	
15	2024-090-700.00	2024-090-700.00	Guard rail	1	1	
16	2023-090-136.00	0651-610.013	Cotter pin	1	1	
17	1116-210-149.01	1116-210-149.01	Arbor	1	1	
18	PN-87/M-82406	0653-132-022zn	Bolt M6x25-4.8B	4	4	
19	PN-87/M-82406	0653-513-049zn	Bolt M8x25-4.8B	4	4	
20	089-000709-1.061		Washer 6,4x18x2 Zn	4	4	
21	089-000709-1.081	8900-070-910.81	Round washer 8,4 Zn	2	2	
22	089-002550-0.062	0890-025-500.062	Grip	2	2	
23	089-002550-0.072	0890-025-500.072	Grip	1	1	
24	PN-85/M-82105	0653-312-014zn	Bolt M8x16-8.8B	2	2	
25	PN-85/M-82105	0653-134-041zn	Bolt M8x20-8.8B	5	5	
26	PN-85/M-82105	0653-132-073zn	Bolt M8x25-8.8B	5	5	
27	PN-85/M-82105	0653-312-053zn	Bolt M8x45-8.8B	3	3	
28	PN-87/M-82406	0653-132-022zn	Bolt M6x25-4.8B	2	2	
29	PN-87/M-82406	0653-135-244zn	Bolt M10x30-8.8B	2	2	

Assembly 90 – Covers **Table 13**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
30	PN-78/M-82005	0653-182-001zn	Round washer 6,4	9	9	
31	PN-78/M-82005	0653-182-061zn	Round washer 8,4	5	5	
32	PN-78/M-82005	0653-182-003zn	Round washer 10,5	1	1	
33	PN-77/M-82008	0653-191-005zn	Spring washer Z6,1	6	6	
34	PN-77/M-82008	0653-191-007zn	Spring washer Z8,2	11	11	
35	PN-77/M-82008	0653-192-001zn	Spring washer Z10,2	3	3	
36	PN-86/M-82144	0653-322-007zn	Nut M6-8B	6	6	
37	PN-86/M-82144	0653-523-002zn	Nut M8-8B	6	6	
38	PN-86/M-82144	0653-322-022zn	Nut M10-8B	3	3	
39	PN-86/M-82175	0653-156-014zn	Self retaining nut M8-8B	10	10	
40	5224-090-810.00	5224-090-810.00	Bottom cpl. welded	1	1	
41	5224-090-820.00	5224-090-820.00	Upper cover cpl. welded	1	1	
42	2010-090-119.00	0824-850-997	Cone cover	1	1	
44	PN-85/M-82201	0653-331-014zn	Tap screw M6x16-4.8 II	5	5	
45	PN-85/M-82101	0653-132-909zn	Bolt M6x50-5.8B	1	1	
46	PN-85/M-82175	0653-156-018zn	Self retaining nut M6-8B	6	6	
47	PN-85/M-82105	0653-134-041zn	Bolt M8x20-8.8B	3	3	
48	5224-088-117.00	0653-513-087zn	Bolt M8x20	4	4	
49	PN-86/M-82175	0653-156-018zn	Self retaining nut M6-8B	6	6	
50	2024-090-401.00	2024-090-401.00	Spacing sleeve	3	3	
51	2023-090-550.00	2023-090-550.00	Auger cover	1	1	
52	2023-090-401.00	2023-090-401.00	Channel cover	1	1	
53	5224-090-900.10	5224-090-900.10	Feeder cover	1	1	
54	5224-090-203.10	5224-090-203.10	Cover	1	1	

Assembly 100 – Equipment an tools **Table 14**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2023-100-520.01		Equipment cpl.	1	1	order separately
2	PN-85/M-82101	0653-312-025zn	Bolt M6x30-8.8B	5	5	pos. 12 table 10
3	PN-86/M-82101	0653-156-018zn	Self retaining nut M6-8B	5	5	Pos. 28 table 10
4		2712-120-029	Manual for balers Z-224/1 and Z-224/2	1	1	English
		2712-120-100	Manual for balers Z-224/1 and Z-224/2	1	1	
		2712-120-097	Manual for balers Z-224/1 and Z-224/2	1	1	
5		2712-120-030	Spare parts catalogue for balers Z-224/1 and Z-224/2	1	1	
6	5224-070-307.00	1613-923-001	Grommet	3	3	pos. 20 table 4/ pos. 12 table 10
7		0829-405-016	Bale counter 95070	1	1	assemblied on baler

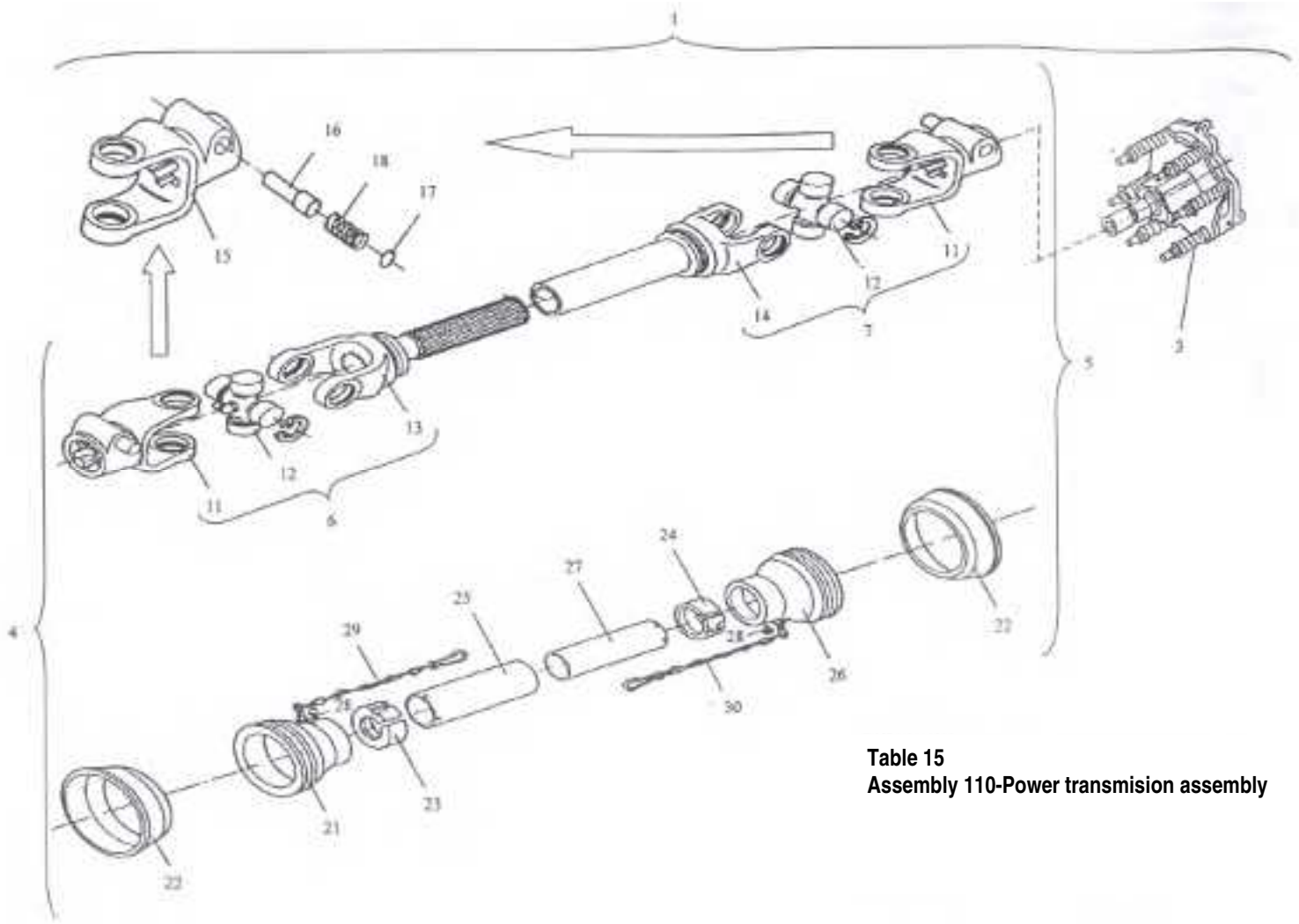


Table 15
Assembly 110-Power transmision assembly

Assembly 110 – Power **Tablica 15 Table 15**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	5224-110-800.00		Power transmission assembly (pos. 2+ table 16)	1	1	order separately
2	5224-110-500.20	0829-401-081	Jointed shaft cpl. 6/6 splines (pos. 4+5)	1	1	standard
	5224-110-500.22	0829-401-090	Jointed shaft cpl. 6/24 splines (old version)	1	1	for balers with 24 splines shaft-pos.3 table 16; order complete shaft
	5224-110-501.00	0829-401-130	Jointed shaft cpl. 6/8 splines (Eastern markets)(pos. 4+5)	1	1	for aggregation with tractor with 8 splines Power-Take-On shaft
3	5224-110.710.10	5224-110-700.10	Friction and overrunning clutch cpl. (pos.1 in table 16)	1	1	
	5224-110.700.01c	5224-110-700.01c	Friction and overrunning clutch cpl. (pos.1 in table 16)	1	1	24splines Power-Take-Off shaft
4	60252/606.000/4		Joint with outer welded shaft and guard cpl. (pos. 6+21+22+23+25+28+29)	1	1	
5	5224-110.720.20		Joint with inner welded shaft and guard cpl.(pos. 7+22+24+26+27+28+30)	1	1	
6	60252/606.010		Joint with inner welded shaft and yoke (pos. 11+12+13)	1	1	
7	5224-110-730.20		Joint with outer welded shaft and yoke (pos. 11+12+14)	1	1	
11	60200/01.500		Outer yoke cpl. (pos. 15+16+17+18)	2	2	
	60200/01.01.700		Outer yoke cpl.8 plines(Eastern markets)	1	1	Yoke on the tractor side in 5224-110-501.00 Jointed shaft – pos. 2
12	60210/01.04.000	0829-800-077	Cross kit with circlips cpl.	2	2	
13	60252/01.01.100	0829-800-385	Inner welded shaft and yoke	1	1	
14	5224-110-740.20		Outer welded shaft and yoke	1	1	
15	60200/01.01.501		Outer yoke	2	2	
16	0737/01.01.202	0652-690-034	Push spring	2	2	
17	30210-010-108.00		Hole plug	2	2	
18	30210-010-107.00		Push pin	2	2	
21	60210/01.00.401	0829-811-193	Cone I	1	1	
22	60210/01.00.402	0829-800-071	Collar	2	2	

Assembly 110 – Power transmission assembly

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
23	50210/01.00.002/1		Bearing ring I	1	1	
24	50210/01.00.002		Bearing ring II	1	1	
25	60250/01.00.001		Outer guard tube	1	1	
26	60210/02.00.401		Cone II	1	1	
27	70270/02.00.001		Inner guard tube	1	1	
28	PN-93/M-83116		Tap screw 3,9x9,5	2	2	
29	0733/03.00.000		Safety chain	1	1	
30	5223-110-780.00		Safety chain	1	1	
31	2010-090.121.00	2010-090.121.00	Grip (pos. 11 in table 16)	3	3	
32	5224-090-119.00	1362-529-004	Cover cone (pos. 10 in table 16)	1	1	

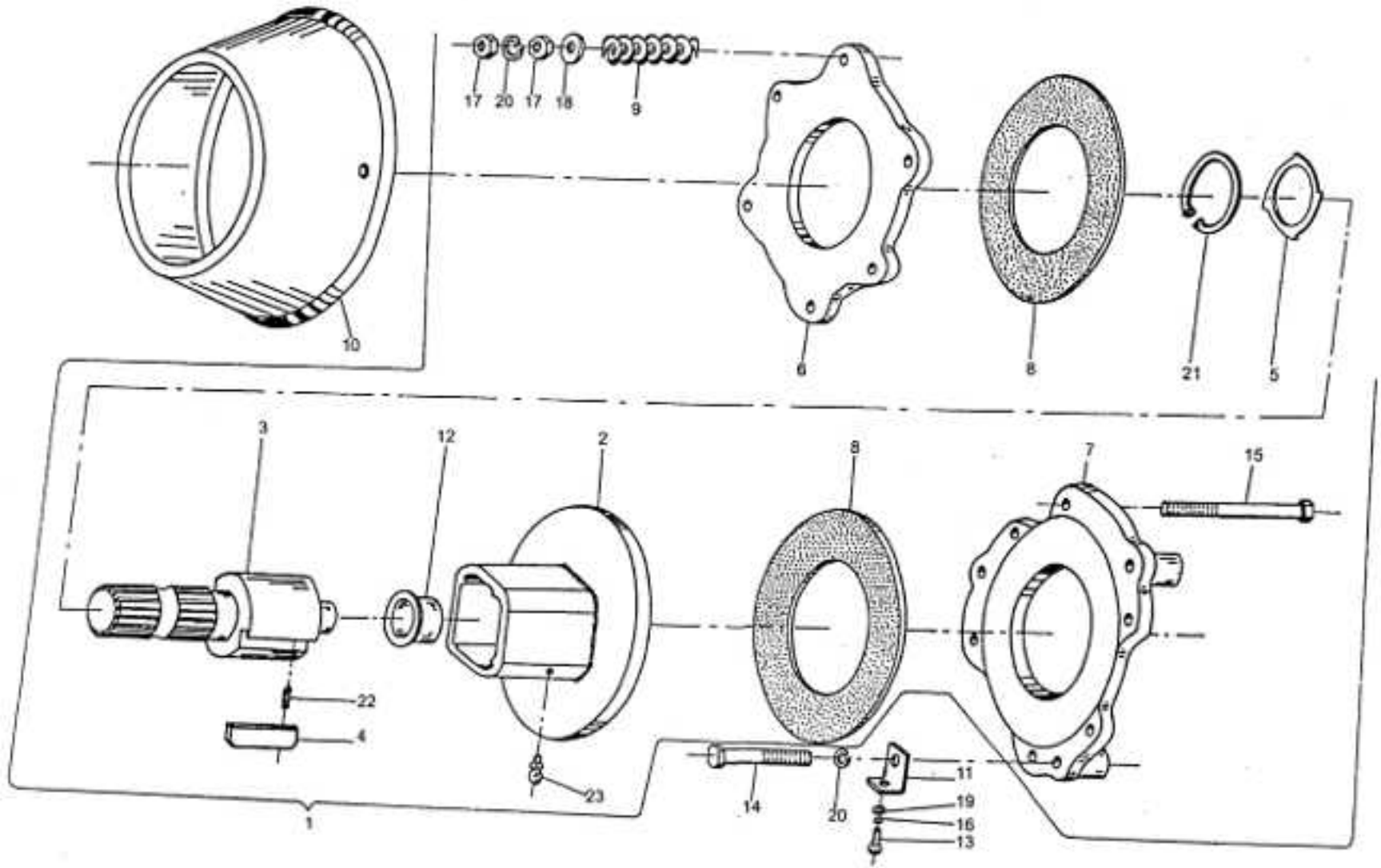


Table 16
Assembly 110 – Frcition and overrunning clutch

Assembly 110 – Friction and overrunning clutch **Table 16**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	5224-110-700.10	5224-110-700.10	Friction and overrunning clutch cpl.(pos. 3 in table 15)	1	1	24 splines shaft in pos.3
	5224-110-700.01c	5224-110-700.01c	Friction and overrunning clutch cpl. (pos. 3 in table 15)	1	1	
2	5224-110-710.10	5224-110-710.10	Central flange cpl.	1	1	
3	5224-110-203.00	5224-110-203.00	Spline shaft Z6	1	1	old type baler: shaft with 24 splines
	5224-110-203.01c	5224-110-203.01c	Spline shaft Z24	1	1	
4	5224-110-204.00	5224-110-204.00	Slide	1	1	
5	5224-110-205.00c	5224-110-205.00c	Ring	1	1	
6	5223-110-001.00	0829-401-856	Left flange	1	1	
7	5223-110-003.00	5223-110-003.00	Right flange	1	1	
8	5223-110-201.00	1338-311-003	Friction lining	2	2	
9	5223-110-202.00	5223-110-202.00	Spring	6	6	
10	5224-110-119.00	1362-529-004	Guard cone (pos. 32 in table 15)	1	1	used until IV .2004
11	2010-090-121.00	2010-090-121.00	Grip (pos. 31 in table 15)	3	3	Used until IV.2004
12	1322-169-147.00	1362-490-003	Sleeve	1	1	
13	PN-85/M-82201	0653-331-014zn	Tap screw M6x16-4.8B	3	3	used until IV.2004
14	PN-85/M-82101	0653-133-033zn	Bolt M12x65-8.8B	3	3	
15	PN-85/M-82101	0653-313-038zn	Bolt M12x130-8.8B	6	6	
16	PN-77/M-82008	0653-191-005zn	Spring washer Z6,1	3	3	used until IV.2004
17	PN-86/M-82153	0653-524-012zn	Nut M12-06B	12	12	
18	PN-78/M-82006	0653-183-047zn	Washer 13	6	6	
19	PN-59/M-82030	0653-182-023zn	Round washer 6,5	3	3	used until IV.2004
20	PN-77/M-82008	0653-192-003zn	Spring washer Z12,2	9	9	
21	PN-81/M-82111	0639-362-007	Spring retaining ring W63	1	1	
22	PN-76/M-86701	0829-401-336	Spring 1x7x5, 13x22, 6x9,5	4	4	
23	PN-76/M-86002	0659-000-003	Grease fitting St M6x1	1	1	

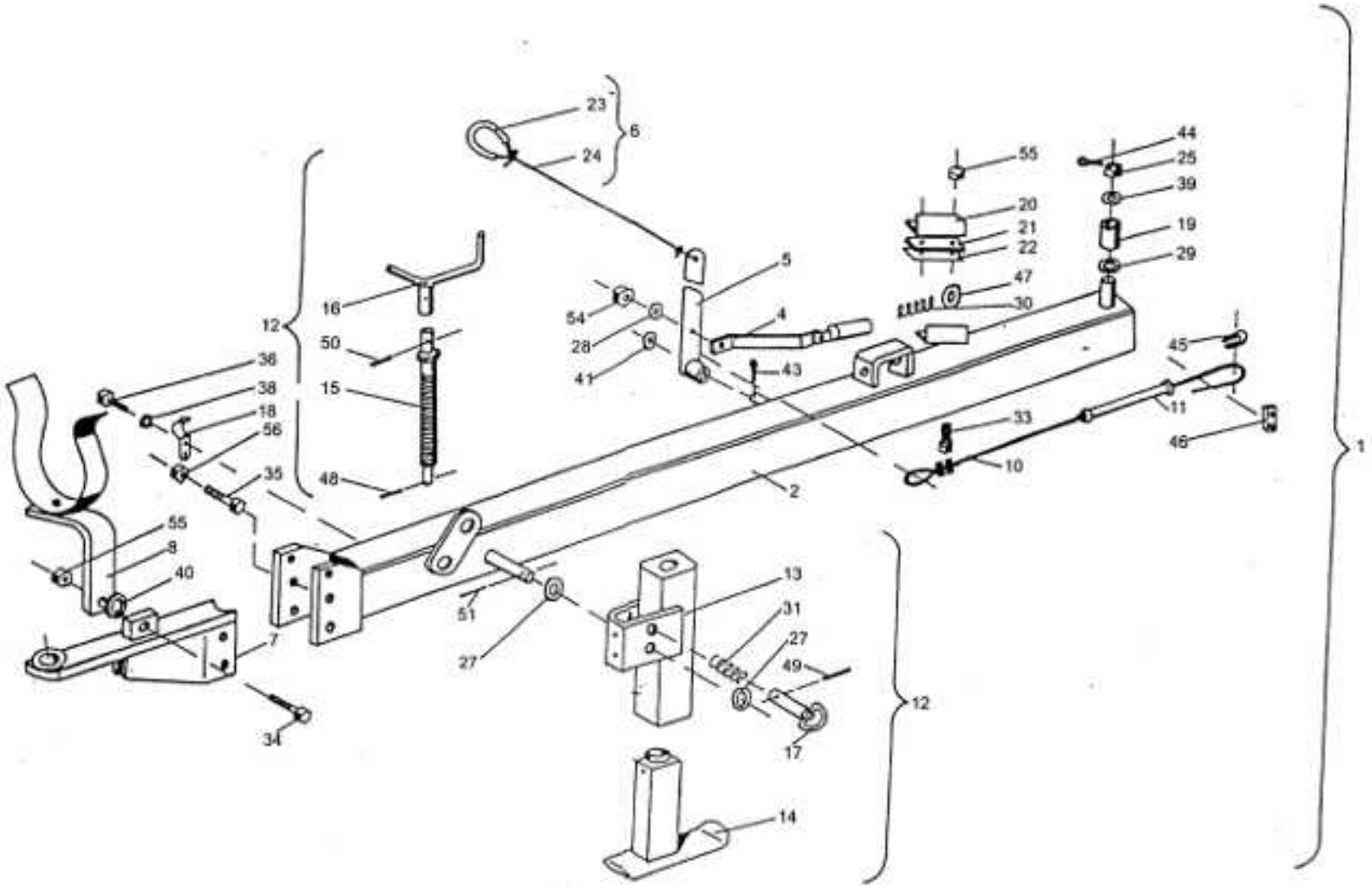


Table 17
Assembly 120 – Drawbar

Assembly 120 – Drawbar **Table 17**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2024-120-500.03		Drawbar cpl. assembly (pos. 2-48)	1	1	order separately
2	2024-120.520.11	2024-120-520.11	Drawbar cpl. welded	1	1	
4	2024-120-590.02	2024-120-590.02	Clasp lock cpl. welded	1	1	
5	2024-120-600.00	2024-120-600.00	Lever cpl. welded	1	1	
6	2023-120-501.00		Cord cpl.(pos. 23+24)	1	1	order separately
7	5224-120-700.00	5224-120-700.00	Hitch cpl. welded	1	1	
8	2023-120-750.00	2023-120-750.00	PTO shaft support cpl.	1	1	
10	2024-120-121.02	2024-120-121.02	Steel (Bowden) cable	1	1	
11	5224-120-800.00	5224-120-800.00	Bowden strand cpl.	1	1	
12	0345-201-600.00	0829-401-014	Rest with crank	1	1	
13	0345-201.510.00		Outer pipe cpl. welded	1	1	order pos. 12
14	0345-201-520.01		Inner pipe cpl. welded	1	1	order pos. 12
15	0345-201-530.00	0829-401-102	Bolt cpl. welded	1	1	
16	5225-120-540.00		Handwheel	1	1	order pos. 12
17	0345-120-550.00		Clevis pin cpl. welded	1	1	order pos. 12
18	5224-120-100.00	5224-120-100.00	Spring grip	1	1	
19	2023-120-119.00	0829-402-073	Bearing sleeve	1	1	
20	2023-120-135.01	2023-120-135.01	Pushing plate	1	1	
21	2023-120-136.00	2023-120-136.00	Plate	1	1	
22	2023-120-142.00	2023-120-142.00	Washer	1	1	
23	1322-130-124.00	1322-130-124.00	Holder	1	1	
24	1322-130-151.00	1322-130-151.00	Cord	1	1	
25	088-000935-5.302	0653-162-003zn	Castellated nut M30x1,5-8 Zn	1	1	
27	089-000710-0.534	0829-401-886	Round washer 36x50x1,5	2	2	
28	089-000710-2.080	0829-401-613	Round washer 8,4x24x3	1	1	
29	089-000710-2.743	8900-071-027.43	Round washer 30x48x1,5	1	1	
30	089-000975-5.130	8900-097-551.30	Spring 2,5x32x72-4	1	1	
31	089-000975-5.417	0829-401-521	Spring 3x39x32-3,5	1	1	
33	PN-85/M-82105	0653-514-016zn	Bolt M12x40-8.8B	2	2	

Assembly 120 – Drawbar **Table 17**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
34	PN-85/M-82105	0653-133-161zn	Bolt M12x35-8.8B	1	1	
35	PN-85/M-82101	0653-133-009zn	Bolt M16x55-8.8B	4	4	
36	PN-85/M-82105		Bolt M16x12-8.8B	2	2	
38	PN-82/M-82008	0653-191-005zn	Spring washer Z6,1	2	2	
39	PN-63/M-82004		Washer for clevis pin 30,5 Zn	1	1	
40	PN-78/M-82005	0653-183-047zn	Washer 13	1	1	
41	PN-78/M-82005	0653-183-005zn	Washer 17	1	1	
43	PN-76/M-82001	0651-610-058	Cotter pin S-Zn-4x25	1	1	
44	PN-76/M-82001	0651-610-004zn	Cotter pin S-Zn-6,3x45	1	1	
45	PN-92/M-70247	0653-561-004zn	Thimble A4C	2	2	
46	555.13.232	0651-113-003	Rope clamp cpl. A3	3	3	
47	5224-088-105.00	0829-401-040	Snap ring 25	1	1	
48	PN-89/M-85023	0653-512-110	Spring pin 6x24	1	1	

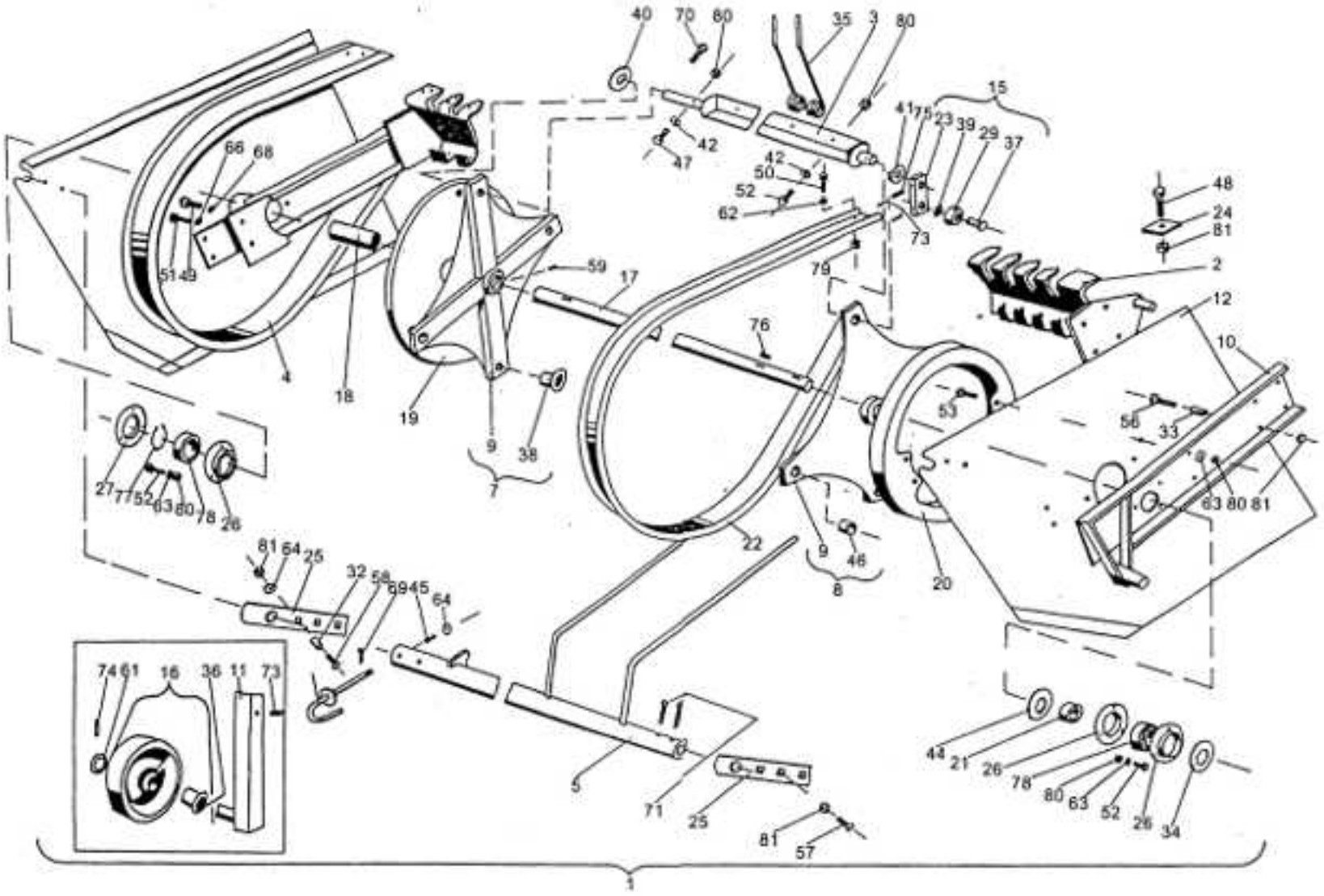


Table 18
Assembly 130 – Pick-up

Assembly 130 – Pick-up **Table 18**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2024-130-500.09c	2024-130-500.09c	Pick-up cpl. (pos. 2-71)	1	1	
2	2024-130-510.08t	2024-130-510.08t	Frame cpl.	1	1	
3	2024-130-520.00	5224-130-520.00	Steering angler cpl.	4	4	
4	2024-130-530.01t	2024-130.530.01t	Right wall cpl.	1	1	
5	2024-130-600.01t	2024-130-600.01t	One-row rakes	1	1	
6	2024-130-610.00	2024-130-610.00	Tin cover cpl. (pos. 2 in table 19)	1	1	
7	2023-130-502.01	2023-130-502.01	Turning cross cpl. (pos. 9+38)	1	1	
8	2023-130-505.00		Turning cross cpl. (pos. 9+46)	1	1	order pos. 7
9	2023-130-510.03	2023-130-510.03	Turning cross	2	2	order pos. 7
10	2023-130-540.02t	2023-130-540.02t	Left support cpl.	1	1	
11	2023-130-570.10	2023-130-570.10	Wheel arm cpl. welded	1	1	
12	2023-130-660.01t	2023-130-660.01t	Left wall	1	1	
13	2023-130-760.01c	2023-130-760.01c	Pickup drive (pos. 1 in table 19)	1	1	
14	2023-130-830.00	2023-130-830.00	Plug cpl.	1	1	
15	5230/07-00-600	5230-070-060.0	Steering lever (pos. 23+29+37+73)	4	4	
16	1322-160-730.10t	1322-160-730.10t	Tin wheel cpl.	1	1	
17	2024-130-102.02	2024-130-102.02	Shaft	1	1	
18	2024-130-119.01	2024-130-119.01	Spacing sleeve	1	1	
19	2024-130-127.00	2024-130-127.00	Cross cover	1	1	
20	2023-130-007.03	2023-130-007.03	Roll guide	1	1	
21	2023-130-107.02	2023-130-107.02	Spacing sleeve	1	1	
22	2023-130-117.01	2023-130-117.01	Central cover	23	23	
23	2023-130-133.01c	2023-130-133.01c	Steering sleeve	4	4	
24	2023-130-148.00	2023-130-148.00	Plate	2	2	
25	2023-130-149.10	2023-130-149.10	Left bumper	2	2	
26	2023-130-174.00	2023-130-174.00	Inner bearing cap	3	3	
27	2023-130-175.00	2023-130-175.00	Outer bearing cap	1	1	
28	2023-130-190.10	2023-130-190.10	Cover (pos. 10 in table 19)	1	1	
29	2023-130-211.01	2023-130-211.01	Moving roller	4	4	

Assembly 130 – Pick-up **Table 18**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
31	2023-130-227.00	2023-130-227.00	Grip (pos.15 in table 19)	1	1	
32	2022-130-119.00	0829-402-077	Resist roller	1	1	
33	2023-070-136.00		Sleeve	4	4	
34	2022-060-133.00	2022-060-133.00	Washer	1	1	
35	2010-130-139.03	2010-130-139.03	Spring tine	48	48	
36	5223-130-203.00	1362-490-001	Sleeve	2	2	
37	1322-169-106.10	1322-169-106.10	Pin	4	4	
38	1322-169-147.00	1362-490-003	Sleeve	4	4	
39	089-000709-1.180	8900-070-911.80	Washer 19x30x4	4	4	
40	089-000709-1.202	0829-401-523	Washer 21x32x2	4	4	
41	089-000709-1.251	0829-401-611	Washer 26x40x2	4	4	
42	089-000710-2.080	0829-401-613	Round washer 8,4x24x3	48	48	
43	089-000710-3.100	0653-181-020zn	Washer 10,5x30x3	4	4	
44	089-000712-0.273	0829-402-063	Shim 30x42x1	1	1	
45	089-000975-3.912	0829-401-520	Spring 1,2/15/033-6	1	1	
46	089-001110-1.192		Spring sleeve	4	4	
47	PN-85/M-82101	0653-312-046zn	Bolt M6x50-8.8B	4	4	order pos. 38
48	PN-85/M-82101	0653-313-048zn	Bolt M10x70-8.8B	2	2	
49	PN-85/M-82101	0653-132-087zn	Bolt M12x45-8.8B	2	2	
50	PN-85/M-82105	0653-132-091zn	Bolt M6x16-5.8B	100	100	
51	PN-85/M-82105	0653-132-019zn	Bolt M6x20-8.8B	47	47	
52	PN-85/M-82105	0653-312-003zn	Bolt M6x25-8.8B	47	47	
53	PN-85/M-82105	0653-312-024zn	Bolt M6x30-8.8B	4	4	
54	PN-85/M-82105	0653-133-047zn	Bolt M10x20-8.8B(pos.37 in table 19)	2	2	
55	PN-85/M-82105	0653-313-007zn	Bolt M10x35-8.8B	4	4	
56	PN-85/M-82105	0653-132-099zn	Bolt M10x40-8.8B	4	4	
57	PN-87/M-82406	0653-133-015zn	Bolt M10x25-4.8B	4	4	
58	PN-87/M-82406	0653-133-058zn	Bolt M10x35-4.8B	1	1	
59	PN-87/M-82307		Bolt M10x20-6.8B	3	3	

Assembly 130 – Pick-up **Table 18**

No on diagram	Drawing	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
60	PN-86/M-82144	0653-322-019zn	Nut M6-5B	2	2	
61	PN-90/M-82004		Washer for clevis pin 30,5	1	1	
62	PN-78/M-82005	0653-182-001zn	Washer 6,4	7	7	
63	PN-78/M-82005	0653-182-061zn	Washer 8,4	7	7	
64	PN-78/M-82005	0653-182-003zn	Washer 10,5	2	2	
65	PN-77/M-82008	0653-191-005zn	Spring washer Z6,1	2	2	
66	PN-77/M-82008	0653-191-007zn	Spring washer Z8,2	2	2	
67	PN-77/M-82008	0653-192-001zn	Spring washer Z10,2	4	4	
68	PN-77/M-82008	0653-192-003zn	Spring washer Z12,2	2	2	
69	PN-76/M-82001	0651-610-020zn	Cotter pin S-Zn-3,2x16	1	1	
70	PN-76/M-82001	0651-610-008zn	Cotter pin S-Zn-5x32	4	4	
71	PN-89/M-85023	0651-610-058	Cotter pin S-Zn-6,3x45	2	2	
73	PN-89/M-85023	0653-512-108	Spring pin 5x40	9	9	
74	PN-89/M-85023	0653-512-112	Spring pin 6x40	1	1	
75	PN-89/M-85023	0653-512-114	Spring pin 8x40	4	4	
76	PN-70/M-85005	0653-513-012	Parallel key A8x7x36	3	3	
77	PN-81/M-85111	0639-361-013	Spring retaining ring Z30	1	1	
78	PN-85/M-86100	0631-113-026	Ball bearing 6206 2RS	2	2	
79	PN-86/M-82175	0653-156-018zn	Self retaining nut M6-8B	98	98	
80	PN-86/M-82175	0653-156-014zn	Self retaining nut M8-8B	60	60	
81	PN-86/M-82175	0653-156-022zn	Self retaining nut M10-8B	17	17	

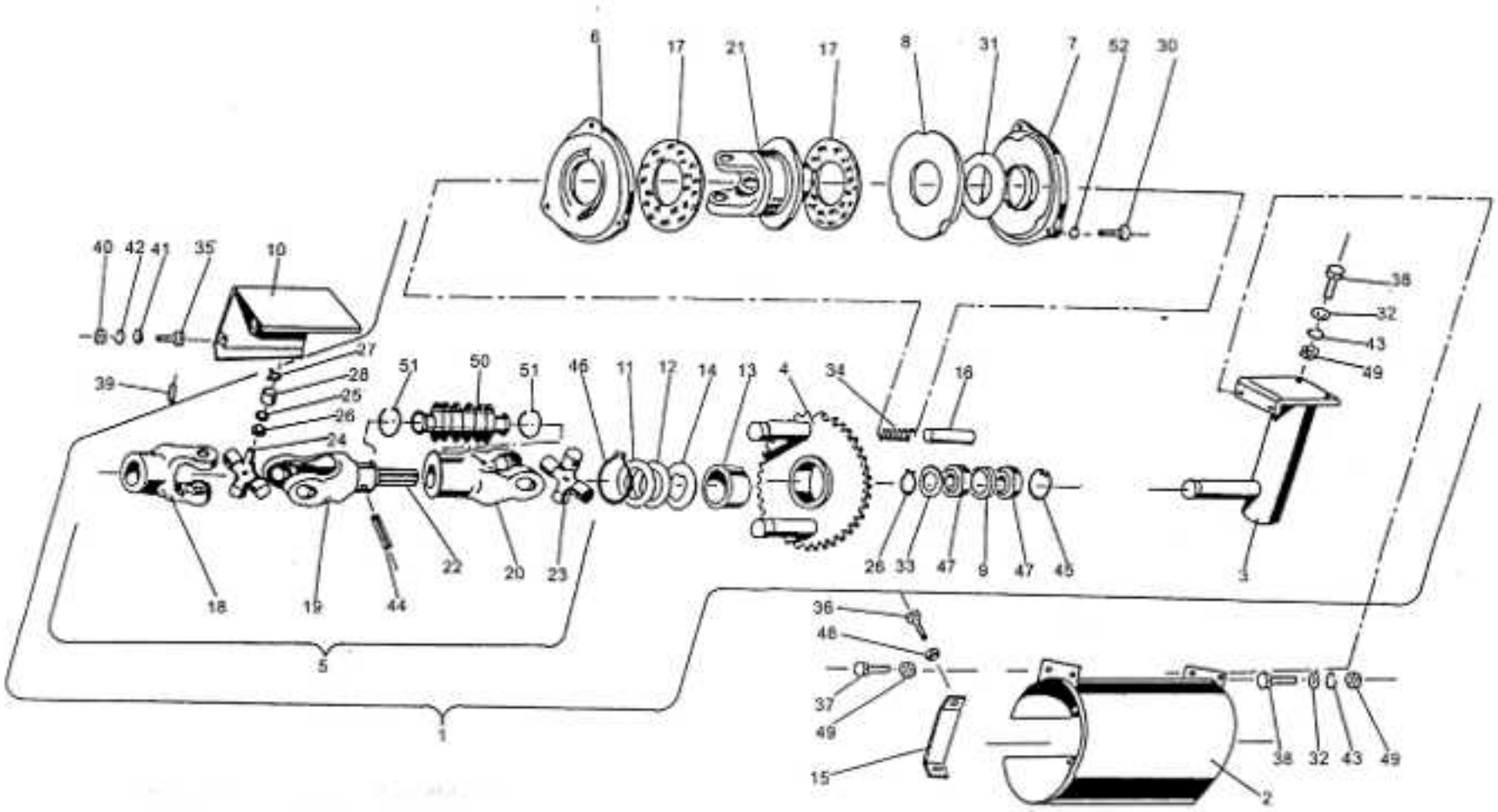


Table 19
Assembly 130 – Pick-up drive

Assembly 130 – Pick-up drive **Tablica 19 Table 19**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2023-130-760.01c	2023-130-760.01c	Pick-up drive (pos. 13 in table 18)	1	1	
2	2024-130-610.00	2024-130-610.00	Tin cover cpl.	1	1	
3	2023-130-650.02	2023-130-650.02	Arm	1	1	
4	2023-130.770.01	2023-130-770.01	Sprocket wheel welded Z43	1	1	
5	5223-130-780.02c	5223-130-780.02c	Pick –up jointed shaft (pos.18-28+44+50+51)	1	1	
6	2023-130-009.01	0829-401-854	Left cover	1	1	
7	2023-130-010.01	0829-401-855	Right cover	1	1	
8	2023-130-011.01	2023-130-011.01	Control wheel	1	1	
9	2023-130-178.00	0829-401-151	Spacing sleeve	1	1	
10	2023-130-190.10	2023-130-190.10	Cover	1	1	
11	2023-130-193.00	2023-130-193.00	Washer 75,5x90x1	1	1	
12	2023-130-194.00	2023-130-194.00	Washer 75,5x90x1,5	1	1	
13	2023-130-200.00	0829-402-075	Bearing sleeve	1	1	
14	2023-130-203.00	2023-130-203.00	Securing washer 75,5x90x1,5	1	1	
15	2023-130-227.00	2023-130-227.00	Grip	1	1	
16	2023-130-151.00	2010-130-151.00	Arbor	2	2	
17	2023-130-105.03	1338-311-004	Clutch facing	1	1	
18	5223-130-003.02	0829-401-058	Yoke I	1	1	
19	5223-130-004.00	0829-401-057	Yoke II	1	1	
20	5223-130-005.00	0829-401-133	Yoke III	1	1	
21	5223-130-008.03	0829-401-011	Clutch hube	1	1	
22	5223-130-136.01	0829-811-013	Spline shaft	1	1	
23	4606993	0829-401-003	Yoke cpl. 30210/01.04.000(poz. 24-28)	2	2	
24	4593224	0829-401-003	Yoke	2	2	
25	4604710		Bearing gasket	8	8	
26	883241		Gasket cover	8	8	
27	883239		Spring ring	8	8	
28	883236		Needle bearing CBK-077	8	8	

Assembly 130 – Pick-up drive **Table 19**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
29	088-00471-1.525	0639-361-034	Spring retaining ring 25x2	1	1	
30	PN-87/M-82302	0653-511-016zn	Bolt M8x30-8.8	3	3	
31	088-002093-2.120	8800-209-321.20	Disc spring	1	1	
32	089-000710-3.100	0653-181-020zn	Round washer A10,5x30x3	4	4	
33	089-000713-0.200	8900-071-302.00	Thrust washer 25x35x2	1	1	
34	089-000975-3.913	0829-401-481	Spring 1,2x11x30-5	2	2	
35	PN-85/M-82105	0653-132-091zn	Bolt M6x16-5.8B	2	2	
36	PN-85/M-82105	0653-134-041zn	Bolt M8x20-8.8B	2	2	
37	PN-85/M-82105	0653-133-047zn	Bolt M10x20-8.8B	2	2	
38	PN-85/M-82105	0653-313-007zn	Bolt M10x35-8.8B	4	4	
39	PN-87/M-82307		Bolt M10x20-6.8B	1	1	
40	PN-86/M-82144	0653-322-019zn	Nut M6-5B	2	2	
41	PN-86/M-82144	0653-322-019zn	Nut M6-5B	1	1	
42	PN-77/M-82008	0653-191-005zn	Washer spring Z6,1	2	2	
43	PN-77/M-82008	0653-192-001zn	Washer spring Z10,2	4	4	
44	PN-89/M-85023	0653-512-115	Spring pin 8x50	1	1	
45	PN-81/M-85111	0639-361-050	Spring retaining ring W47	1	1	
46	PN-81/M-85111	0639-362-018	Spring retaining ring Z75	1	1	
47	PN-85/M-86100	0631-114-044	Ball bearing 6005 RS	1	1	
48	PN-86/M-82175	0653-156-014zn	Self retaining nut M8-8B	2	2	
49	PN-86/M-82175	0653-156-022zn	Self retaining nut M10-8B	6	6	
50	5223-130-150.00	1373-189-004	Rubber cover	1	1	
51	5223-130-151.00	5223-130-151.00	Tightening band	2	2	
52	PN-77/M-82008	0653-191-009zn	Spring washer 8,2	3	3	

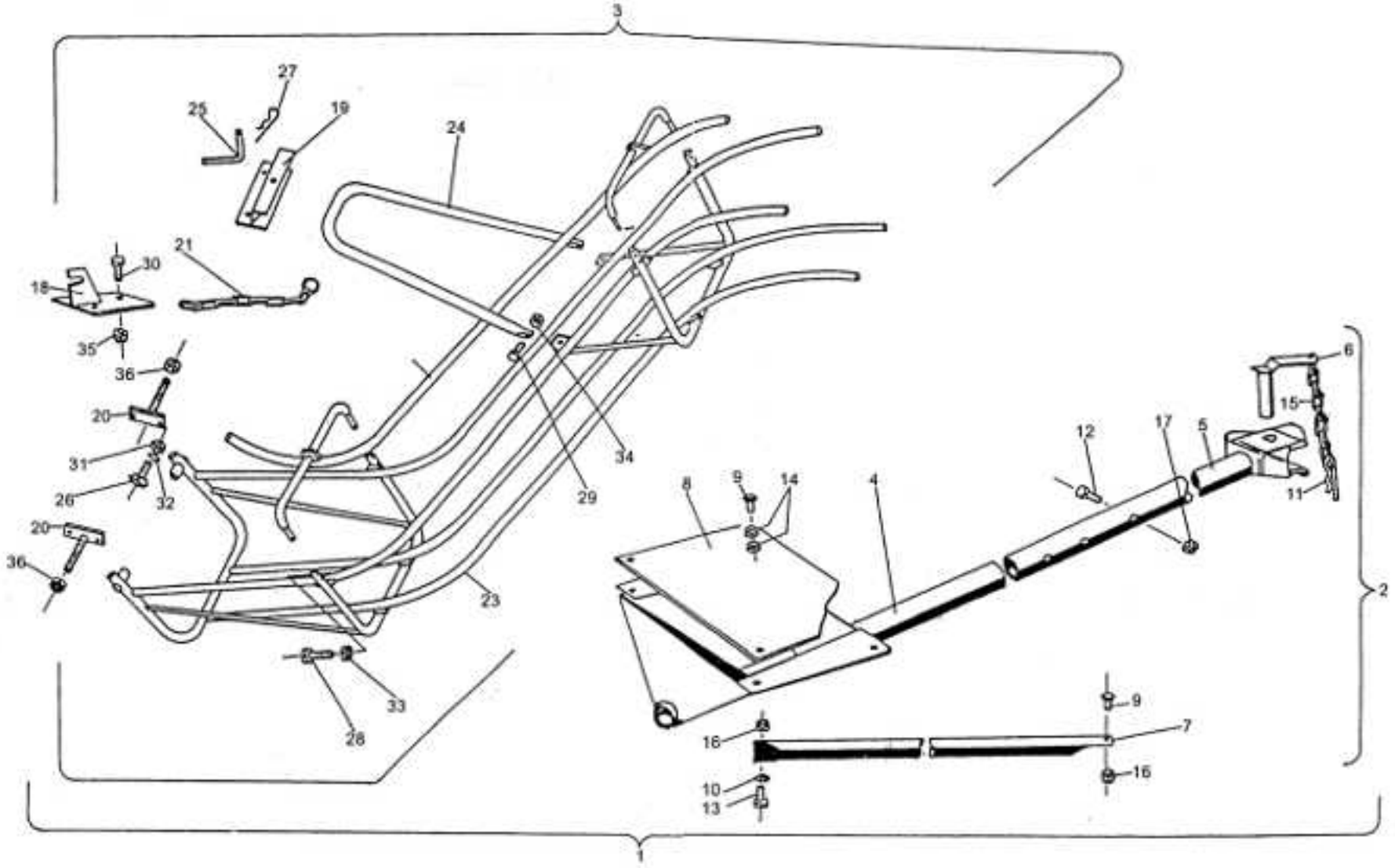


Table 20
Assembly 140 – Rear bale chute Z-227

Additional equipment

Assembly 140 – Rear bale chute Z-227 **Table 20**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	5223-140-600.00	5223-140-600.00	Rear bale chute Z-227 (pos. 2+3)	1	1	
2	2023-140-500.02	0829-402-126	Rear drawbar (pos. 4-17)	1	1	
3	2023-140-570.00	2023-140-570.00	Rear bale slide cpl. (poz. 18-36)	1	1	
4	2023-140-510.00	2023-140-510.00	Rear drawbar	1	1	
5	2023-140-520.00	2023-140-520.00	Catch cpl.	1	1	
6	1211-080-530.01	1211-080-530.01	Plug cpl. (pos. 11+15)	3	3	
7	2023-140-113.00	0829-402-156	Stretcher bar	1	1	
8	2023-140-116.00		Cover	1	1	
9	088-000603-2.909	0880-006-032.909	Special bolt M12x35	5	5	
10	089-000709-1.123	8900-070-911.23	Washer 13x28x2	1	1	
11	089-000992-0.331	0651-610-007	Plug 6,5 Zn	1	1	
12	PN-85/M-82101	0653-313-002zn	Bolt M16x100-8.8B	1	1	
13	PN-85/M-82105	0653-133-161zn	Bolt M12x35-8.8B	1	1	
14	PN-86/M-82144	0653-323-022zn	Nut M12-8B	8	8	
15	BN-74/-5027-03		Plain link chain W-2-250 Zn	1	1	
16	PN-86/M-82175	0653-156-015zn	Self retaining nut M12-8	2	2	
17	PN-86/M-82175	0653-156-019zn	Self retaining nut M16-8	1	1	
18	2023-140-530.00	0829-401-009	Hook cpl.	1	1	
19	2023-140-540.02	2023-140-540.02	Grip cpl.	1	1	
20	2023-140-550.00	2023-140-550.00	Plate cpl.	2	2	
21	2023-140-560.00	0829-402-157	Chain	1	1	
22	2011-140-630.00	2011-140-630.00	Guiding shackle cpl.	1	1	
23	2011-140-640.02	2011-140-640.02	Rear bale slide cpl. welded	1	1	
24	2023-140-114.00	2023-140-114.00	Safety shackle	1	1	
25	1042-030-100.02		Clasp lock	1	1	
26	088-000603-2.444	0880-006-032.444	Bolt M12x27	4	4	
27	089-000992-0.091	0651-610-019	Cotter pin B3x58	1	1	
28	PN-85/M-82101	0653-132-133zn	Bolt M6x40-8.8B	4	4	

Additional equipment

Assembly 140 – Rear bale chute Z-227

Table 20

No on diagram	Drawing or standard number	Index	Descripiton	Quantity required		Notes
				Z-224/1	Z-224/2	
29	PN-85/M-82105	0653-313-007zn	Bolt M10x35-8.8B	2	2	
30	PN-85/M-82105	0653-132-073zn	Bolt M12x25-8.8B	3	3	
31	PN-86/M-82144	0653-323-022zn	Nut M12-8B	4	4	
32	PN-77/M-82008	0653-192-003zn	Spring washer Z12,2	4	4	
33	PN-86/M-82175	0653-156-018zn	Self retaining nut M6-8	4	4	
34	PN-86/M-82175	0653-156-022zn	Self retaining nut M10-8	2	2	
35	PN-86/M-82175	0653-156-015zn	Self retaining nut M12-8	3	3	
36	PN-86/M-82175	0653-156-019zn	Self retaining nut M16-8	2	2	

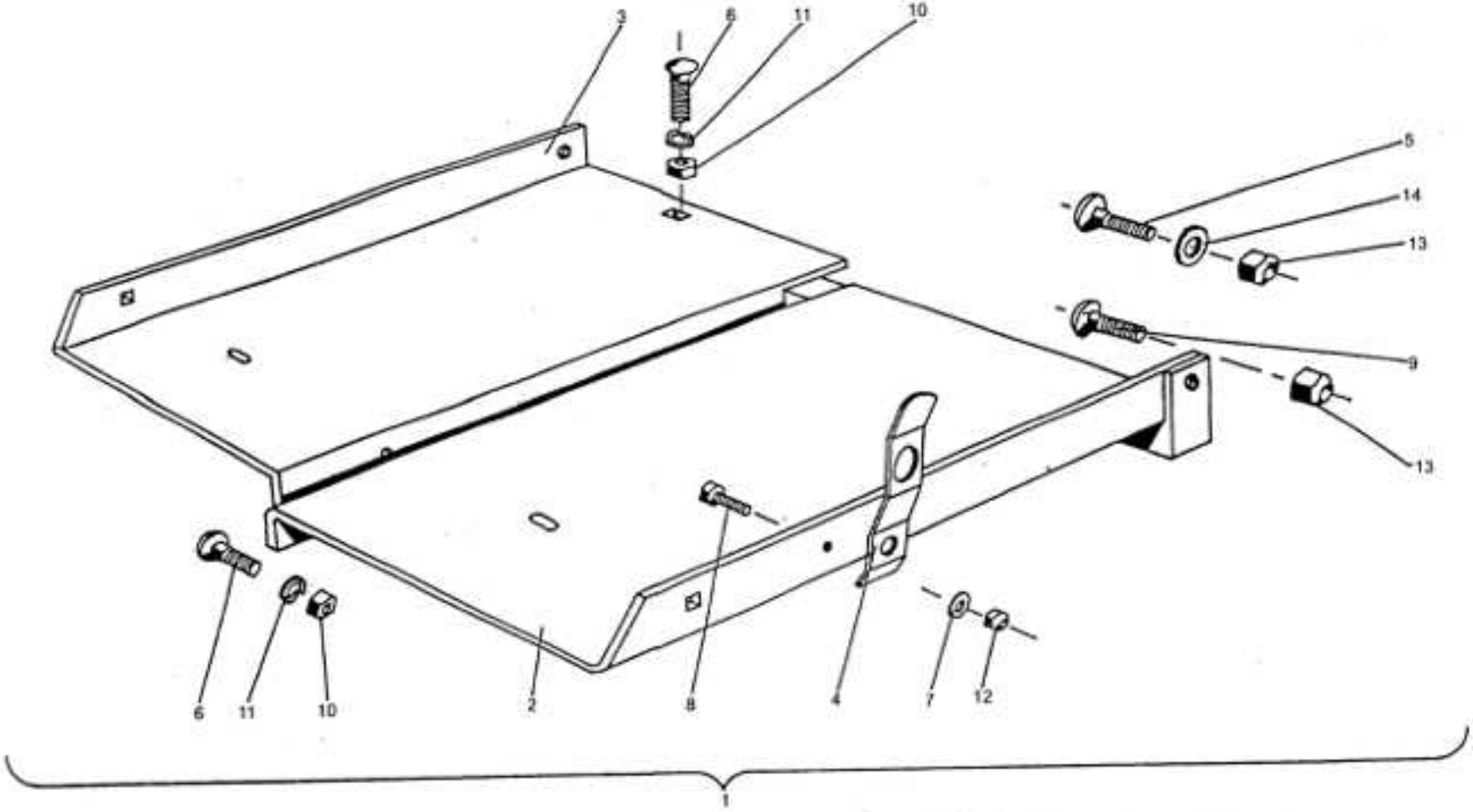


Table 21
Assembly 150 – Bales track

Assembly 150 – Bales track **Table 21**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2023-150-501.00	2023-150-501.00	Bales track cpl. assembly (pos. 2-13)	1	1	
2	2023-150-510.01	2023-150-510.01	Right plate	1	1	
3	2023-150-100.03	2023-150-100.03	Left plate	1	1	
4	2023-150-104.00	2023-150-104.00	Leaf spring	1	1	
5	088-000603-2.444		Bolt	1	1	
6	PN-87/M-82406	0653-513-049zn	Bolt M8x25-4.8	3	3	
7	089-000709-1.061		Round washer 6,4x18x2	1	1	
8	PN-85/M-82105	0653-132-091zn	Bolt M6x16-5.8B	1	1	
9	PN-87/M-82406	0653-513-071zn	Bolt M12x35-4.8B	2	2	
10	PN-86/M-82144	0653-523-002zn	Nut M8-8B	3	3	
11	PN-77/M-82008	0653-191-007zn	Spring washer Z8,2	3	3	
12	PN-86/M-82175	0653-156-018zn	Self retaining nut M6-8B	1	1	
13	PN-86/M-82175	0653-156-015zn	Self retaining nut M12-8B	3	3	
14	PN-78/M-82005	0653-183-047zn	Washer 13	1	1	

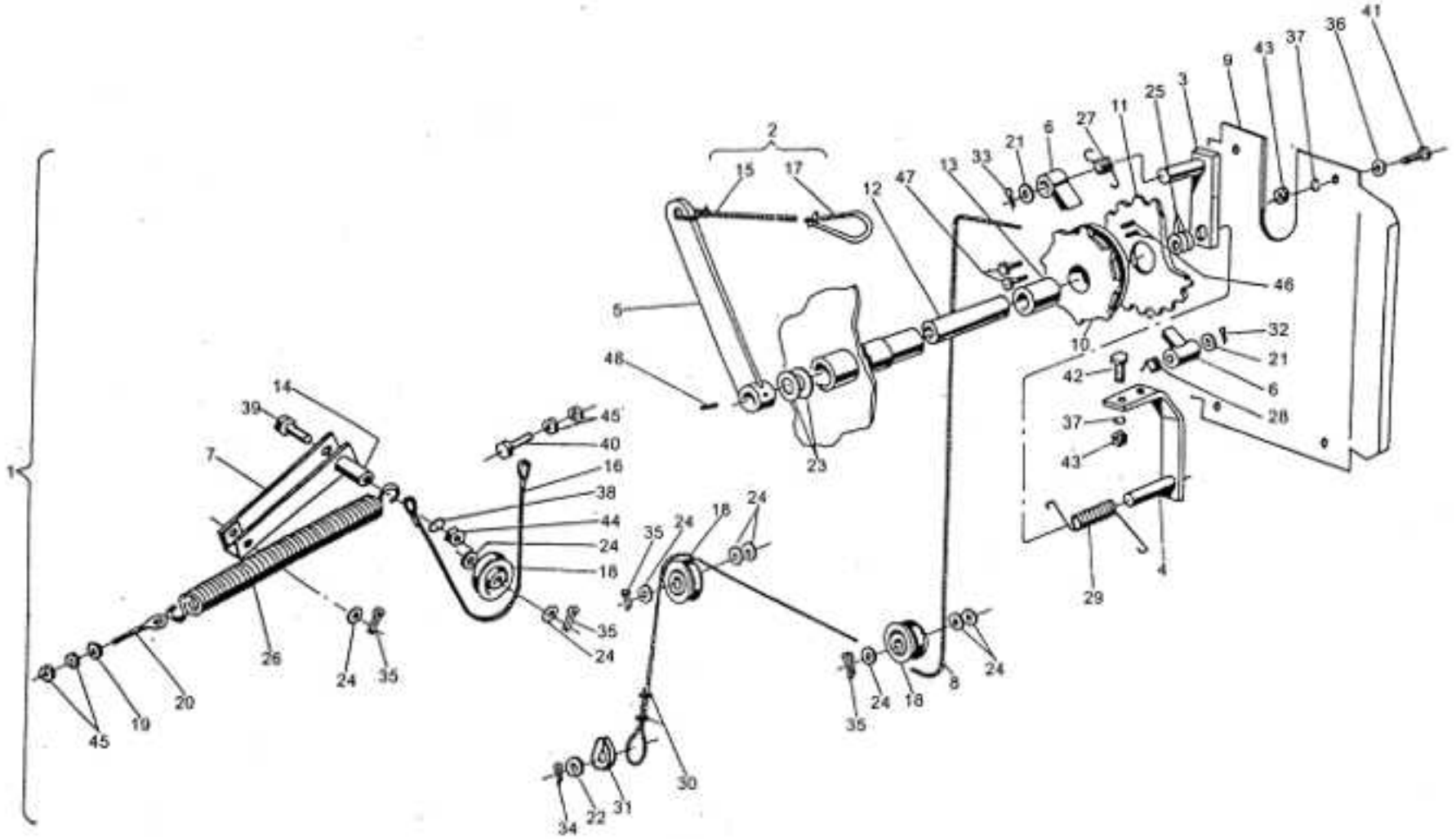


Table 22a
Assembly 200 – Pick-up lift Z-224/2

Assembly 200 – Pick-up lifts Z-224/2 **Table 22a**

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
6	PN-65/M-73141	0876-821-009	Connector body 16-10		2	
7	2023-200-550.00	2023-200-550.00	Rotating lever cpl.		1	
8	PN-65/M-73139	0876-821-010	Connector nut 16-10		2	
9	PN-65/M-73137	829-401-272	Clamp ring		2	
10	2025-300-303.00	0653-800-001	Washer 14,5x23x1,5		3	
11	2025-300-302.00	2025-300-302.00	Bolt		1	
12	2025-300-305.00	0829-401-094	Banjo coupling		1	
13	2025-300-306.01	2025-300-306.01	Tube		1	
14	2023-200-115.00	0829-401-154	Clamp tube		1	
15	PN-90/M-83002	0653-514-090zn	Clevis pin B16x46/40		1	
16	2022-200-101.00	2022-200-101.00	Steel cord II		1	
17	PN-76/M-82001	0651-610-006zn	Cotter pin 4x36		1	
18	1303-042-007.03	1303-042-007.03	Cable pulley		1	
19	1103-008-156.01	0829-401-203	Washer		1	
20	PN-77/M-82426	2023-200-112.01	Eye bolt M12x120-4.8B		1	
21	BN-81/1903-01	0876-812-012	Hose AA-500-10/10		1	
22	089-000709-1.162	0829-401-885	Washer 17x40x6		2	
23	CN2E-16-25/80Z	0876-332-017	Cylinder CN2E-16-25/80Z		1	
24	089-000709-1.202	0829-401-523	Washer 21x32x2		9	
25	BN-81/1903-01	0876-812-004	Hose AA-10-3000-10/13		1	
26	089-000977-7.411	8900-097-674.11	Tension spring		1	
27		0643-420-019	Quick connect coupling M22X1,5-G1”		1	
35	PN-76/M-82001	0651-610-008zn	Cotter pin S-Zn-5x32		4	
38	PN-77/M-82008	0653-192-001zn	Spring washer Z10,2		1	
39	PN-85/M-82101	0653-133-039zn	Bolt M10x80-8.8B		1	
40	PN-85/M-82101	0653-135-187zn	Bolt M12x80-8.8B		1	
44	PN-85/M-82144	0653-322-022zn	Nut M10-8B		1	
45	PN-85/M-82144	0653-323-022zn	Nut M12-8B		4	

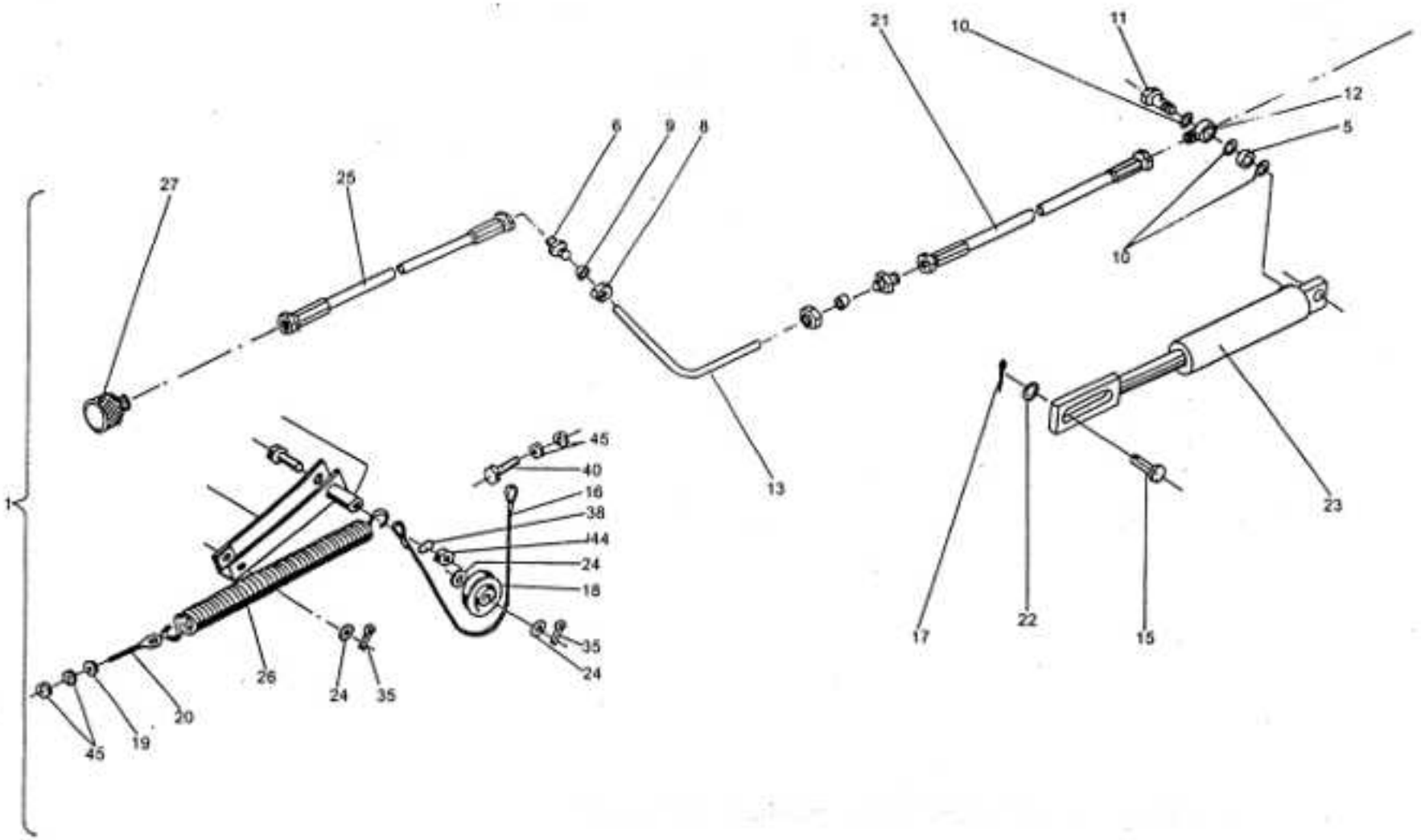


Table 22b
Assembly 200 – Pick-up lift Z-224/1

Assembly 200 – Pick-up lifts Z-224/1 **Table 22b**

No on digram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2024-200-500.03		Pick-up lift (pos. 1-48)	1		order separately
2	2024-200-501.00		Cord cpl. (pos. 15-17)	1		order separately
3	2023-200-510.00	2023-200-510.00	Plate cpl.	1		
4	2023-200-520.01	2023-200-520.01	Grip cpl.	1		
5	2023-200-530.01	2023-200-530.01	Lever cpl.	1		
6	2023-200-540.01	2023-200-540.01	Pawl cpl.	2		
7	2023-200-550.00	2023-200-550.00	Rotating lever cpl.	11		
8	2024-200-100.00	2024-200-100.00	Cord I	1		
9	2024-200-101.01	2024-200-101.01	Cover	1		
10	2023-200-001.00c	2023-200-001.00c	Winding reel	1		
11	2023-200-109.00	2023-200-109.00	Ratchet wheel	1		
12	2024-200-110.00	1362-490-005	Sleeve	1		
13	2024-200-111.00	0824-813-207	Sleeve	1		
14	2023-200-115.00	0829-401-154	Clamp tube	1		
15	2023-200-118.00	2023-200-118.00	Plastic cord	1		
16	2022-200-101.00	2022-200-101.00	Steel cord II	1		
17	1322-130-124.00	1322-130-124.00	Grip	1		
18	1303-042-007.03	1303-042-007.03	Cable pulley	3		
19	1103-008-156.01	0829-401-203	Washer	1		
20	PN-77/M-82426	2023-200-112.01	Eye bolt M12x120-4.8B	1		
21	089-000709-1.123	8900-070-911.23	Washer 13x28	2		
22	089-000709-1.162	0829-401-885	Washer 17x40x6	1		
23	089-000709-1.201	0829-401-524	Special round washer 21x32	2		
24	089-000709-1.202	0829-401-523	Washer 21x32x2	9		
25	089-000710-2.583	0829-401-882	Washer 21x42x1,5	4		
26	089-000976-7.411	8900-097-674.11	Tension spring	2		
27	089-000977-4.720	0829-401-487	Flection spring	1		
28	089-000977-4.721	0829-401-486	Flection spring	1		
29	089-000977-5.618	8900-097-756.18	Flection spring	1		

Assembly 200 – Pick-up lift Z-224/1

Table 22b

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
30	PN-73/M-80241	0651-113-006	Bail clamp 6,5	2		
31	PN-92/M-80247	0653-561-05zn	Thimble A6	1		
32	PN-76/M-82001	0651-610-002zn	Cotter pin S-Zn-3,2x20	1		
33	PN-76/M-82001	0651-610-005zn	Cotter pin S-Zn-4x22	1		
34	PN-76/M-82001	0651-610-004zn	Cotter pin S-Zn-4x25	1		
35	PN-76/M-82001	0651-610-008zn	Cotter pin S-Zn-5x32	4		
36	PN-78/M-82005	0653-182-061zn	Washer 8,4	4		
37	PN-77/M-82008	0653-191-007zn	Spring washer Z8,2	6		
38	PN-77/M-82008	0653-192-001zn	Spring washer Z10,2	1		
39	PN-85/M-82001	0653-133-039zn	Bolt M10x80-8.8B	1		
40	PN-85/M-82001	0653-135-187zn	Bolt M12x80-8.8B	1		
41	PN-85/M-82005	0653-134-041zn	Bolt M8x20-8.8B	4		
42	PN-85/M-82005	0653-132-073zn	Bolt M8x25-8.8B	2		
43	PN-86/M-82144	0653-523-002zn	Nut M8-8B	6		
44	PN-86/M-82144	0653-322-022zn	Nut M10-8B	1		
45	PN-86/M-82144	0653-323-022zn	Nut M12-8B	4		
46	5224-088-106.00	0653-332-014zn	Special set screw	2		
47	5224-008-122.00	0653-311-902zn	Bolt 8x12-8.8B	1		
48	PN-89/M-85023	0653-512-114	Spring pin 8x40	1		

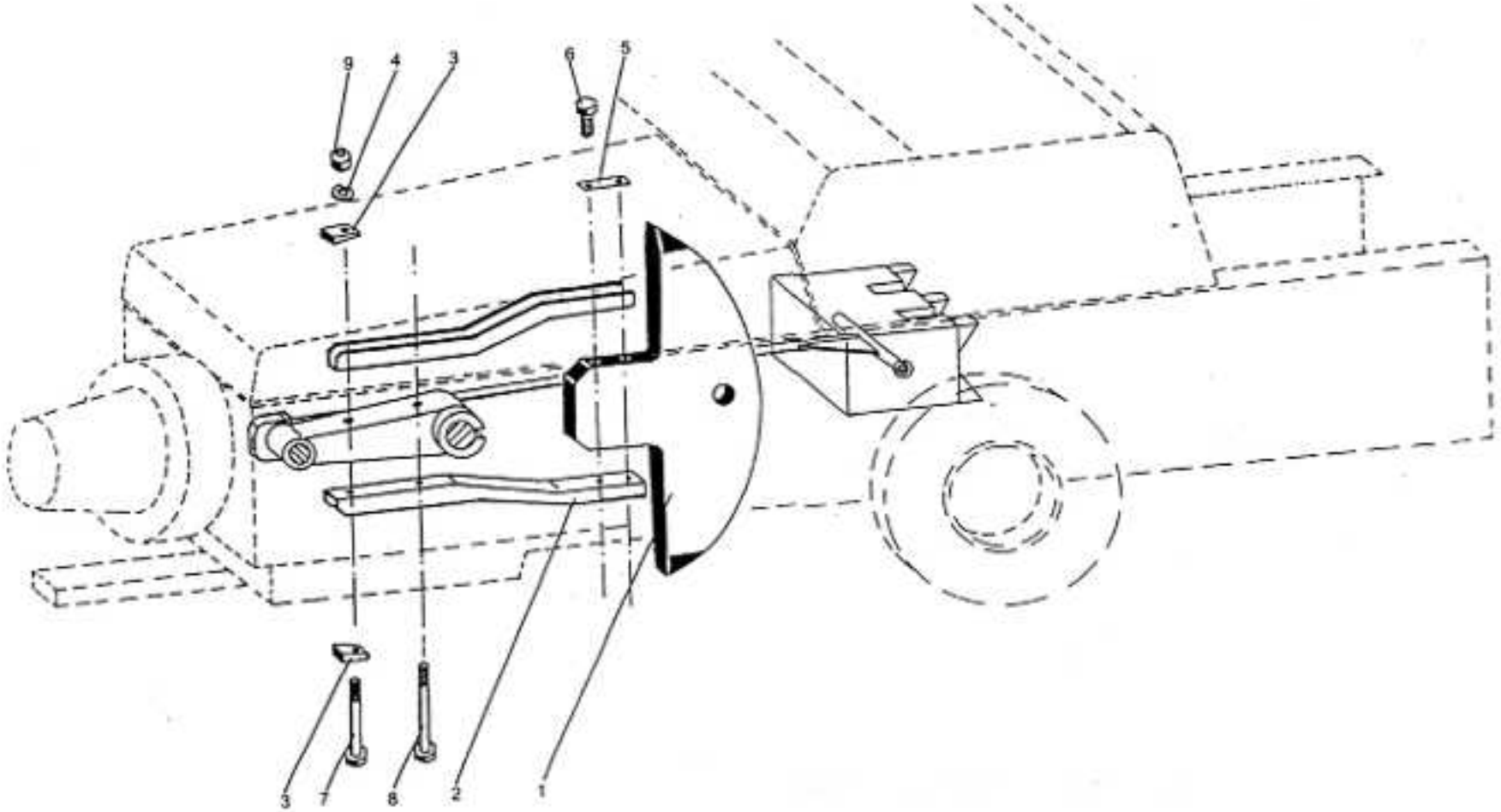


Table 23
Assembly 040 – Balance system

Assembly 040 – Balance system **Table 23**

No on diagram		Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
	5225-040-700.00c	5225-040-700.00c	Balance system (pos. 1-9)	1	1	
1	5225-040-007.00	0829-401-055	Plate	1	1	
2	5225-040-116.00	5225-040-116.00	Arm	2	2	
3	PN-79/M-82018	0829-401-188	Taper washer 14	4	4	
4	PN-77/M-82008	0653-192-003zn	Spring washer Z12,2	2	2	
5	PN-82/M-82012	PN82-M82-012	Washer 13x60	2	2	
6	PN-82/M-82105	0653-133-161zn	Bolt M12x35-8.8B	4	4	
7	PN-82/M-82101	0653-312-034zn	Bolt M12x140-8.8B	1	1	
8	PN-82/M-82101	0653-314-011zn	Bolt M12x160-8.8B	1	1	
9	PN-86/M-82175	0653-156-015zn	Self retaining nut M12-8B	2	2	

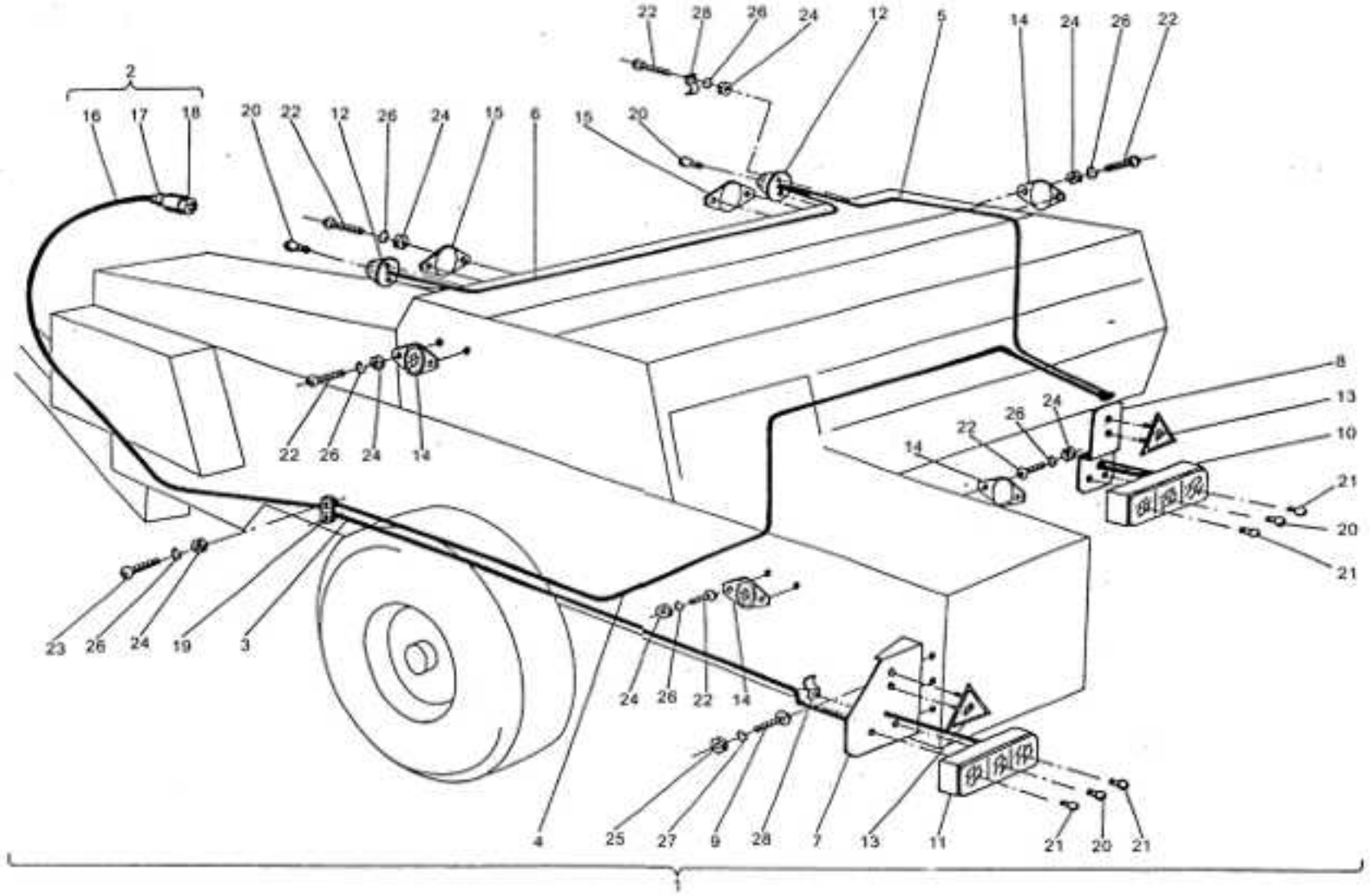


Table 24
Assembly 297 – Lighting system and reflectors

Assembly 297 – Lighting system and reflectors **Table 24**

No on diagram	Drawing or standard number	Index	Descripiton	Quantity required		Notes
				Z-224/1	Z-224/2	
1	5224-295-500.02c	5224-295-500.02c	Lighting system (pos. 2-28)	1	1	
2	5224-295-560.00	0829-401-139	Main cable with plug (pos. 16+17+18)	1	1	
3	5224-295-520.02	0829-401-007	Left cable cpl.	1	1	
4	5224-295-530.02	0829-401-010	Right cable cpl.	1	1	
5	5224-295-540.02		Side cable cpl.	1	1	
6	5224-295-550.01		Front cable cpl.	1	1	
7	5224-295-310.00	5224-295-310.00	Left support	1	1	
8	5224-295-301.02	5224-295-301.02	Right support	1	1	
9	5224-088-116.00		Special bolt	3	3	
10	E 549 P	1155-111-029	Rear right lamp	1	1	
11	E 549 L	1155-111-030	Rear left lamp	1	1	
12	E 92 D	1155-111-028	White front lamp	2	2	
13	UO IIIc-72	1132-320-001	Triangle reflector	2	2	
14	UO Iz-72K	1132-320-006	Reflector	4	4	
15	UO Ib-72K	1132-320-009	Reflector	2	2	
16	5224-295-510.01		Main cable cpl.	1	1	order pos. 2
17	PN-67/S-76009		Cover 14A	1	1	order pos. 2
18	PN-83/S-76055		Plug 12N	1	1	order pos. 2
19	7051/05-00-004	0829-401-024zn	Connector type 507.00	1	1	
20	PN-93/E-85101		Bulb R19/10 12V-10W-BA 15S	4	4	
21	PN-93/E-85101		Bulb P25-1 12V-10W-BA 15S	4	4	
22	PN-85/M-82201	0653-331-024zn	Tap screw M5x16-4.8B	16	16	
23	PN-85/M-82201	0653-332-008zn	Tap screw M5x25-4.8B	2	2	
24	PN-86/M-82144	0653-321-003zn	Nut M5-5B	18	18	
25	PN-86/M-82144	0653-322-019zn	Nut M6-5B	3	3	
26	PN-77/M-82008	0653-191-301zn	Spring washer Z5,1	18	18	
27	PN-76/M-82008	0653-191-005zn	Spring washer Z6,1	8	8	
28	089-002550-0.096	0890-025-500.096	Grip	3	3	

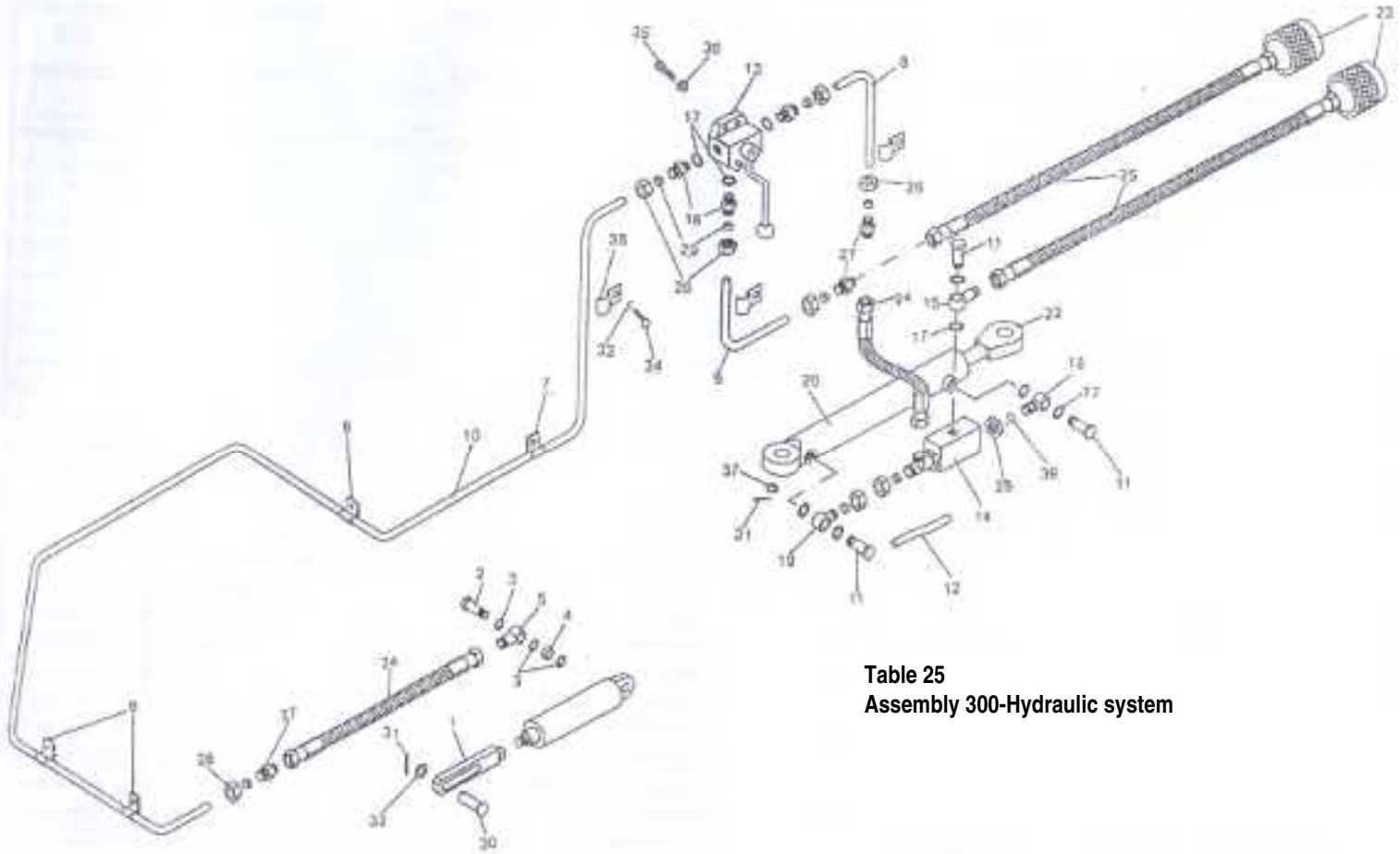


Table 25
Assembly 300-Hydraulic system

Additional equipment

Assembly 300 – Hydraulic system

Table 25

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
1	2025-300-550.00	2025-300-550.00	Piston rod cpl. welded		1	
2	2025-300-302.00	2025-300-302.00	Bolt		1	
3	2025-300-303.00	0653-800-001	Washer 14,5x23x1,5		3	
4	2025-300-304.00	2025-300-304.00	Sleeve		1	
5	2025-300-305.00	0829-401-094	Banjo coupling		1	
6	2025-300-307.00	2025-300-307.00	Grip		3	
7	2025-300-308.00	2025-300-308.00	Grip II		1	
8	2025-300-309.00	2025-300-309.00	Tube I		1	
9	2025-300-310.00	2025-300-310.00	Tube II		1	
10	2025-300-311.00	2025-300-311.00	Tube III		1	
11	2025-300-312.00	2025-300-312.00	Bolt M16x1,5		3	
12	2025-300-313.00	2025-300-313.00	Tube IV		1	
13	5276-120-520.00e	5276-120-520.00e	Hydraulic divider RF 1/1		1	
14	5276-120-560.00e	5276-120-560.00e	Check valve Z60 cpl.		1	
15	5276-120-128.00	0829-405-249	Banjo coupling 3/8”-60		1	
16	5276-120-113.00	0829-405-061	Coupling 3/8” M18x1,5		3	
17	5276-120-118.00	0829-405-067	Washer 3/8”		9	
18	5276-120-130.00	0829-405-641	Banjo coupling 3/8”-53		1	
19	5276-120-108.00	0829-405-059	Banjo coupling 3/8”-45		1	
20		0876-332-005	Cylinder CJ2E-16-40/22-250/Z		1	
21		0876-332-017	Cylinder CJ2E-16-25/80Z		1	
22		0829-401-131	Piston rod UE2-40W		1	
23		0643-420-019	Quick connect coupling M22x1,5-G1”		2	
24	BN-81/1903-01	0876-812-012	Hose AA-10-500-10/10		2	
25	BN-81/1903-01	0876-812-004	Hose AA-10-3000-10/13		2	
26	PN-65/M-73109	0653-524-048zn	Counternut M18x1,5		1	
27	PN-65/M-73141	0876-821-009	Connector body 16-10		3	
28	PN-65/M-73139	0876-821-010	Connector nut 16-10		8	

Additional equipment

Assembly 300 – Hydraulic system

Table 25

No on diagram	Drawing or standard number	Index	Description	Quantity required		Notes
				Z-224/1	Z-224/2	
29	PN-65/M-73137	0829-401-272	Clamp ring 16-10		8	
30	5225-120-301.00	0829-401-078	Clevis pin B16x46/40		2	
31	PN-76/M-82001	0651-610-046zn	Cotter pin S-Zn-4x40		3	
32	PN-78/M-82005	0653-183-005zn	Washer 17		2	
33	PN-77/M-82008	0653-191-005zn	Spring washer Z6,1		4	
34	PN-85/M-82105	0653-132-047zn	Bolt M6x16-8.8B		4	
35	PN-85/M-82101	0653-513-036zn	Bolt M8x30-8.8B		2	
36	PN-86/M-82175	0653-156-014zn	Self retaining nut M8-8B		2	
37	089-000709-12.51	8900-070-912.51	Washer 26x40x2		2	
38			Grip		3	
39	PN-60/M-86961	1373-111-302	Gasket ring 15,3x2,4		1	

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