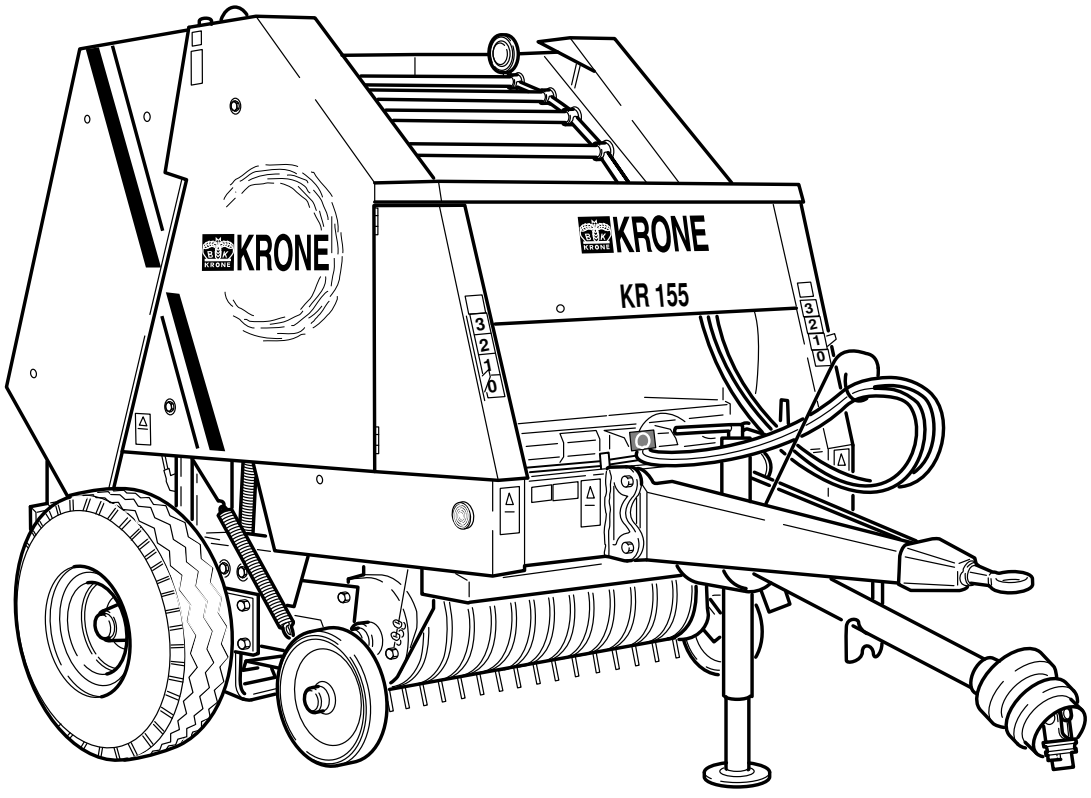
Original operating manual
150 000 040 00 en

Round baler
KR 125
KR 155

(from mach. no. 387 500)



EC Declaration of Conformity

We,

Maschinenfabrik Bernard Krone GmbH

Heinrich-Krone-Str. 10, D-48480 Spelle

hereby declare as manufacturer of the product named below, on our sole responsibility, that the

Machine: **Krone Round Baler**

Type / Types: **KR 125, KR 155**

to which this declaration refers is in compliance with the relevant provisions of

EC Directive 2006/42/EC (Machinery) and EC Directive 2004/108/EC (EMC)

The signing Managing Director is authorised to compile the technical documents.

Spelle, 19.04.10

Dr.-Ing. Josef Horstmann

(Managing Director, Design and Development)

Year of manufacture:	**Machine No.:**

Dear customer,

Here are the operating instructions for the KRONE product you have purchased.

These operating instructions contain important information for the proper use and safe operation of the machine.

If these operating instructions have for any reason become completely or partially redundant, you can obtain replacement operating instructions for your machine with the specification numbers listed overleaf.

I. Foreword

Dear customer,

We thank you for the trust you have placed in us by purchasing this machine.

When you received this machine, we hope that your dealer gave you instructions for the operation, maintenance and adjustment of the machine.

However, this **brief introduction** to the machine is no substitute for a detailed acquaintence with the different tasks and functions of the machine and the proper way of treating it.

These operating instructions are designed so that you are extensively informed of the activities required in each area, from commissioning and operation to the maintenance and care of the machine. The structure of the individual chapters in the text and illustrations corresponds to the sequence of work procedures when you use the machine.

Read these operating instructions carefully before you use the machine, and pay special attention to the safety instructions.

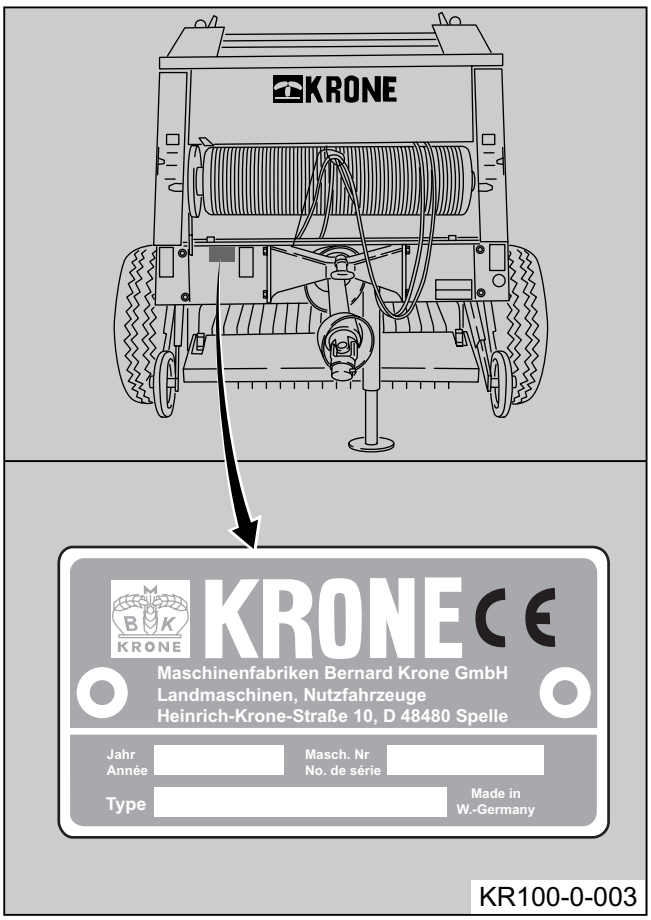
Important: To avoid accidents and to ensure maximum results, no alterations may be made to the machine without the manufacturer's permission. Similarly, the machine must only be used under the conditions prescribed by Krone.

This symbol is intended to draw your attention to safety notes contained in the operating instructions. Follow these notes in order to avoid accidents.

This symbol can be found at various places in these operating instructions. It indicates special instruction for using the machine which must be observed during operation.

All information, illustrations and technical information in the operating instructions represent the latest status at the date of publication. The company reserves the right to make design alterations at any time and without prior notice or obligation.

Ordering Replacement Parts



Type	
Mach. No	
Year	

When ordering replacement parts, the type designation, machine number and year of manufacture must be given. These details can be found on the identification label on the machine.

We recommend that these details be entered in the above boxes so that they are readily available.

And please remember that imitations and copies of parts, especially wearing parts, do not keep what they appear to promise. Material quality is difficult to test visually, therefore special care is requried when purchasing cheap offers and imitation parts!

The best solution – purchase only **original KRONE parts!**

II. List of contents

III. General

1. Operation in accordance with specifications

The round baler is designed solely for normal agricultural use (operation in accordance with specifications).

Any use of the machine for other purposes is deemed not to be in accordance with specifications. The manufacturer bears no responsibility for any resulting damage – such use is entirely at the operator's risk.

Use in accordance with specifications also includes observing the operating, maintenance and service instructions prepared by the manufacturer.

The round baler must only be used, maintained and repaired by personnel who are acquainted with the machine and have been informed of the danger involved.

The applicable accident prevention regulations and all other generally recognized safety, health and road traffic regulations must be observed.

Any unauthorised alterations to the machine render any liability for damage undertaken by the manufacturer null and void.

Basic rule:

Before travelling on public roads and before the machine is started, check the round baler and the tractor for roadworthiness and operational safety.

2. Safety and accident prevention regulations

1. Take note of both the regulations in these operating instructions and also the general safety and accident prevention regulations!
2. The attached warning and information signs give important advice for safe operation. Observing them will improve your safety!
3. When using public roads, make sure you observe the relevant traffic regulations!
4. Make sure you are familiar with all equipment and controls before you begin working with the machine. It is too late when you are operating the machine!
5. The operator's clothing should be tight fitting. Avoid wearing loose fitting clothes.
6. Keep the machine clean to prevent the danger of fire!
7. Before starting the machine and moving off, check the danger area around the tractor (children!). Good visibility is absolutely essential!
8. Carrying passengers on the attachment during work or transport is not permitted.
9. Make sure that the attachment is correctly coupled, and that it is fixed and secured only with the prescribed fittings!
10. Make sure that the supporting devices, jacks etc. are in the correct position during assembly and disassembly!
11. Special care is required when equipment is being coupled to the tractor or detached from the tractor!
12. Ballast weights must always be attached in the prescribed way at the designed attachment points!
13. Observe the permitted axle loads, total weights and transport dimensions!
14. Check and fit transport equipment – e.g. lighting, warning signs and, if necessary, protective equipment!
15. Operating equipment for remote controls (cords, chains, rods etc.) must be laid out in such a way that, whatever the working or transport position, it can not inadvertently cause any movements.
16. Before any road transport, move the relevant equipment into the prescribed position and secure in accordance with the manufacter's instructions!
17. Never leave the driver's position when the tractor is in motion!
18. The speed of travel must always be suited to the environmental conditions! Avoid any sudden turns when travelling uphill, downhill or across a slope!
19. The handling, steering and braking of the tractor is affected by integrated or attached equipment and ballast weights. Make sure that you allow for more flexibility in steering and braking!
20. When turning, remember to take account of the wide load and/or the greater weight of the equipment!
21. Only switch on equipment when all protective devices are fitted and in protection position!

22.Persons are not allowed to enter the working area!

23.Keep clear of the slewing range of the equipment!

24.Hydraulic joint controls must only be operated if no persons are in the slewing range!

25.Power operated parts (e.g. hydraulic) contain danger points which can cause injury from crushing or shearing!

26.Before leaving the tractor, lower the implement to the ground, stop the engine and remove the ignition key!

27.Do not stand between the tractor and the implement unless the vehicle has been secured against rolling away using the parking brake and/or wheel chocks!

3. Trailed implements

1. Secure the implement from rolling away!

2. Do not exceed the maximum permissible loads on the 3-point linkage, drawbar or hitch!

3. When using a drawbar, be sure to provide sufficient freedom of motion at the hitch point!

4. PTO shaft operation

1. Do not use universal drive shafts other than those specified by the manufacturer!

2. The guard tube, the guard cone of the universal drive shaft and the PTO shaft guard – also on the implement side – must be installed and in proper condition!

3. Observe the tube overlap prescribed for universal drive shafts in transport and operating position!

4. Before installing or removing the universal drive shafts, disengage the PTO, stop the engine and remove the ignition key!

5. When using universal drive shafts with an overload or free-wheel clutch mechanism which is not covered by the guard on the tractor, the overload or free-wheel clutch mechanism must be installed on the implement side!

6. Always make sure that the universal drive shaft is properly installed and secured!

7. Hook the chains to secure the universal driveshaft guard against rotating with the shaft!

8. Before engaging the PTO shaft, make sure that the selected PTO speed of the tractor matches the permissible implement speed!

9. Before engaging the PTO, make sure that no-one is standing in the danger area of the implement!

10.Never engage the PTO while the engine is stopped!

11.No-one should be standing in the range of the turning PTO or universal drive shafts when working with the PTO shaft.

12.Always switch off the PTO shaft if excessive motion is produced which is not required!

13.**Danger!** Due to their inertia, working components continue to rotate for some time even after the PTO has been disengaged! Keep clear of the implement during this time. Be sure the implement has come to a complete stop before starting any working on it.

14.Disengage the PTO, stop the engine and remove the key from the ignition before cleaning, lubricating or making any adjustments to the implement or the PTO! Engage the parking brake.

15.After detaching the universal drive shaft, always place it on its support!

16.After detaching the universal drive shaft, place the protective cover over the PTO stub!

17.Immediately repair any damage to the implement before resuming operation!

5. Hydraulics

1. The hydraulic system is pressurised!

2. When connecting hydraulic cylinders and motors, make sure the hydraulic hoses are connected according to specifications!

3. When connecting hydraulic hoses to the tractor hydraulics, make sure that all hydraulic pressure has been released from both the tractor and the implement!

4. In case of hydraulic connections between tractor and implement, the coupling sleeves and plugs should be marked to ensure a proper connection! If the connections are switched, the function is reversed (e.g. raising/lowering) – **danger of accidents!**

5. Check the hydraulic hoses at regular intervals and replace them if they are damaged or worn. The new hoses must satisfy the technical requirements of the implement manufacturer!

6. To avoid injury, use suitable tools and aids when tracing leaks!

7. Escaping pressurised fluid (hydraulic oil) can penetrate the skin and cause serious injury! In case of injury, immediately consult a doctor! Danger of infection!

8. Before working on the hydraulics, lower the implement, relieve the hydraulic pressure from the system and stop the tractor engine!

6. Tyres

1. When working on the tyres, the implement must be safely lowered and secured against rolling (wheel chocks).

2. Installation of tyres and wheels requires special knowledge and proper installation tools!

3. Repairs on tyres and wheels must be carried out by specially trained personnel using proper installation tools!

4. Check the air pressure at regular intervals! Inflate the tyres to the recommended tyre pressures!

7. Maintenance

1. Repair, maintenance and cleaning work and correcting operating faults should only be carried out when the drive and engine are switched off! – remove the ignition key! Engage the parking brake.

2. Regularly check all bolts and nuts and retighten if necessary!

3. Support the implement with adequate jacks before carrying out any maintenance work on the raised implement.

4. When changing working elements with cutting edges, use appropriate tools and wear protective gloves!

5. **Dispose of oil, grease and filters according to regulations!**

6. Before working on any electrical installations, always disconnect the power supply!

7. Protection devices and guards subject to wear must checked regularly and must be replaced in time!

8. When using an electric welder on the tractor or mounted implement, disconnect the alternator and battery cables!

9. Spare parts must comply with the technical requirements of the implement manufacturer. **This is ensured by using genuine KRONE spare parts!**

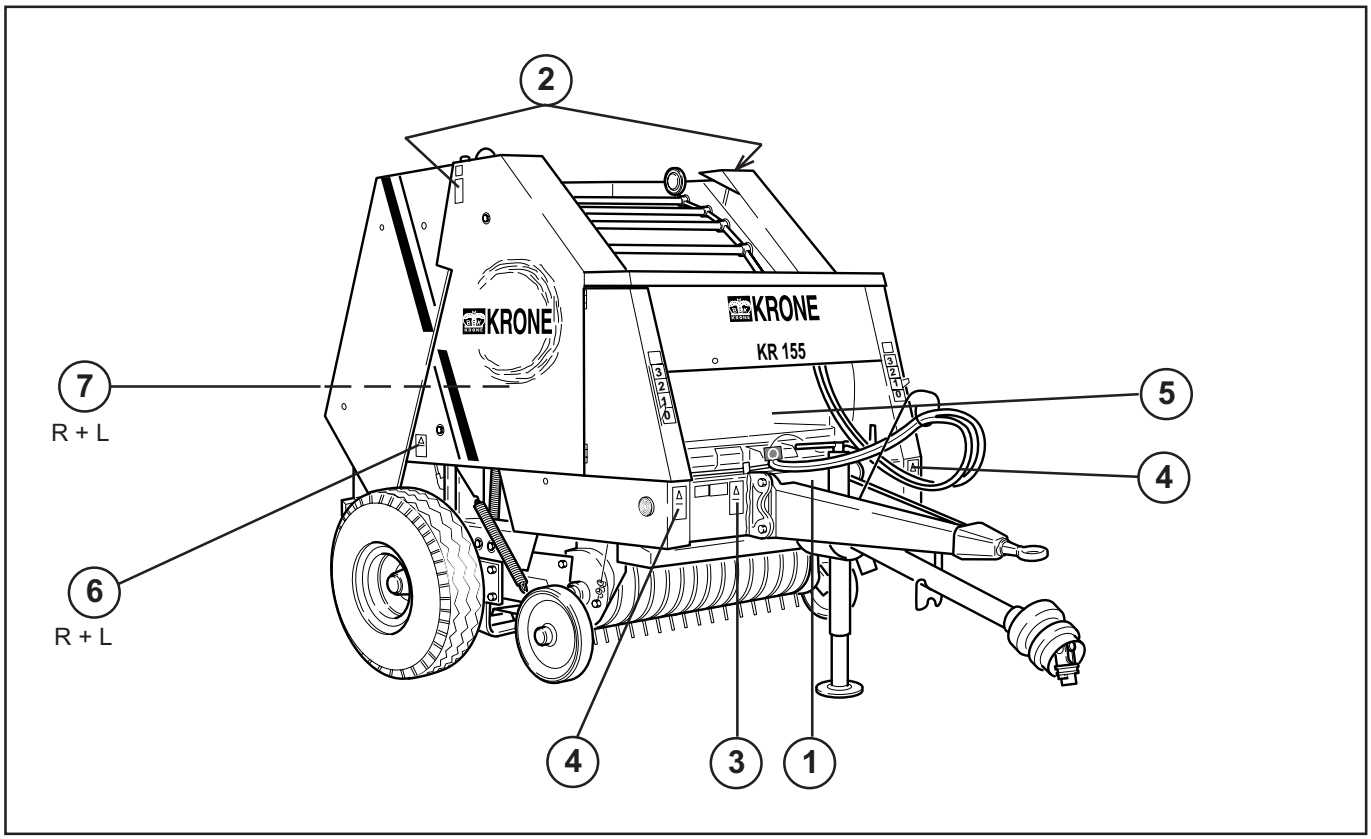
10. For filling hydro-pneumatic accumulators, use nitrogen only – **danger of explosion!**

1 Introduction

The KRONE round baler is equipped with all the necessary safety devices (protective devices). Not all dangerous areas on this machine can be made completely safe considering that it is also necessary to keep the machine functional. There are corresponding danger notices on the machine indicating these remaining dangers.
We apply danger notices in the form of warning signs. You will find important notes on the positioning of these warning signs and their meaning/denotations below!

Familiarise yourself with the meaning of the warning signs. The text beside them and their location on the machine indicates the machine's particularly dangerous areas.

1.1 Positions of the warning signs, with safety-technical information, on the machine



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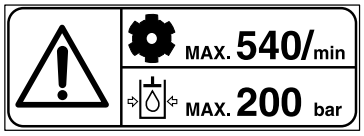
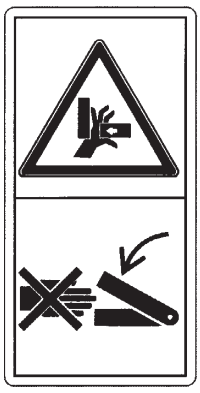


**Do not exceed the PTO shaft speeds!
The operating pressure of the hydraulic system should not exceed 200 bar!**

Order no. 939 100-4 (x 1)

2

Never reach into an area where there is a risk of being crushed when parts may still be moving.

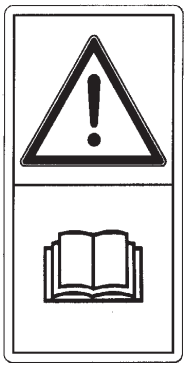


Order no. 942 196-1 (x 2)

(3)

Read and take note of the operating instructions.

Order no. 939 471-1 (x 1)



(4)

Never reach into the pick-up area when the tractor engine is running with the PTO shaft connected.

Order no. 939 407-1 (x 2)

(5)

Do not reach into the danger area underneath the wrapping system before the blades have been moved into the safe position.

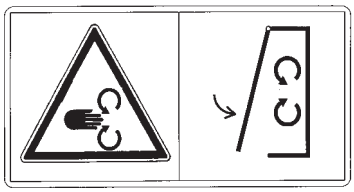
Order no. 939 125-1 (x 1)

(6)

Do not walk underneath the raised tailgate before the shut-off tap on the tailgate is closed.

Order no. 939 521-1 (x 2)

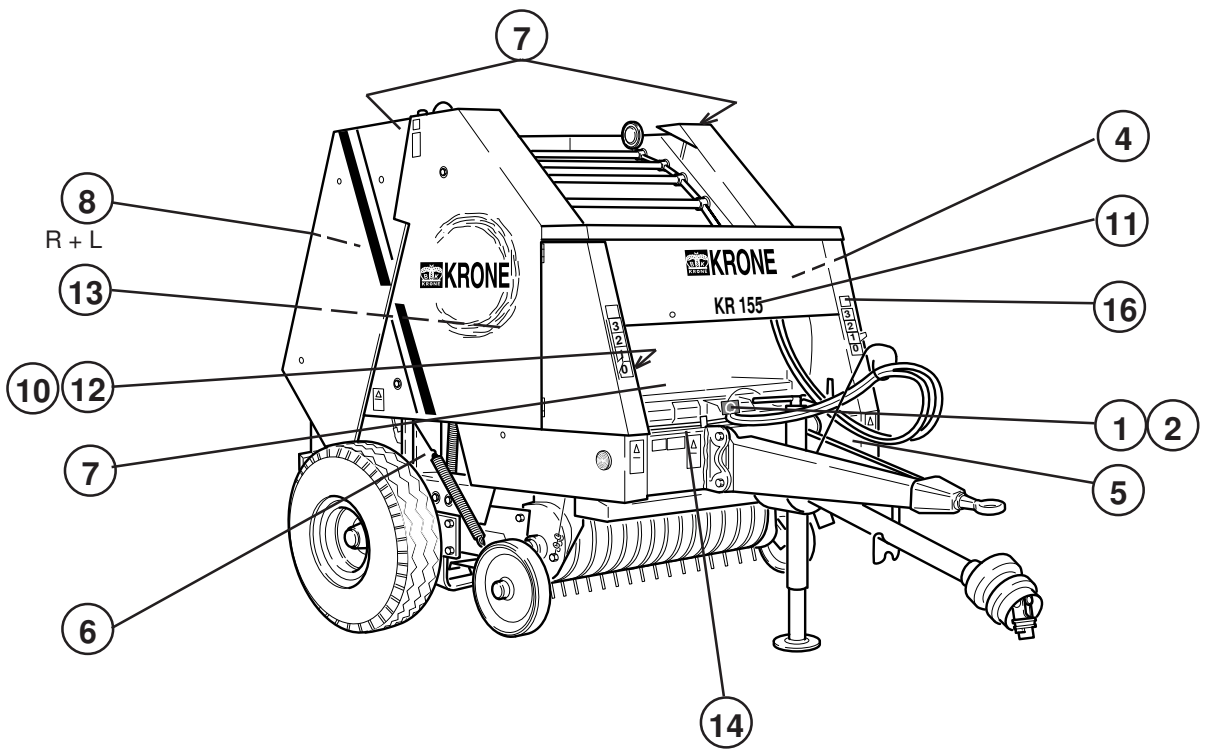
(7)

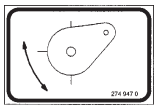


Close the guard before putting into operation.

Order no. 942 002-4 (2x)

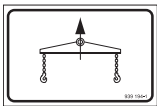
1.2 Positions of the general information labels on the machine



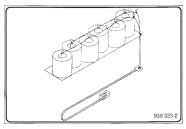


1 274 947-0 (1x)

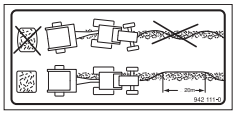
2 274 948-0 (1x)



3 939 194-1 (2x)



4 939 223-2 (1x)

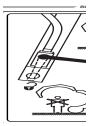


5 942 111-0 (1x)

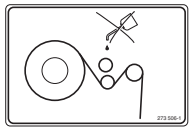
(2x)

6 441 072-2 3.5 bar
441 073-2 4.0 bar
441 074-2 4.5 bar

7 942 132-0 (1x)



8 939 361-1 (2x)



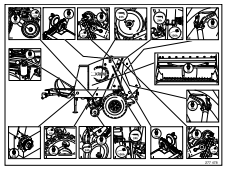
10 273 506-1 (1x)

KR 125

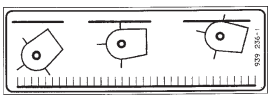
(1x)

11 939 349-1 KR 125
939 350-1 KR 155

12 939 468-1 (1x)



13 277 478-0 (1x)



14 939 236-1 (1x)

16 939 327-0 (2x)

1.3 Technical data

	Unit	KR 125	KR 155
Length	mm	3700	3900
Width	mm	2250	2250
Height	mm	1970	2220
Track	mm	1900	1900
Tyres		10.0/75–15.3 8ply 11.05/80–15.3 8ply	10.0/75–15.3 8ply 11.5/80–15.3 8ply
Pick-up width	mm	1400	1400
Weight	kg	1570	1780
Bale dimensions			
Diameter	mm	ø 1200	ø 1500
Width	mm	1200	1200
Power requirement approx.	kW/PS	25 (34)	29 (40)
PTO speed	rpm	540	540
Max. permiss. operating pressure of hydraulic system	bar	200	200
Twine			
Open air storage		synthetic twine 400-600 m/kg	
Indoor storage		sisal twine 150-300 m/kg	
Wrapping material			
Width	mm	1250 ± 5	1250 ± 5
Sleeve length	mm	1250–1270	1250–1270
Inner sleeve diameter	mm	75–80	75–80
Roll diameter	mm	max. 310	max. 310
Overload coupling (universal drive shaft)	Nm	800	1000

1.4 Working method and functional principles of the round balers KR 125 and KR 155

The round baler compresses agricultural baling material such as hay, straw and grass silage etc. into round bales. After the baling process is completed, the round bale is wrapped with binding twine or net according to the selected type of wrapping material. Due to their shape, the round bales can be easily stored, transported and processed.

The working method is described as follows:

The material to be baled is collected in a swath and taken up by the pick-up, transported to the middle of the pick-up and fed into the bale chamber. In the bale chamber, the baling material is removed and rolled up by the revolving floor conveyor bars. More material enters the chamber forming cylindrical round bales which become increasingly compressed according to the amount of baling material fed in.
There are filling and baling density indicators for both sides of the round bales on the right and left-hand sides of the round baler. The wrapping process should be initiated when the baling pressure set on the baling pressure selection indicator has been reached. The wrapping process is activated hydraulically or manually using an activation cord depending on the machine version. After the wrapping process has been completed, the finished bale is ejected from the bale chamber with the tailgate open.

2 Preparing the round baler

2.1 Special safety notes

- **The PTO shaft should be completely switched off during service, maintenance or repair work on the round baler.**
- **Switch off the tractor engine and remove the ignition key.**
- **Only use universal drive shafts which have been approved by the manufacturer with the corresponding overload coupling.**
- **Only mount or remove the universal drive shaft when the PTO shaft and tractor engine is switched off and the ignition key removed!**
- **Hydraulic hoses, electric cables and plastic cords should be laid in such a way that they do not become taut when driving around corners or touch the tyres of the tractor.**
- **Be especially careful on and around the tractor when hitching or unhitching the round baler!**

The maximum PTO speed of the round baler is 540 rpm.
Switch off the PTO shaft immediately if the round baler becomes blocked.

2.2 Fitting the drawbar to the tractor

The drawbar on the round baler can be hitched in various ways (at the top in the trailer coupling; at the bottom e.g. swinging drawbar). It must be mounted and adjusted according to the attachment options for the tractor.

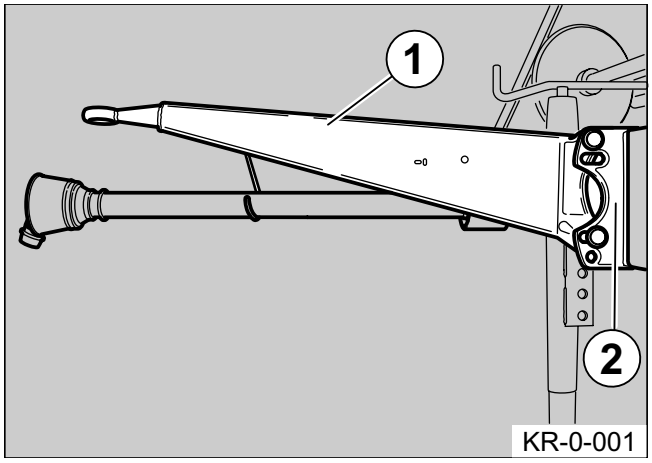
- **The round baler should be positioned on a firm base and secured against rolling away before work commences.**
- **Take special care when hitching the round baler to the tractor. Make sure that no-one is standing in the danger area of the tractor and the round baler.**
- **Switch off the tractor engine and remove the ignition key after completed hitching.**
- **Secure the tractor and round baler against rolling away.**

The following should be strictly observed during assembly work on the drawbar:

- **The notches on the slots must be in the same position on both sides of the drawbar.**
- **First tighten the screws in the round holes. Make sure that the notches on the slots are engaging.**
- **Only then should the screws in the slots be tightened.**

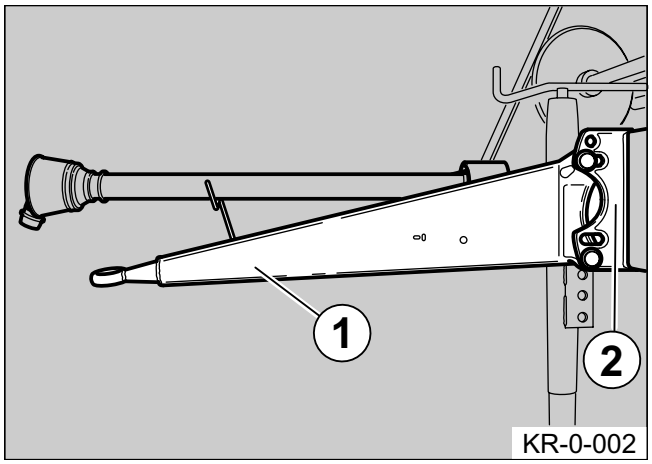
Drawbar assembly for top hitching

Mount the drawbar (1) into the top fastening holes on the mounting (2) of the front cross carrier. A description of how to adjust the height of the drawbar is given later on in this chapter.



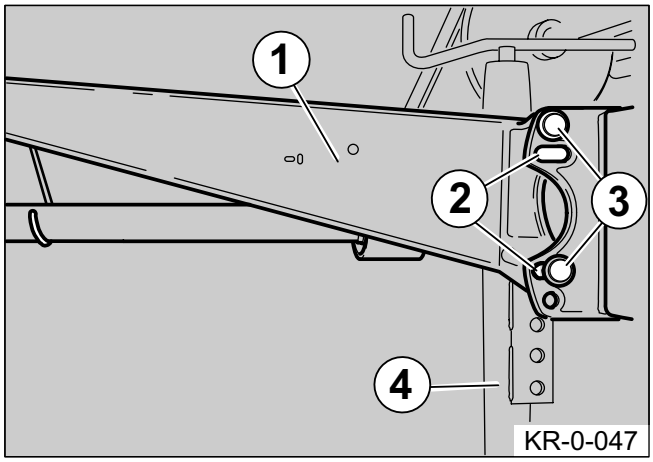
Drawbar assembly for low hitching

Turn the drawbar (1) by 180 degrees along the longitudinal axis and mount into the lower hole in the mounting (2).



Drawbar height adjustment

For optimal lifting by the pick-up, the round baler must be hitched to the tractor horizontally, and tipped slightly forward, if necessary. The drawbar (1) can be finely adjusted as required on the slots (2). The adjustment can be made when the equipment is hitched to the tractor.

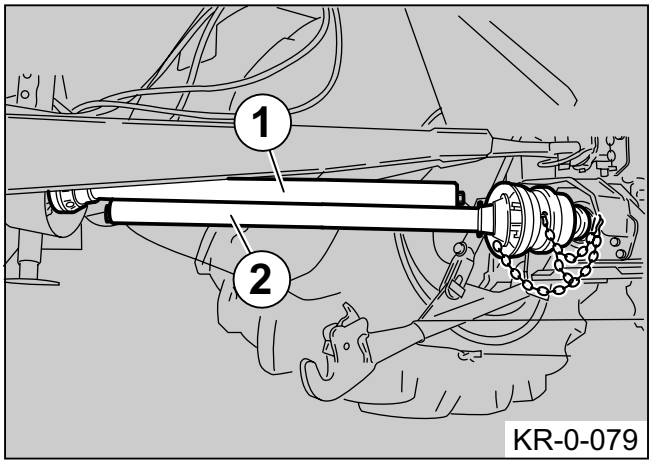


- **Hitch up the round baler.**
- **Allow the machine to rest on the jack stand (4).**
- **Loosen, but do not remove the attachment screws (3).**
- **Move the machine into the required position by turning on jack stand.**
- **Tighten the screws as advised on page 13.**

2.3 Adjusting the universal drive shaft

- **Before working on the universal drive shaft, switch off the tractor engine and remove ignition key.**
- **Secure the tractor and round baler against rolling away.**
- **No-one should be standing between the tractor and the round baler when adjusting the universal drive shaft.**

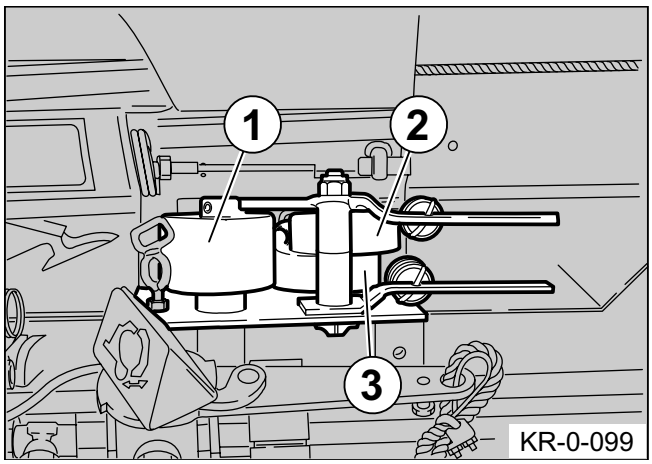
To adjust the length of the universal drive shaft, hitch the round baler to the tractor. The universal drive shaft is at its shortest position when driving around sharp corners. For measuring this, pull apart the universal drive shaft and attach each half (1) and (2) onto the machine and the tractor. The exact procedure for adjusting the length can be found in the operating instructions from the universal drive shaft manufacturer.



2.4 Cleaning and checking the starter rollers on the twin twine guide

Before working on the twin twine guide, switch off the tractor engine and remove the ignition key. Secure the tractor and the round baler against rolling away.

The starter rollers are wrapped in adhesive tape to protect against corrosion. Remove the adhesive tape and clean the remains of adhesive from the starter rollers. The pressure rollers (3) should turn easily. Turn the drive roller (1) to check this. If the pressure rollers do not turn or only turn with difficulty, follow the notes given in the chapter **"Service and maintenance".**

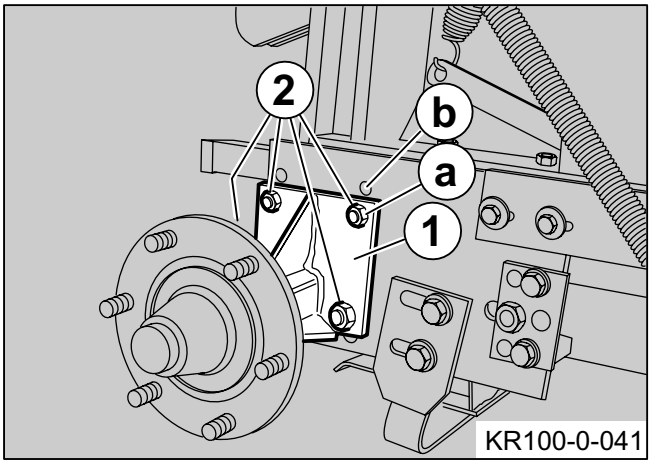


2.5 Adjusting the wheel hub height

- **Position the round baler on a firm base and secure against rolling away with wheel chocks.**
- **Use suitable jacks and mounting blocks to jack up and secure the round baler.**
- **Danger of being crushed by falling components.**

The height of the wheel hubs can be set to suit various tyre sizes and working conditions on both sides of the round baler.

To do this:
- Remove the tyres (the section **"Tyres"** in the chapter **"Service and maintenance"** must be observed).
- Undo the attachment screws (2) on the flange plate (1) and remove. Fasten the flange plate in the new position.
- Re-tighten the screws (torque values are given in the chapter **"Service and maintenance"**).



Tyre equipment	Recommended position
10.0 / 75 - 15.3	a
11.5 / 80 - 15.3	b

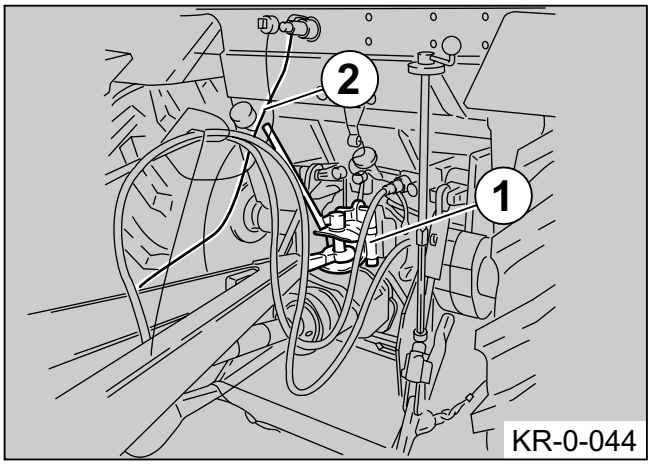
2.6 Putting the round baler into operation

2.6.1 Hitching the round baler to the tractor

- **Take particular care on and around the tractor and round baler when hitching or removing the round baler!**
- **Observe the max. permissible support and hitching loads for the tractor.**

Connect the round baler to the hitch attachment, e.g. top hich point (1) of the tractor according to the instructions and secure. Attach the actuating cord (2) to the tractor. Ensure that the actuating cord does not become taut when driving round corners and does not come into contact with the tyres.

The same applies for low hitching, which is not depicted here.

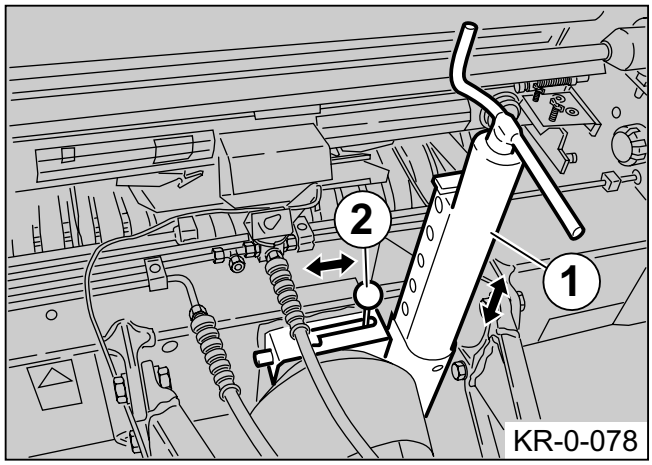


Jack stand

Danger of crushing hands and feet when using the jack stand.

For operation, move the jack stand (1) to the top position and turn the support plates securely under the front cross carrier.

To do this:
- Release the load from the jack stand (activate crank)
- Unfasten the retaining pin (2)
- Move the jack stand into the top position
- Allow the retaining pin to engage
- Turn the support plates securely under the cross carrier

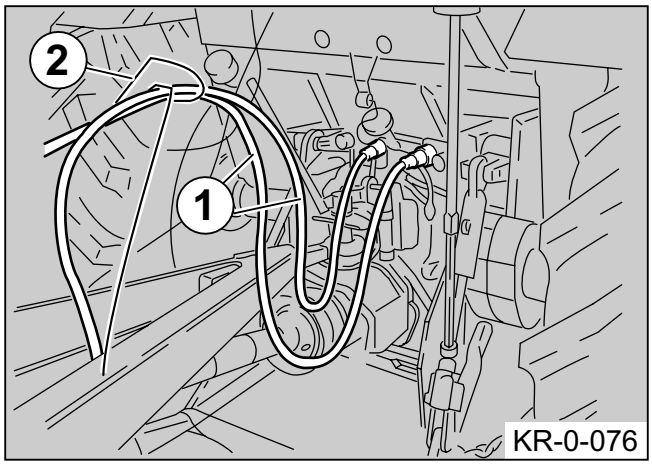


Hydraulic connections

- **Only connect the hydraulics when the tractor engine is switched off.**
- **When connecting the hydraulic hoses, make sure that the hydraulics on the tractor and on the machine are depressurised.**
- **Lay the hydraulic hoses in such a way that they do not become taut when turning corners or touch the tractor wheels.**

Depending on the machine version, the round baler requires up to three hydraulic connections to the tractor.
1. Activation of the tailgate/pick-up
2. Hydr. starter system (special equipment)
3. Separate activation of the pick-up (special equipment)

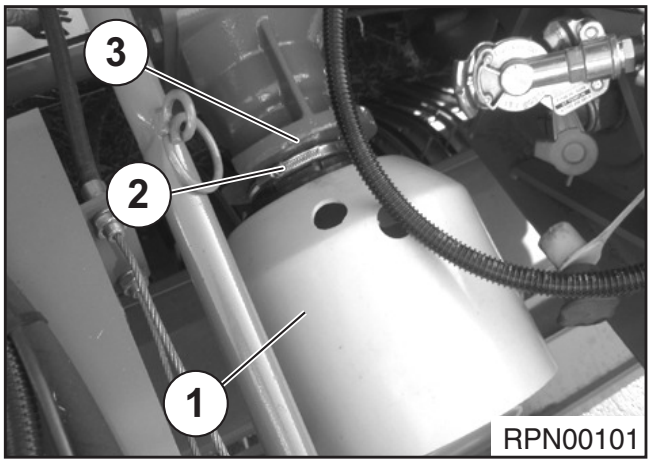
Clean the plug for the hydraulic hoses (1) before coupling into the corresponding linkage. Make sure that the hoses are positioned in the mounting (2).



Universal drive shaft

Attaching the guard cup for universal shaft

DANGER!
Danger of entrainment at P.T.O. shaft.
Effect: Risk of injury when drawing in open long hair, jewellery or baggy clothes.
- **The machine may only be operated with an attached guard cup.**

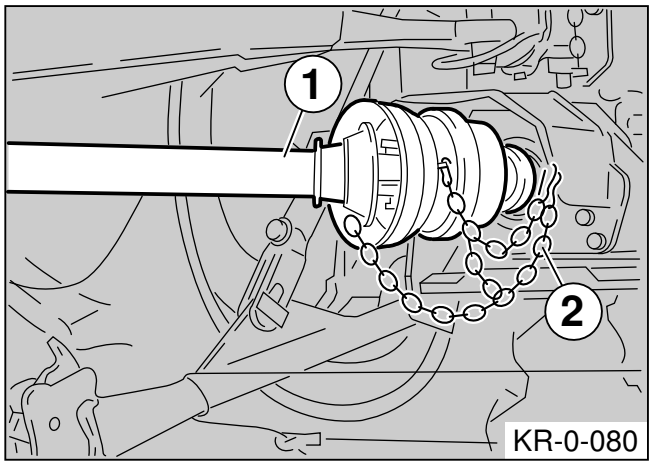


- Remove guard cup (1) out of the twine box.
- Push guard cup (1) above the P.T.O. shaft at transfer gearbox (3) and install it with its hose clamp (2) at the transfer gearbox (3) in that way, that the great bore hole is all the way up around the circumference of the guard cup (1).

Overload protection device

- **Push the universal drive shaft onto the PTO shaft end only when the tractor engine is switched off and the ignition key has been removed.**
- **Make sure the retaining devices engage.**
- **Prevent the guard tube from turning by attaching the chains.**

The universal drive shaft (1) is fitted with an overload protection device. The maximum torque which can be transferred is given on the slip clutch. The permissible values for the KR 125 and KR 155 are in the "**Technical data".** The overload protection is mounted onto the machine (note the arrow on the universal drive shaft). After successful assembly, the locking chains (2) must be attached.

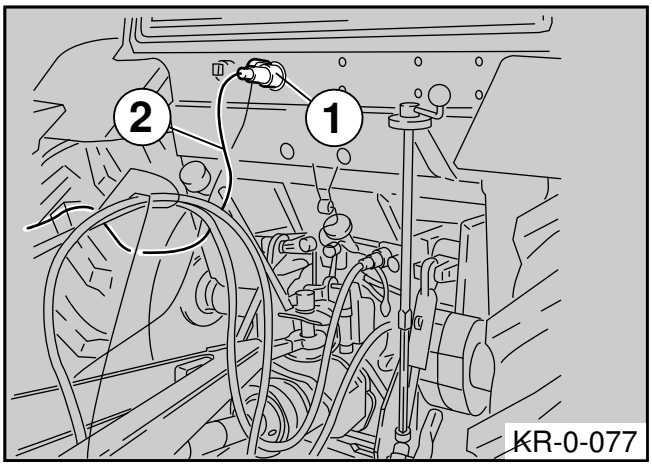


- **Make sure that the protection is engaged every time the universal drive shaft is assembled.**
- **Only use universal drive shafts supplied by the factory.**

Electrical connection cable

- **Lay the electrical connection cable so that it does not become taut when driving round corners and does not come into contact with the tractor wheels.**
- **Attach the lighting unit and check that the machine is functioning correctly before every journey on public highways.**

Connect the lighting unit of the round baler to the tractor electrical system with the 7-pin plug (1). Lay the cable (2) so that it cannot come into contact with the wheels. Depending on the equipment fitted, the connections for the comfort control unit (see chapter **"Special equipment"**) to the tractor should also be made.

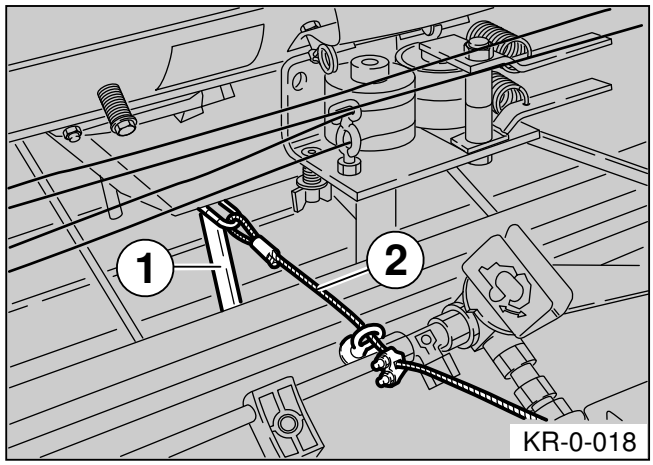


Actuating cord on the starter system

Lay the starter system actuating cord so that it does not become taut when driving round corners and does not come into contact with the tractor wheels. It may otherwise initiate the wrapping process or damage the starter system.

By activating the actuating cord on the starter system, the binding process on the round baler is initiated. It should be attached to the tractor so that the driver can reach it easily.

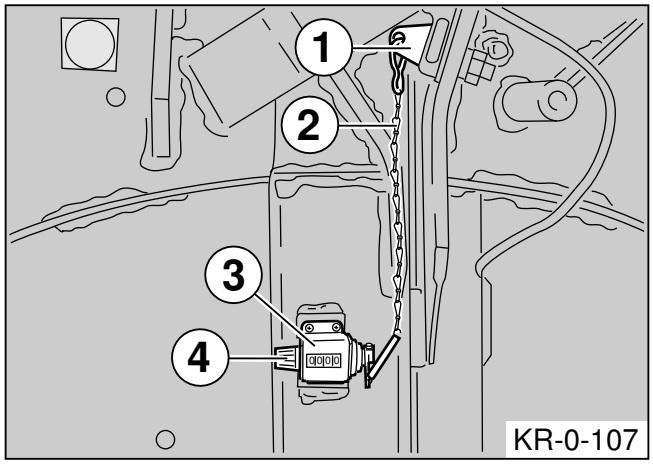
The diagram opposite shows the actuating cord (2) fitted on the actuating lever (1).



2.6.2 Selecting the binding material
The selection of the binding material is of great importance for the smooth operation of the round baler and for storage. Using a high quality binding material ensures safe handling when transporting the round bales.

2.6.3 Bale counter

The bale counter (3) is mounted on the left-hand side of the machine behind the rear LH side plate. Each time the tailgate is opened, the bale counter is activated by a retainer (1) and a chain (2). The bale counter can be reset with the knurled screw (4).



2.6.4 Preparations for road transport

Special safety notes

- **Repair, servicing, maintenance and cleaning work may only be carried out when the machine is at a standstill. Switch off the tractor engine and remove the ignition key.**
- **Secure the tractor and round baler against rolling away.**
- **Before travelling on public roads, empty the bale chamber and close the tailgate.**
- **Secure the pick-up against lowering unintentionally.**
- **Check and correctly fit all protective covers and protective devices for road transport.**
- **Check that the lighting unit is functioning correctly.**

General

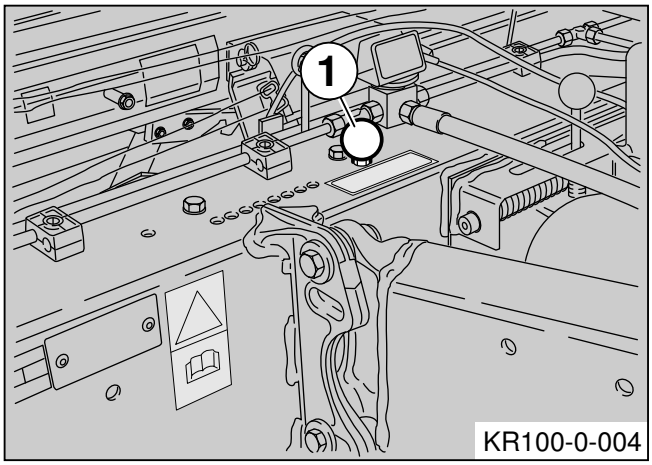
All legal requirements must be fulfilled when driving on public highways:

- Correctly mount all safety devices.
- Empty bale chamber and close the tailgate.
- Check that the lights are functioning correctly.
- Secure the pick-up against unintentional lowering.

2.6.5 Road travel – preparations and driving

- **Driving on public highways is only permitted when the bale chamber is empty and closed.**
- **Before driving off, raise the pick-up hydraulically and insert the pin (1) into transport position (see fig. KR 100-0-004).**
- **Check that the round baler is safe to drive, particularly with regard to lighting, tyres, locked protective guards, raise and secure pick-up and close bale chamber before driving on public highways.**
- **During transportation, secure all control levers for the round baler to prevent unintentional operation of the PTO shaft.**
- **The comfort control panel should be disconnected from the power supply by removing the power plug.**
- **Make sure that you hava a clear view of the tractor and baler before driving off.**
- **Riding on the round baler is forbidden.**
- **The permissible top speed is 25 km/h.**

The road-worthiness of the baler and of the tractor should be checked and ensured, before starting a journey on public highways.



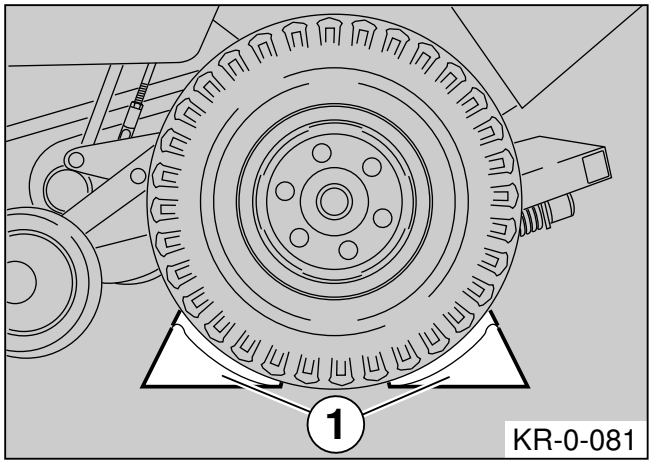
Minimum unloaded weight for tractor

The round baler has no brakes. According to the German Regulations of Vehicle Construction and Use, the tractor must have a minimum unladen weight to be driven on public highways with a round baler. The figures are given in the section “Technical data”.

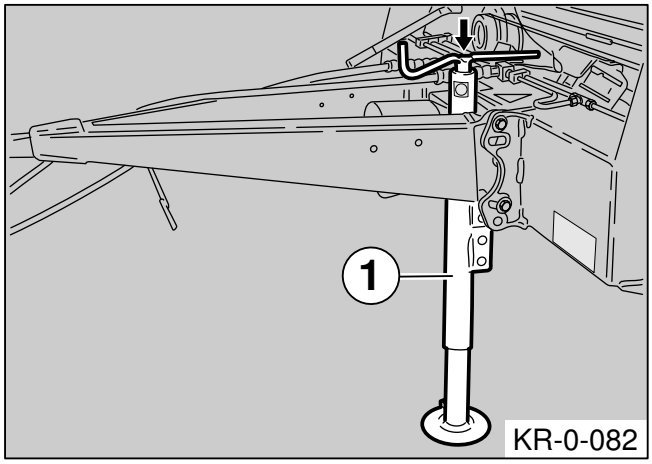
2.6.6 Disassembling the round baler

- **Only position the round baler on a level and secure base. When positioning the machine on an unstable base, increase the mounting area of the jack stand.**
- **Secure against rolling away with wheel chocks before uncoupling the round baler.**
- **Take care when lowering the jack stand. Danger of being crushed.**
- **Before removing the hydraulic hoses, depressurise the hydraulic unit. This particularly applies to machines which are fitted with a comfort control unit.**
- **Only remove the universal drive shaft when the tractor engine is switched off. Remove the ignition key.**

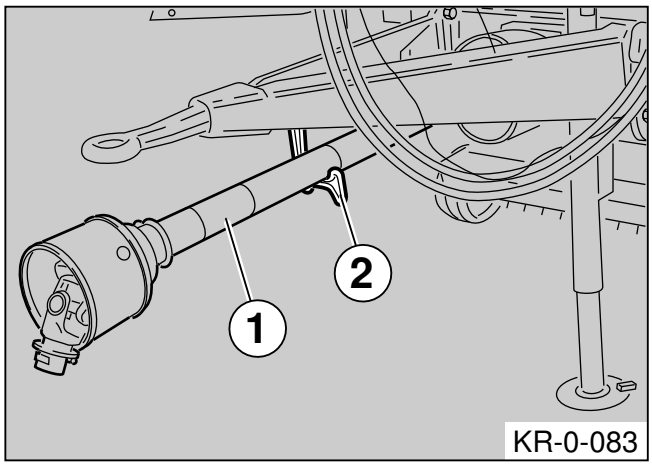
Use wheel chocks (1) to prevent the baler from rolling away unintentionally. The wheel chocks are situated behind the side doors of the baler.



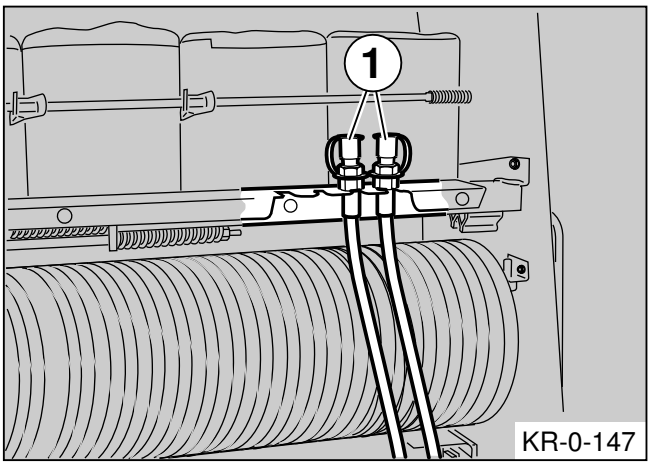
Move the jack stand (1) from transport position to support position and wind downwards. (For operation see chapter 2.6.1 – section “Jack stand”)



Remove the universal drive shaft (1) from the tractor PTO shaft only when the engine has been switched off, place the universal drive shaft on the rest (2).



Release the hydraulic hoses (1) the actuating cord, electrical connection cable and position in the corresponding slots in the twine box. Remove safety clips from the drawbar pin, remove pin. Carefully drive the tractor forward.



3 Working with the round baler

3.1 Special safety notes

Supplementary safety notes apply in addition to the general safety notes for working with the round baler.

- **For all maintenance, assembly, repair and setting work, the following normally applies: Bring the machine to a standstill. Switch off the tractor engine. Remove the ignition key. Secure the tractor and round baler against rolling away.**
- **Keep a sufficiently safe distance away from all moving parts of the round baler whilst in operation. This applies in particular to the pick-up system for the baling material. Only remove blockages in this area when the PTO shaft and the tractor engine has been switched off.**
- **Never stand in the slewing range of the tailgate or under an unsecured tailgate. During maintenance, assembly or repair work in the bale chamber or on the tailgate, it should be prevented from lowering with the shut-off tap. Switch off the tractor engine and remove the ignition key.**
- **If a dangerous situation occurs, switch off the PTO shaft immediately and bring the round baler to a standstill.**
- **Never run the round baler without operating staff on the tractor.**
- **The round baler may only be operated with a PTO shaft speed of 540 rpm.**
- **Danger of injury from the cutting knives on the twine binding system!**
- **On hilly terrain, always position round bales so that they can not start to roll away. The bales can cause serious accidents when moving because of their weight and cylindrical shape.**

3.2 Basic setting of the round baler depending on the baling material

For the basic settings on the round baler, e. g. adjusting the height of the compression rake and the pick-up, it is important to assess the working conditions. For the basic settings, the following criteria should be taken into account:

Crop	==>	e.g hay, straw, grass silage
Crop length	==>	long, medium or short crop
Moisture content	==>	high or lower moisture content
Swath width and height	==>	wide, narrow or high swaths

The compression rake setting also depends on the the working conditions:

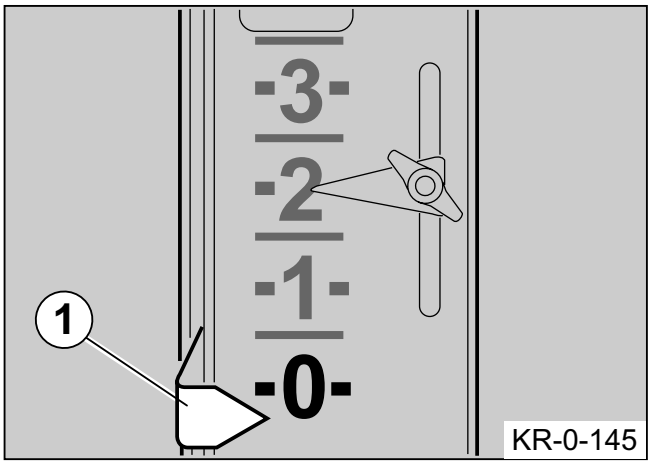
Long crop, high swaths	==>	high position
Short, crumbly crop	==>	low position
Medium-length crop	==>	middle position

3.3 Baling process

Drive forward to the beginning of a swath and observe the points given in the following sections. Adjustments not described in these sections are to be found in the chapter **“Adjustments”** in these operating instructions.

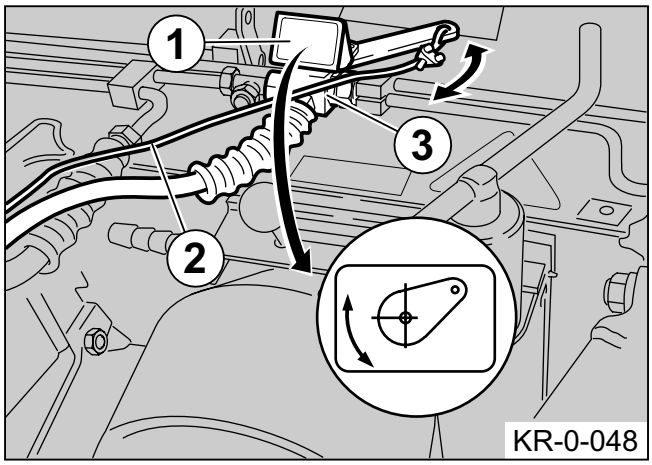
3.4 Checking the tailgate lock

The tailgate is locked correctly if the baling pressure indicator (1) on the right-hand side of the bale chamber is below the **"O"** position when the bale chamber is empty.



3.5 Lowering the pick-up

The pick-up is raised and lowered hydraulically using a control valve on the tractor. Using control cord (2) move the diverter valve (3) on the front of the round baler into the (1) **Pick-up-operation** position. The symbol on the plate (1) should be pointing forwards.



3.6 Forward speed and PTO shaft speed

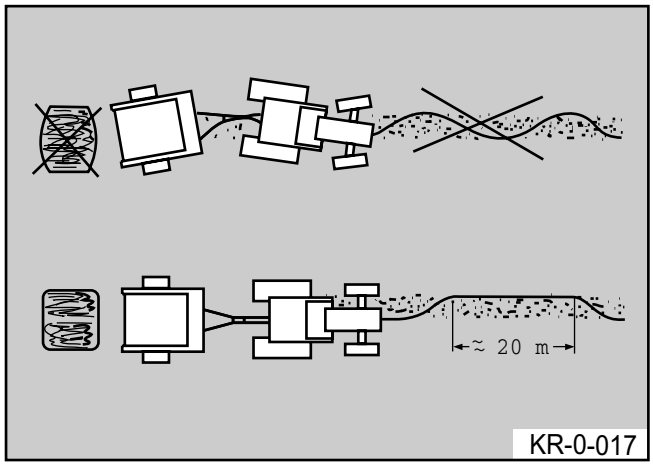
The working speed is dependent on the following factors:

Type of crop to be baled
Moisture content of the crop
Swath height
Swath width
Ground conditions

The forward speed should be suited to the conditions. Avoid overloading the round baler. An approximate guide is 5 – 12 km/h. Reduce the speed at the beginning and at the end of each baling process.

3.7 Filling the bale chamber

To keep the bale thickness even within the round bale, the bale chamber must be filled evenly.
The swath width is very important to this process. The swath is ideal when it is the exact width of the bale chamber.
With wide swaths, an exact shape of the round bale is not guaranteed. The round bale is padded out at the sides and is difficult to eject from the bale chamber.
With narrow swaths, the bale chamber should be evenly filled by changing sides whilst driving along the swath (left / right). In doing this, however, do not continuously weave but drive for long stretches on the left-hand and right-hand sides of the swath, as indicated in the diagram opposite. Changing sides too often and filling the chamber unevenly creates barrel-shaped round bales with an uneven bale density. The baling pressure attained (bale chamber level) can be read separately for the left and right-hand sides of the machine on the baling pressure indicators on the right-hand side of the machine.



Barrel-shaped round bales can damage the floor conveyor. Unevenly formed and compressed round bales jeopardise correct silage production.

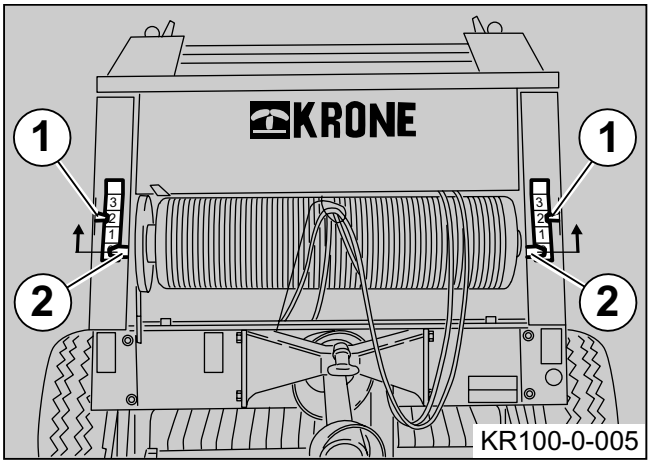
3.8 Concluding the baling process and ejecting bales

On hilly ground, deposit the bales in such a way that they cannot start to move of their own accord.

The baling process can be concluded if the preselected baling pressure has been reached (baling pressure indicators (2) are the same height as the preselection indicator (1)).

The following processes should be carried out to do this:

- Initiate the binding process whilst feeding baling material into the chamber
- Reverse the machine a few metres during the binding process.
- After the binding process has been completed, open the tailgate on the baler lift it as far as it will go.
- Drive forward until the tailgate is clear of the bale.
- Lock the tailgate correctly.
- The right-hand indicator (2) is below the “0” pos. when locked



3.9 Baling other products

The round baler has been constructed solely for common agricultural applications (intended usage). Particular caution and care is recommended if other goods are gathered and baled into round bales, deviating from the intended usage of the round baler.

If anything other than crops are to be baled, it must be similarly laid in a swath and be lifted by the pick-up when driving over the swath. Before processing baling material deviating from that defined as the intended use of the round baler, please contact your **KRONE** dealer.

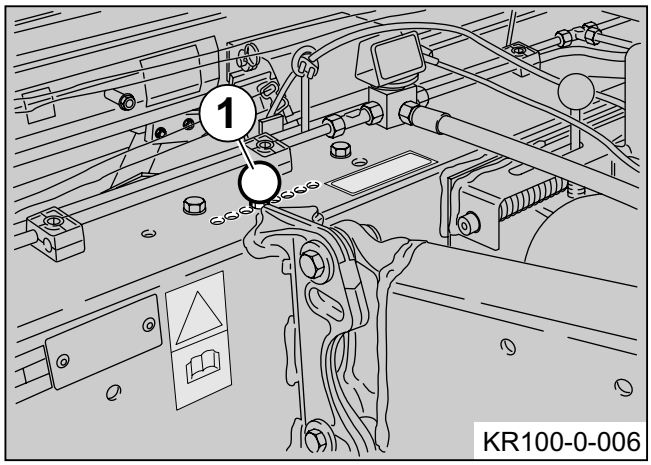
Notes

4 Basic settings and operation

4.1 Adjusting the working height (depth control) of the pick-up

There is a danger of being crushed when setting the working height of the pick-up. Secure the pick-up against unintentional lowering.

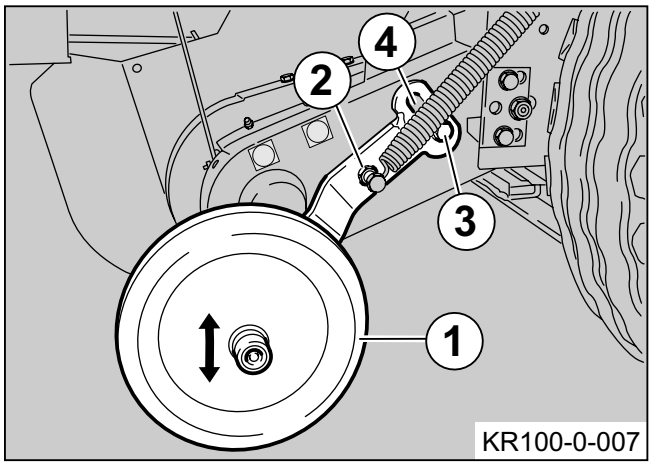
The working height required is set using the pin (1). In the left-hand position the distance between the ground and pick-up is minimum, in the right-hand position it is maximum.
The basic setting, for the distance from the tines to the ground should be approx. **20 - 30 mm.**



4.2 Adjusting the feeler wheels

There is a danger of being crushed when setting the feeler wheels. Secure the pick-up against unintentional lowering.

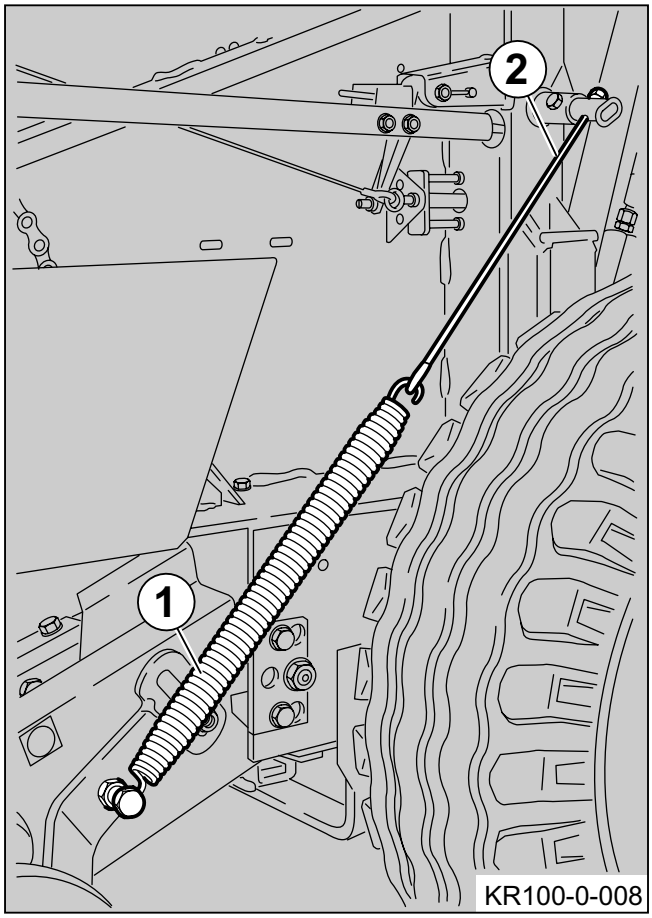
Set the feeler wheels (1) on the left and right-hand sides of the pick-up so that they are just touching the ground with the preselected working height of the pick-up. To do this, unfasten the nut (2) and screw (3). Adjust the height of the feeler wheel in the slot (4). Retighten the screws. If the crop is lying very flat on the ground it may be necessary for the pick-up to run only on the feeler wheels and not for the depth to be controlled using the suspension cable.



If the crop is particularly short and dry, the pick-up may not be picking up optimally even in the lower working position. In this case, the round baler should be tipped forwards by repositioning the drawbar (see chapter “Preparing the round baler”).

4.2.1 Setting the extension spring

The load is adjusted on the feeler wheels using the extension spring (1). The extenstion spring pre-tension can be set using the threaded bar (2).

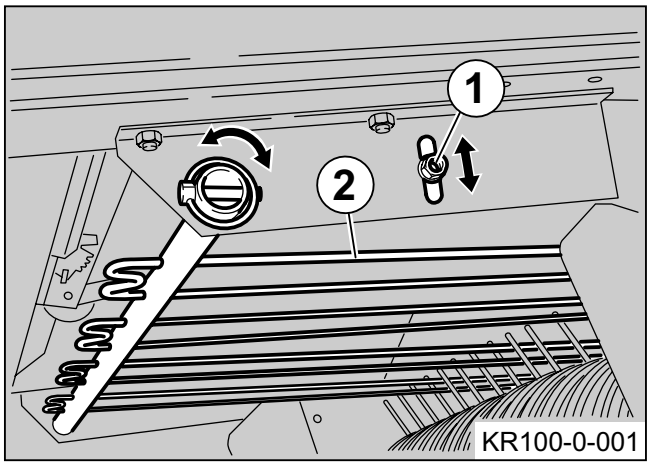


4.3 Compression rake

There is a danger being crushed when assembling or disassembling the compression rake. Secure the pick-up against unintentional lowering.

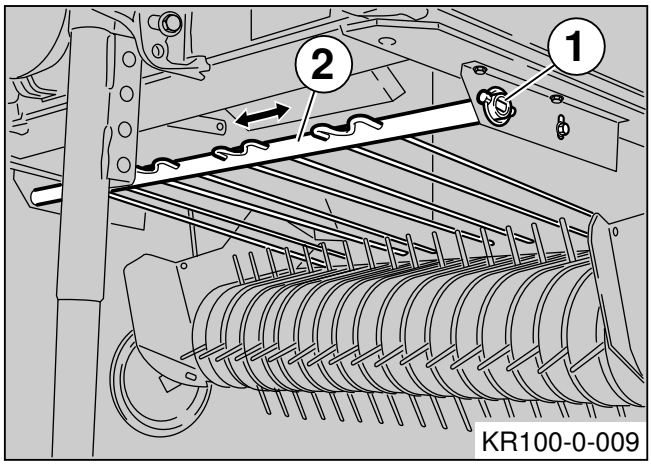
4.3.1 Adjusting the compression rake

Unfasten the nuts (1) and push the compression rake (2) into the required position. Retighten the nuts.



4.3.2 Removinging the compression rake

There is a compression rake (2) assembled onto the pick-up (2). By removing the linch pin (1) the compression rake can be easily removed.



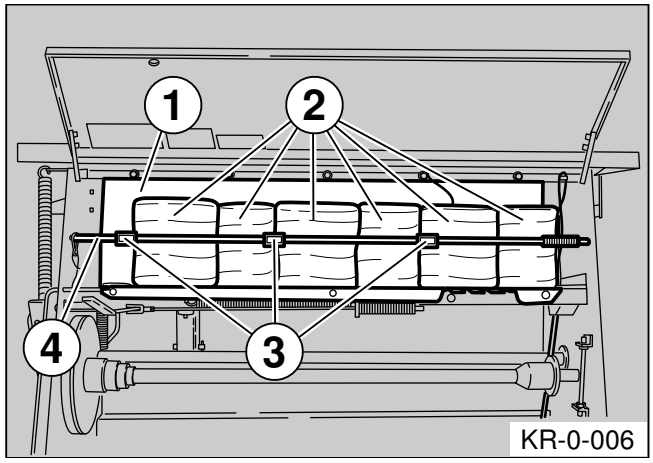
4.4 Twine wrapping system

4.4.1 Inserting the binding twine

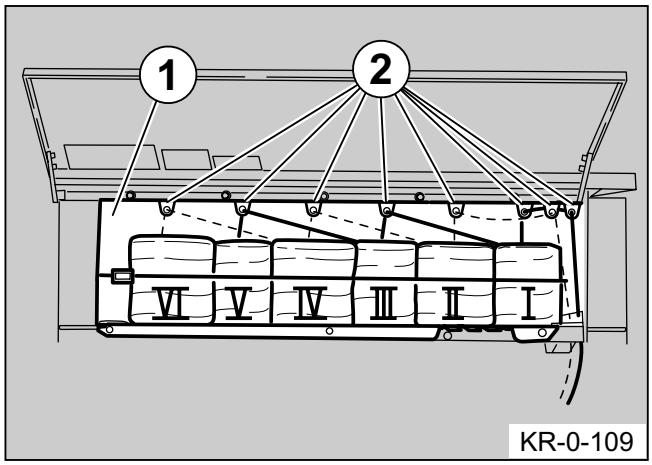
Attention!- Contamination of tying twine as well as the tying mechanism by oil and grease
Effect: Damages to the machine and problems with unrolling of the tying twine
- **Twine, twine tensioner and eyes must not be contaminated with oil or grease.**
- **Those parts of the tying device the tying twine or net will rum through, must not be contaminated with oil or grease.**

- **Before inserting and threading the binding twine into the round baler, switch off the PTO shaft and allow the machine to come to a standstill.**
- **Switch off the tractor engine. Remove the ignition key.**
- **Secure the tractor and round baler against rolling away.**

Up to six rolls of binding twine (2) can be housed in the twine box (1). The rolls of binding twine are secured against falling out by a bar (4). The locking devices (3) prevent the rolls of twine from moving sideways.



In the twine box (1) above the rolls of twine there are lugs (2), through which the binding twine must be threaded before the individual rolls of twine are joined (I to VI).



KR-0-109

Join the rolls of binding twine together thus:

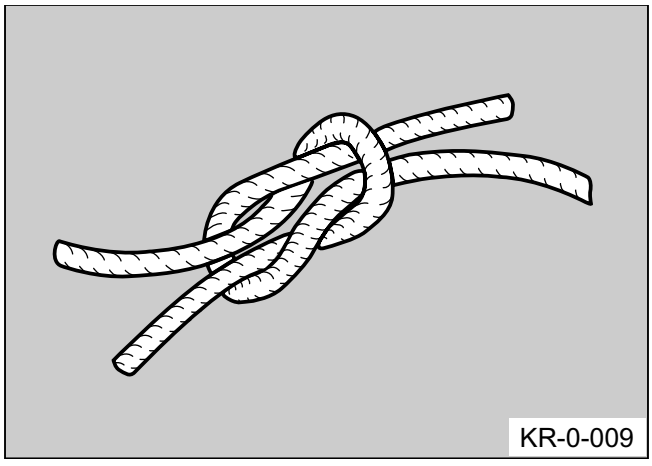
(see fig. KR-0-109, continuous line)

End of twine roll	Beginning of twine roll
I	III
III	V

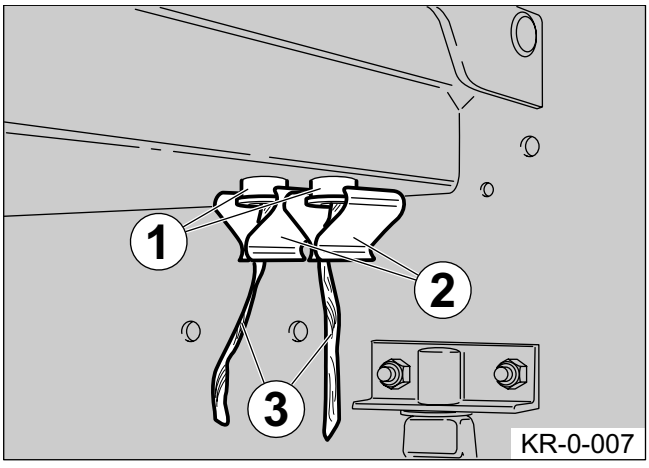
(see fig. KR-0 -109, broken line)

End of twine roll	Beginning of twine roll
II	IV
IV	VI

The knots used to link the rolls of twine must be small enough to be fed easily through the twine lugs and through the starter unit.

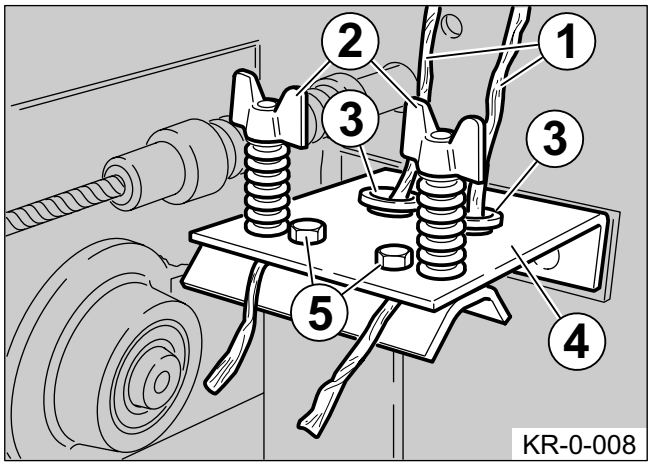

KR-0-009

The twine is fed through guides (1) in the twine (3) box floor, into the twine retainer (2) on the left side of the twine box.



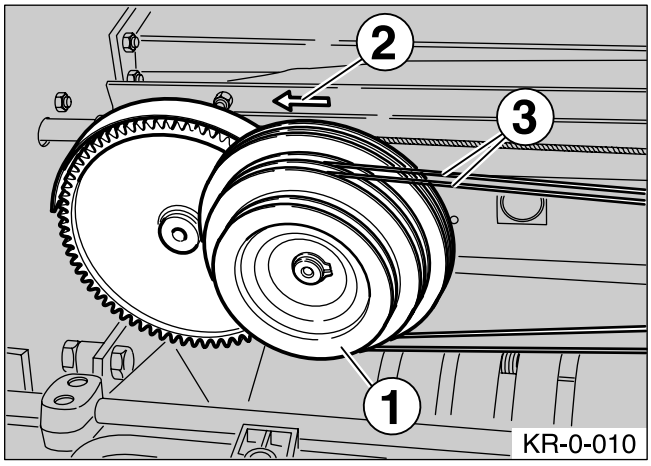
KR-0-007

The binding twine (1) is inserted from above through two twine feed guides (3) into the twine stop (4). Feed the binding twine between the spring tensioners (2) and the screws (5).

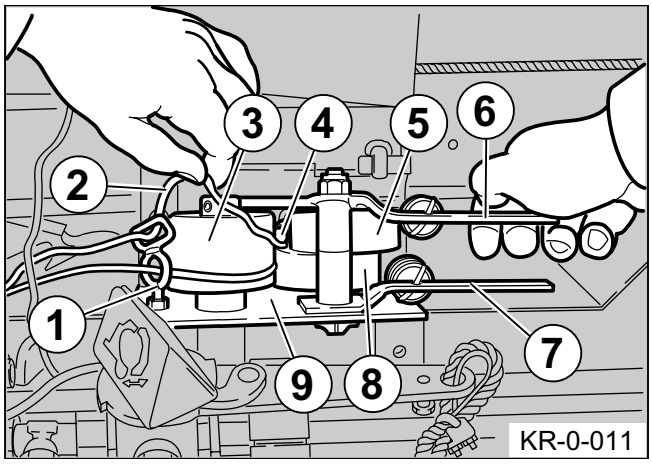


The binding twine (3) is inserted around the drive roller (1) and fed through to the twin binding system starter. The arrow (2) indicates the drive roller direction of rotation. The drive roller is divided into three levels. The level selected, into which the binding twine is inserted, enlarges or decreases the wrapping distance of the twine on the round bales.

Length of crop	Level roller height to be selected	Wrapping dist.
short medium tall	large middle small	narrow medium wide



Feed the binding twine (2) through the double eyebolt screw (1) in front of the starter (9) and between the starter roller (3) and pressure rollers (5) and (8) into the twine feed lugs (4) behind. At the same time, lift the pressure rollers from the starter roller using levers (6) and (7).

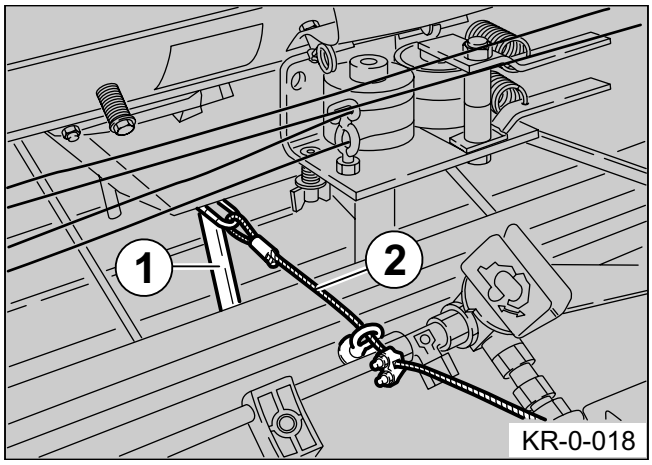


Pull the binding twine approx. 10 cm out of the twine feed equipment and lay on the twine guide plate. Tension the binding twine after inserting it into the starter system by pulling back excess binding twine into the twine box.

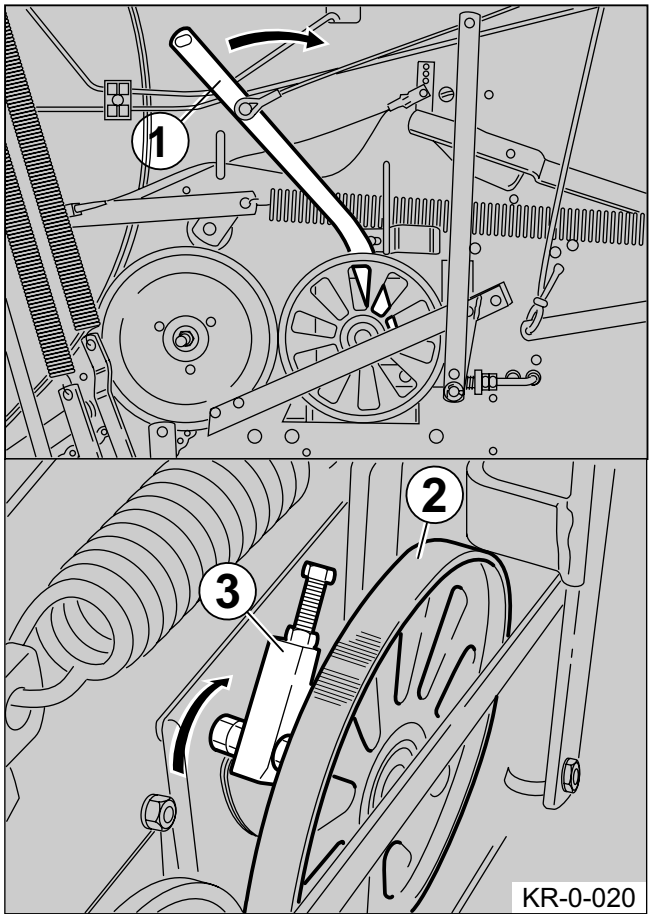
4.4.2 Binding process for twine wrapping

The round balers KR 125 and KR 155 can be fitted with a net wrapping system in addition to the twine wrapping system. Note that only one wrapping process can be started at one time. For this reason, only the synthetic cord or the steel cord should be fitted on the actuation lever for the binding or wrapping process.

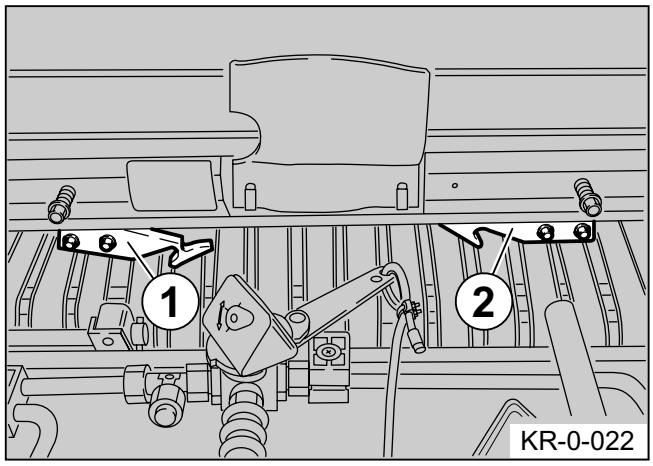
There is a mechanical actuation device for the twine binding unit via a synthetic cord (2) on the starter system fitted as standard. The starter system is then activated using the actuating lever (1). The actuating cord should be pulled until the binding twine is picked up by the bale in the bale chamber.



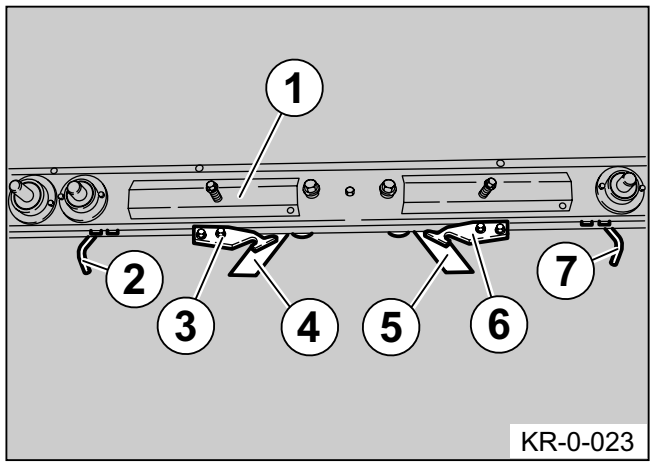
To be able to work with the twine wrapping system, the cutting blades on the net wrapping system should be raised and locked. To do this, move the lever (1) in the direction of the arrow. Move the stop (3) behind the actuating wheel (2) towards the front (see direction of arrow).



During the binding process, the binding twine is fed by both feeder. Hooks (1) and (2) working from the centre to the outside and back. The binding twine is cut off at the end or start position. The diagram opposite shows the feeder hooks when the starter system has been removed.



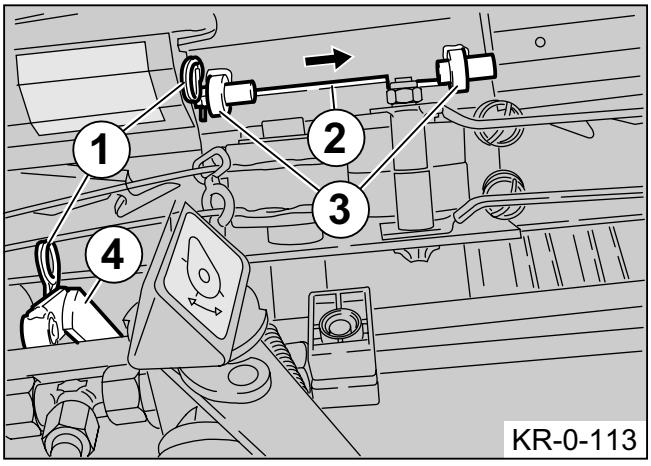
There are also twine limiters on the right (2) and left (7) sides of the twin twine unit and the width of the wrapping on the round bales can be adjusted. The binding twine is fed through the twine hooks (3,6) and then cut off by blades (4,5)



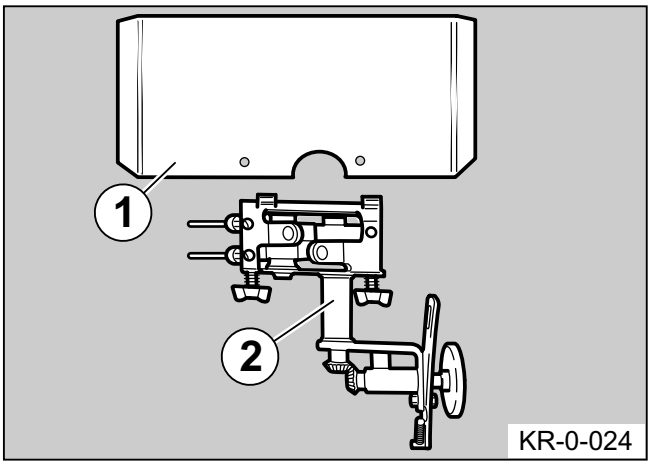
4.4.3 Removing the starter system

- **The starter system on the twin twine system may only be removed when the PTO shaft has been switched off and the machine is at a standstill.**
- **Switch off the tractor engine. Remove the ignition key.**
- **Secure the tractor and round baler against rolling away.**

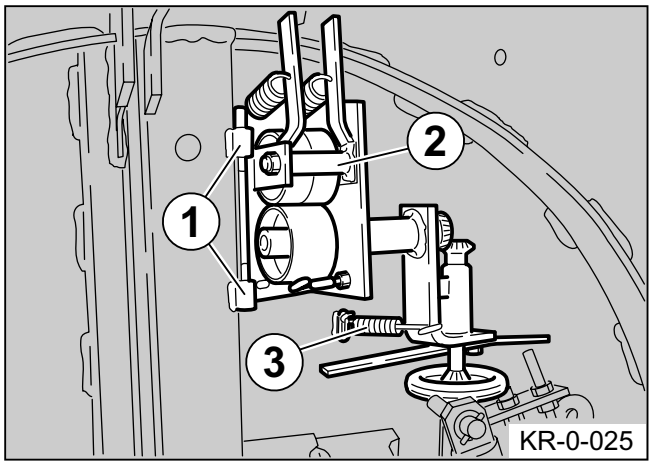
If the round baler is only operated with the net wrapping system for an extended period, the starter on the twin twine system can be removed and stored on the side of the round baler behind the rear side doors.
To remove, take out the spring pins (1). (The lower spring pin on the lever (4) is not visible.) Remove the lever, place in the twine box. Push the starter system (2) from mounting (3) in the direction of the arrow and remove. Re-insert the spring pins.
To reassemble the starter system, follow the steps in reverse order.



Before the starter system behind the side doors can be removed, the twine guide plate (1) must be unscrewed from the starter (2). Place the twine guide plate in the twine box.



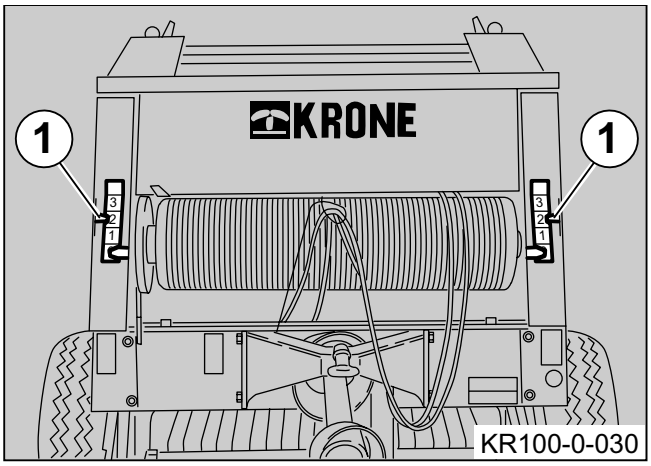
The mounting (1) for the starter (2) is located on the right-hand side of the machine. Secure the starter in the mounting using the spring (3).



4.5 Preselecting the baling pressure

- **Before setting the baling pressure, bring the machine to a standstill.**
- **Switch off the tractor engine and remove the ignition key.**
- **Secure the tractor and round baler against rolling away.**

To check the baling pressure visually, the indicators (1) on the front side of the round baler can be set. The baling pressure must not exceed level “3”. They are set by loosening the wing nuts holding the indicators. After adjustment, refasten the wing nuts.



5 Adjustments

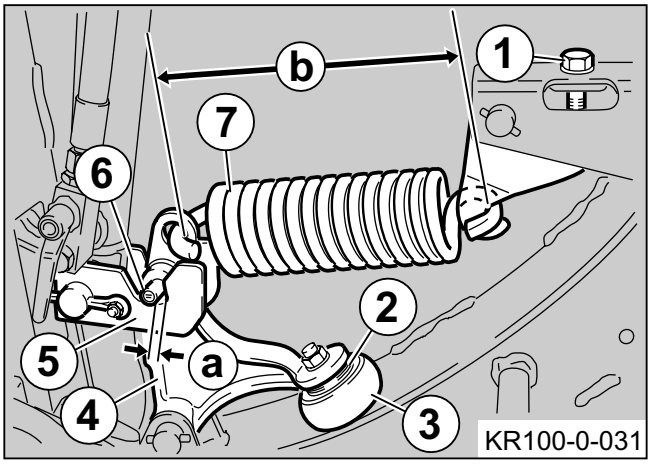
5.1 Special safety notes

- **The adjustment operations given below can only be carried out when the machine is at a standstill. Switch off the tractor engine and remove the ignition key.**
- **Secure the round baler and tractor against rolling away.**
- **After the adjustment operations have been completed, remount all protective guards and protection devices correctly.**
- **Follow all other safety notes to prevent injuries and accidents.**

5.2 Adjusting the tailgate lock

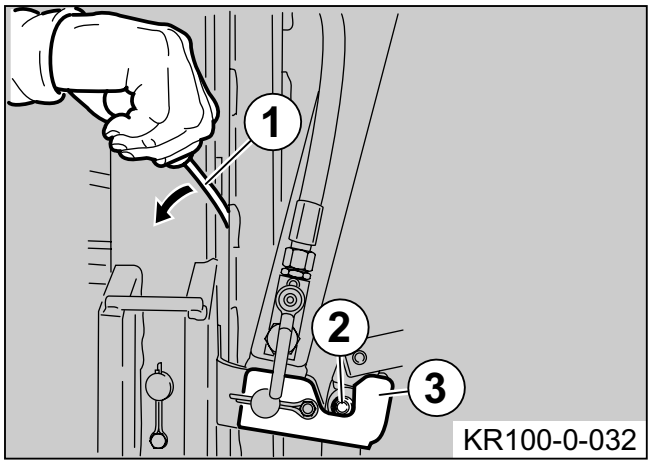
Check the tailgate locks on the right and left-hand sides every 500 bales.

So that the tailgate opens and closes correctly, the distance (a) between the roll pin (6) and hook (5) when the tailgate is closed should be 5-7 mm. Both sides of the machine should be checked. If the distance measurement if larger or smaller, it should be readjusted.
Close the tailgate during setting. Unfasten the screw (1) until the spring (7) is completely extended. The rubber buffer (3) should be resting on the frame.
Adjust the distance (a) between the roll pin (6) and hook (5) using plain washers (2) between the rubber buffer (3) and hook (4) to 10 - 12 mm.
If the distance (a) of 10 - 12 mm cannot be attained, weld a plate 70 x 70 x 5 mm to the frame.
Set the spring tension using the screw (1) so that the distance between the roll pin (6) and hook (5) is 5 – 7 mm.
The distance (b) should then be 7 – 7.5 mm more than when the spring is not taut.

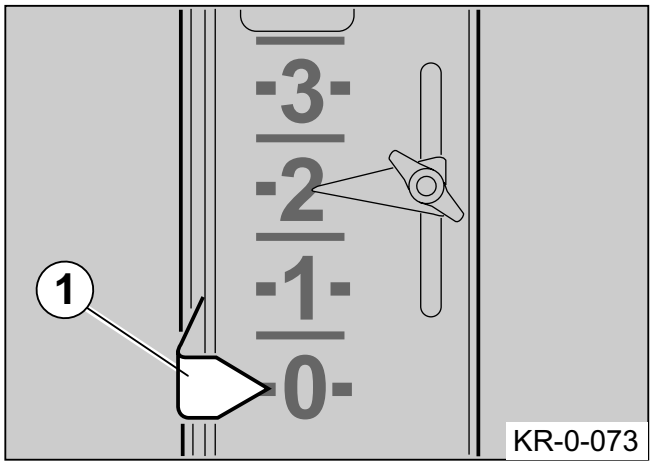


5.3 Setting the baling pressure indicator

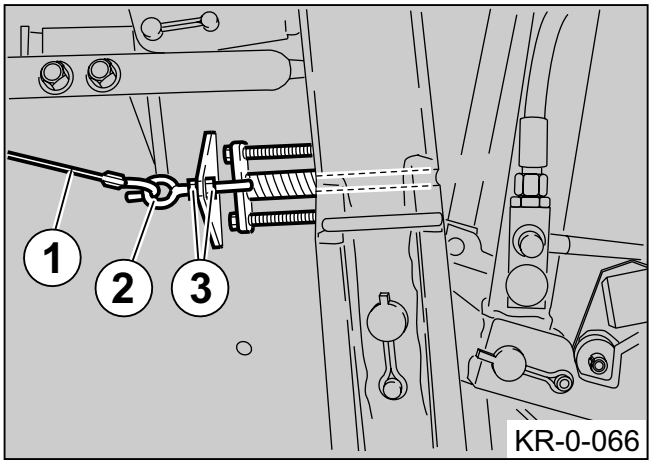
The basic setting for the baling pressure indicator is made when the bale chamber is closed. Insert an assembly lever or a screwdriver (1) into the gap between the tailgate and the frame. Push the tailgate backwards until the locking hook (3) is resting on the roll pin (2).



In this position the baling pressure indicator (1) on the front side of the round baler should be in the **“0”** position.

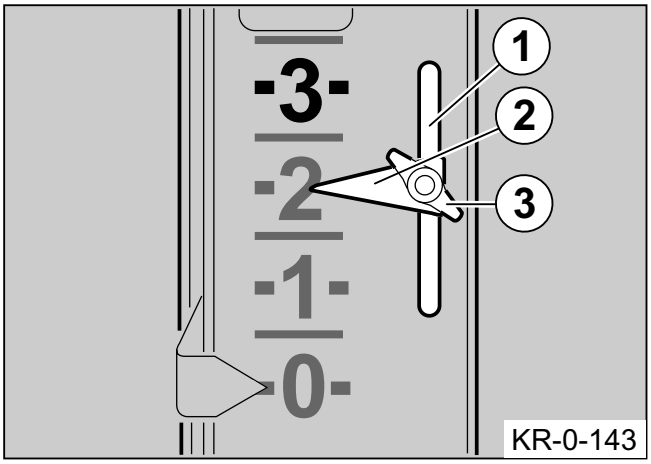


The adjustment is made on both sides of the round baler on the adjusting screws (2), which are connected to the baling pressure indicator on the relevant side with the steel cable (1). To adjust, unfasten the locknuts (3) and turn the adjusting screws.



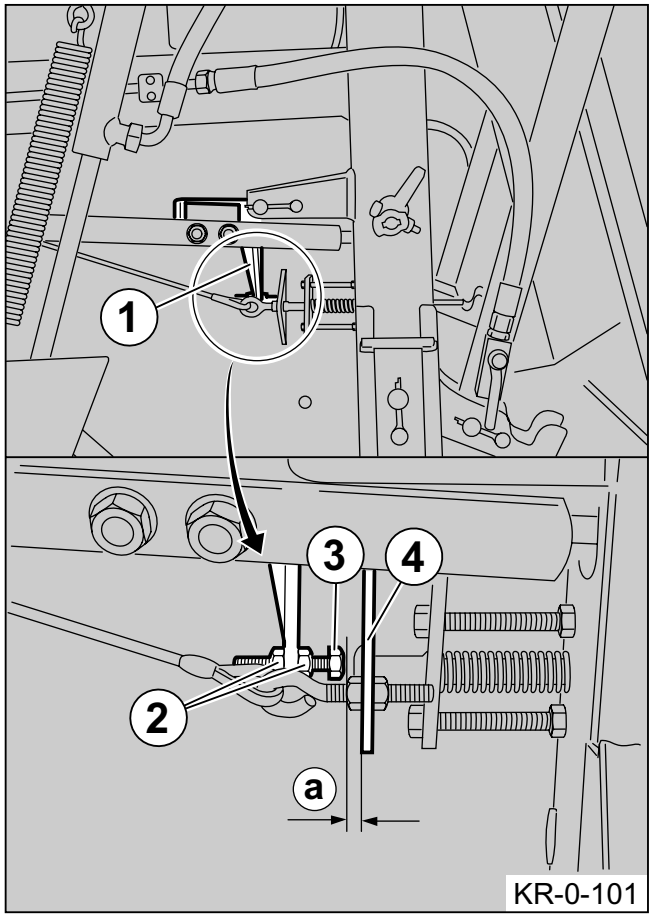
5.4 Setting the baling pressure

The baling pressure is set on the indicators (2) located on the front side of the round baler. Unfasten the wing nuts (3) and set the indicators in the slot (1) to the value required. Refasten the wing nuts after setting. Do not exceed the value **“3”** when setting.

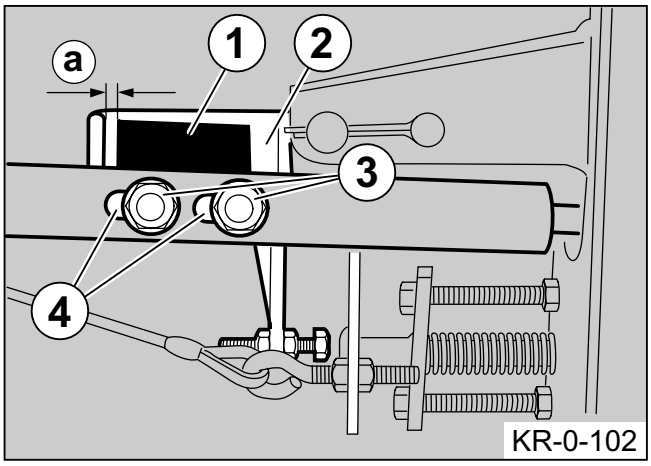


5.5 Locking hook stop

To ensure that the tailgate is locked correctly, the setting of the locking hook stop (1) for the tailgate lock should be checked. When the tailgate is open, the distance between the adjusting screw (3) and the pin (4) **should be a = 2 – 5 mm.** To adjust, unfasten the locknuts (2) and turn the adjusting screw. After setting, refasten the locknuts.

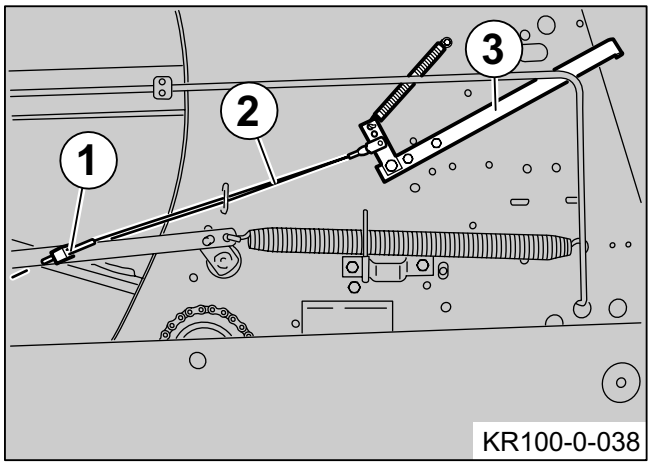


The distance **a** between the locking hook stop (2) and the stop (1) should also be checked. The measurement for the distance is **a = 2 – 5 mm.** The adjustment is made by unfastening the nuts (3) and pushing the stop in the slots (4). Retighten the nuts after adjustment.



5.5.1 Setting the cable for the display “Bale chamber closed and locked”

Via the cable (2) there is a display on the right-hand baling pressure indicator as to whether the tailate is properly closed. If the locking hook is completely down, **but the tailgate is still closed,** the right-hand baling pressure indicator (3) should be at the level of the number “**3**”**.** To adjust, unfasten the nuts (1) and turn until the baling pressure indicator is at the level of the number “**3**”**.** Retighten the nuts against one another.

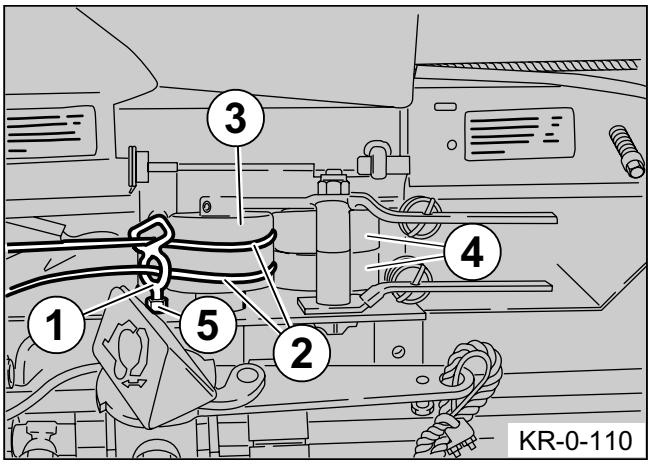


5.6 Twin twine guide

It must not be possible to activate the twine binding system unintentionally. This applies in particular to round balers fitted with comfort control. Please read the relevant sections in the chapter Special equipment: “Electronic Comfort Control”.

Twine guide

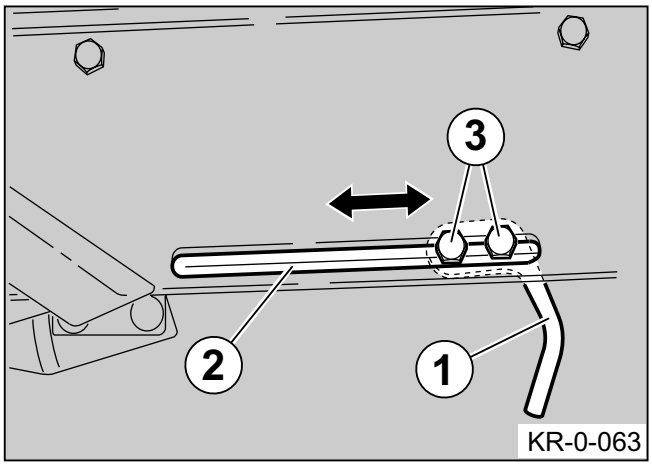
Unfasten the lock nuts (5). Adjust the height of the double eyebolt (1) so that the binding twine (2) runs exactly in the middle of the starter roller (3) and the pressure roller (4). Then position the eyebolt at an angle so that the binding twine is touching both sides of the lugs. Retighten the counter nuts.



Twine limiters

The twine limiters (1) on the left and right-hand sides of the twin twine guide are adjustable on slots (2) to adjust the wrap width for the round bales. Unfasten the screws (3) on the rear of the twine wrapping system and reposition the twine limiters in the slot. Retighten the screws after adjustment.

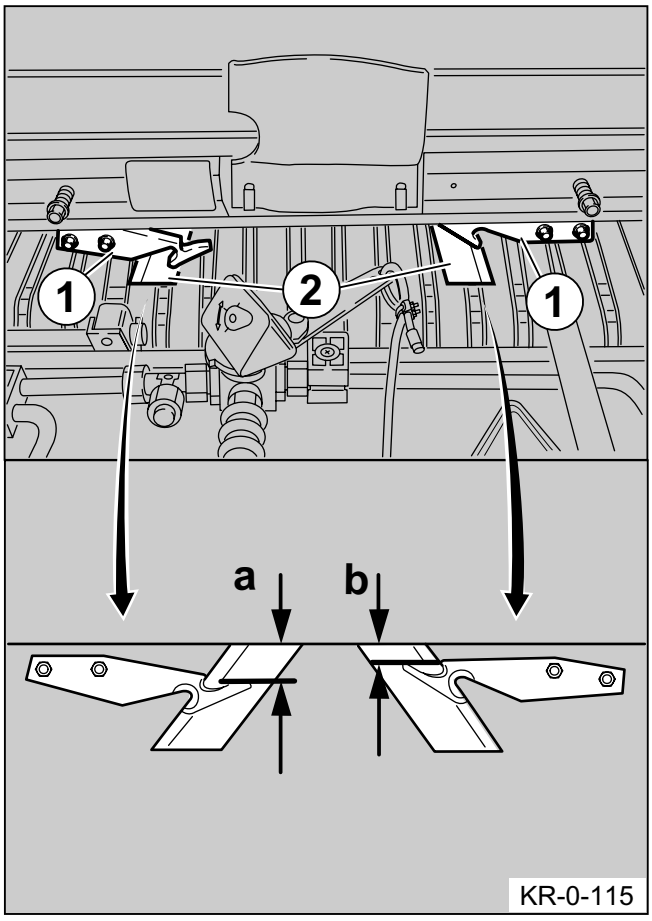
Baling material length	Position between the twine limiters
long medium short	wide medium narrow



Feeder aids

Particular care should be taken when setting the blades. The blades are very sharp. There is a great risk of injury.

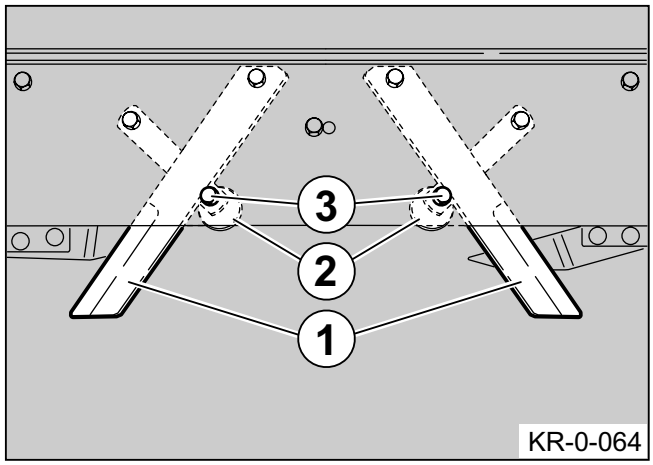
The twine hooks (1) should be set at the distances given in the opposite diagram **a = 38 mm** and **b = 20 mm.**



Blade stop

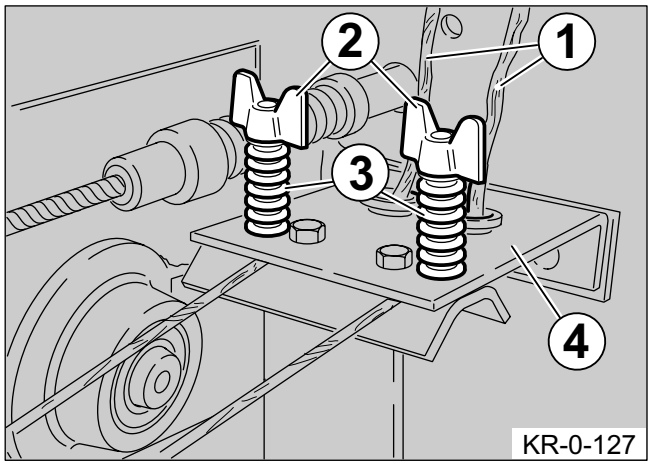
Particular care is recommended when adjusting the blade stop. The blades are very sharp. There is a great danger of injury.

The position of the blades (1) on the twin twine guide can be changed by turning the eccentric plates (2) at the rear of the twine wrapping system. Unfasten the nuts (3) to do this. Move the eccentric plate to the required position and retighten the nuts.
If the binding twine is not cut simultaneously despite sharp blades, the blade cutting the twine later should be positioned further outwards with the eccentric.



5.7 Twine tensioner

The twine tensioner (4) ensures that the binding twine (1) is taut when being fed in. It is set by turning the wing nuts (2). The tension on the binding twine is increased or reduced on the tension springs (3). The setting depends on the binding twine used and, of course, on the quality of binding twine.

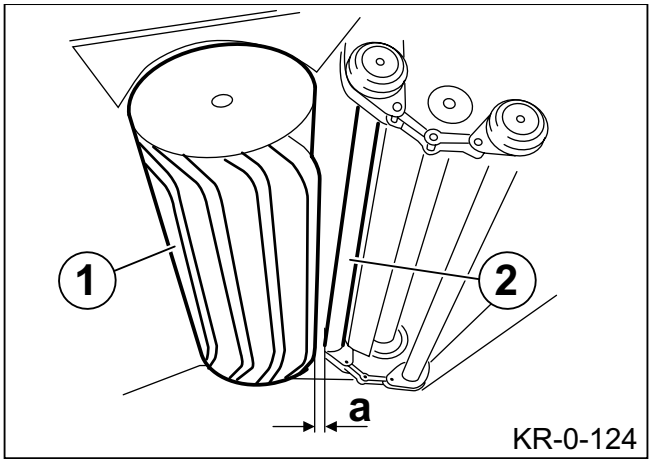


The binding twine should be kept taut to ensure that the blades cut correctly.

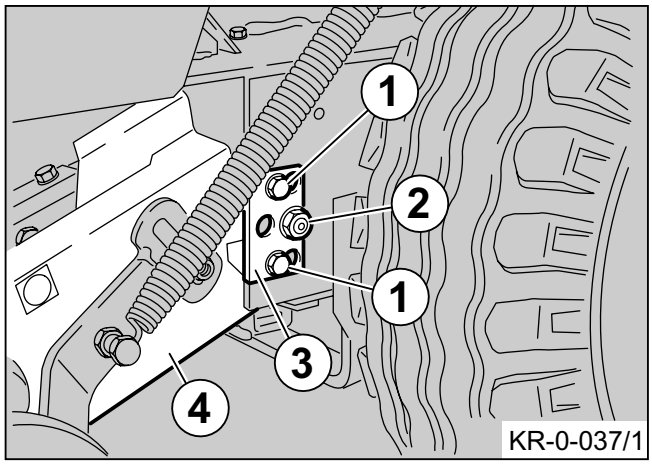
5.8 Distance from roller to floor conveyor

Adjustment work on the roller should be carried out only when the bale chamber is open. Secure the tailgate against unintentional lowering. Close the shut-off tap on the left-hand hydraulic cylinder on the tailgate.

The distance between the roller (1) and the floor conveyor chain (2) should be greater than **a = 20 mm.** If this measurement is smaller, the roller should be re-adjusted.

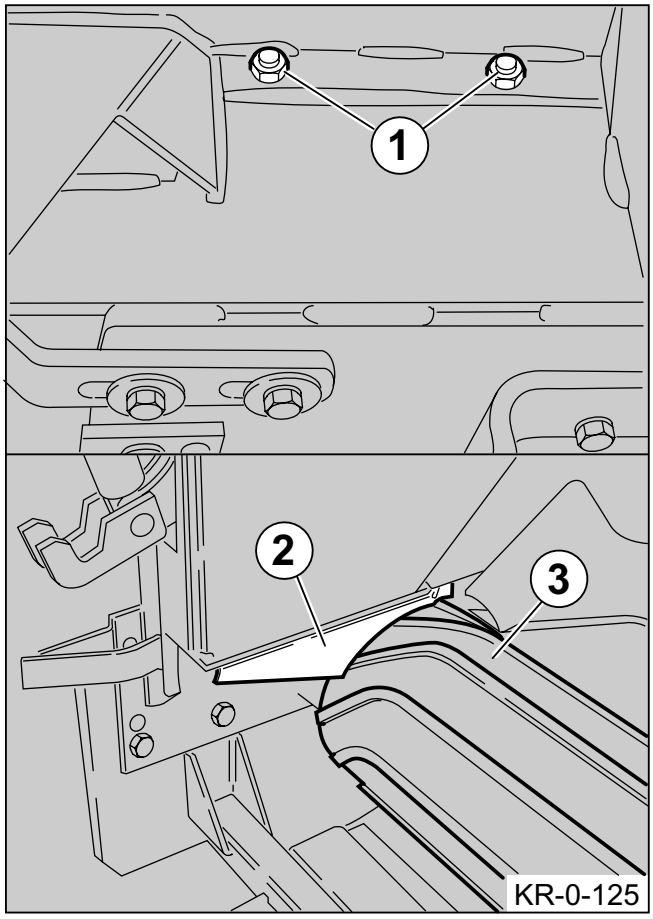


To adjust the distance of the roller to the floor conveyor, unfasten and remove the nuts (2) on the right and left-hand sides of the round baler near the pick-up (4). Remove the screws (1) and move or turn the plate with holes (3) until the optimal distance between the roller and the floor conveyor is set. Refasten the screws and tighten together with the nuts.



Make sure that the left and right-hand sides of the machine are set evenly so that the roller does not become bent. If the roller is set unevenly, this can lead to the bearings becoming damaged.

If the distance between the roller (3) and the floor conveyor is corrected, the distances between the guide plates (2) to the roller on the right and left-hand sides inside the bale chamber should also need resetting. To adjust, unfasten the screws (1) on the left and right-hand outer sides of the round baler. Adjust the guide plates inside the bale chamber and refasten the screws.



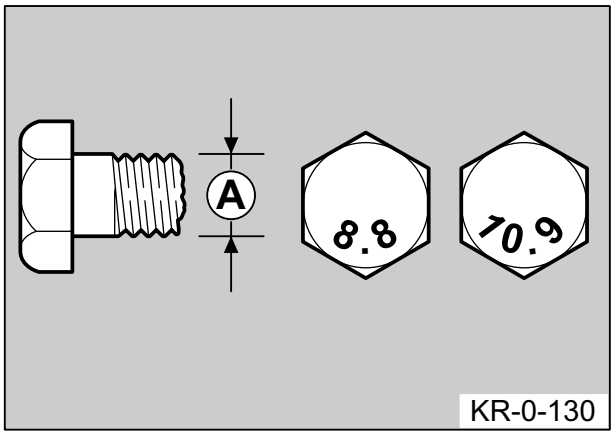
6 Service and maintenance

6.1 Special safety notes

- **Repair, service, maintenance and cleaning work may only be carried out when the machine is at a standstill. Switch off the tractor engine and remove the ignition key.**
- **Secure the round baler and tractor against rolling away.**
- **When the tailgate is open, secure it against lowering by repositioning the shut-off tap.**
- **All protective guards and protective devices should be correctly fitted after service and maintenance work has been completed.**
- **Avoid oil or grease coming into contact with the skin.**
- **For injuries caused by escaping oil, fetch a doctor immediately.**
- **Follow all other safety notes tofor the prevent injuries and accidents.**

6.2 General

Certain service and maintenance intervals must be observed to ensure the correct operation of the round baler and to reduce wear and tear. These include cleaning, lubrication, greasing and oiling of units and components.



A = thread size
(Bolt grade is marked on the head)

Torque moment $\mathbf{M_A}$ (unless otherwise stated).

A Ø	5.6	6.8	8.8	10.9	12.9
	M_A (Nm)				
M 4	~	2,2	3,0	4,4	5,1
M 5	~	4,5	5,9	8,7	10
M 6	~	7,6	10	15	18
M 8	~	18	25	36	43
M 10	29	37	49	72	84
M 12	42	64	85	125	145
M 14	~	100	135	200	235
M 14x1,5	~	~	145	215	255
M 16	~	160	210	310	365
M 16x1,5			225	330	390
M 20		~	425	610	710
M 24		~	730	1050	1220
M 24x1,5	350				
M 24x2			800	1150	1350
M 27			1100	1550	1800
M 27x2			1150	1650	1950
M 30			1450	2100	2450

Regularly check that nuts and screws are tightened correctly (approx. every 50 hours) and retighten if necessary!

Definitions:

Term	Lubricating agent	Place/quantity	Notes
Grease	Multi-purpose grease	Lubrication nipple/approx. two strokes from a grease gun	Remove excess grease from lubrication nipple
Lubricate	Unless otherwise stated, use plant-based oils	Sliding surfaces/apply thinly with brush	Remove old and excess grease
Oil	Unless otherwise stated use plant-based oils	Chains/e.g. pick-up drive, roller drive, etc	Distribute evenly on the chain, do not use mineral oil

The details for the maintenance intervals given are based on an average use of the round baler. For heavy use and extreme working conditions, the time intervals should be shortened.

Maintenance according to the number of round bales made

No. of bales	Machine component	check	adjust	change oil
100 – 150	Check chain tension Floor conveyor drive Pick-up drive	x	x	
500	Distance of roller to floor conveyor chain Check locking hook setting	x	x	
after the first 500	Gearbox			x
2000	Gearbox			x

Maintenance at specific times

Time	Machine component	grease	oil	check	adjust	bleed	retighten
after the first 8 operating hours and after every wheel change	Wheels, wheel nuts						x
after extended standing times	Universal drive shaft, and slip clutch	x	x			x	
after first using	Check chain tension: Floor conveyor drive Pick-up drive			x	x		
	Distance from roller to floor conveyor chain			x	x		
beginning of season (after approx. 5 bales)	Check chain tension: Floor conveyor drive Pick-up drive			x	x		
	Distance from roller to floor conveyor chain		x	x			
	Chain tension for the roller drive			x	x		

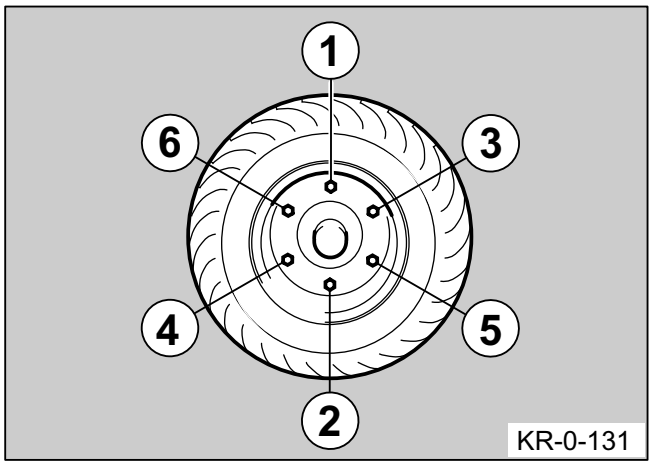
Checking and adjustment procedures

Machine component	check	adjust
Guide sheets on the conveying roller		x
Chain for the wrapping system	x	
Hydraulic starter unit		
Wrapping mode	x	x
Twine binding mode	x	x
Wrapping system		
Drive wheels	x	x
Spring bar	x	x
Adjusting screw for operating lever	x	x
Blade carriers	x	x
Tailgate lock	x	x
Baling pressure indicator	x	x
Latch for the locking hook	x	x

6.3 Tyres

- **Repair work on the tyre equipment may only be carried out by experts with the correct assembly tools.**
- **Bring the round baler to a standstill before commencing assembly work. Switch off the tractor engine. Remove the ignition key.**
- **Position the round baler on secure and level ground. Secure against unintentional rolling away using wheel chocks.**
- **Regularly check that the wheel nuts are firmly secured and retighten if necessary.**
- **Do not stand in front of the tyres when filling with compressed air. The tyres can explode if the pressure is too high. Danger of injury!**
- **Check the air pressure regularly.**

When fastening and tightening the wheel nuts, observe the order given in the diagram opposite. Check the wheel nuts 8 hours after assembly and tighten if necessary. Thereafter, check that they are fixed securely every 50 operating hours.



Tightening torque for wheel nuts

Thread	spanner size mm	number of bolts per hub	max. torque moment	
			black	galvan.
M 12 x 1,5	19	4/5	**95 Nm**	**95 Nm**
M 14 x 1,5	22	5	**125 Nm**	**125 Nm**
M 18 x 1,5	24	6	**290 Nm**	**320 Nm**
M 20 x 1,5	27/30	8	**380 Nm**	**420 Nm**
M 22 x 1,5	32	8/10	**510 Nm**	**560 Nm**
M 22 x 2	32	10	**460 Nm**	**505 Nm**

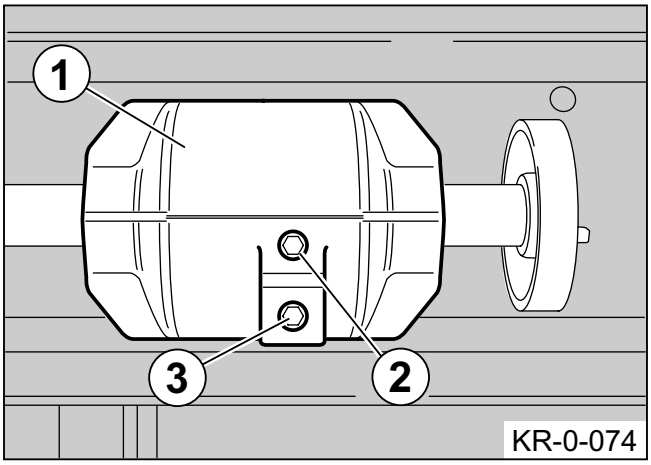
Check the tyre pressure regularly and top up if necessary. The tyre pressure depends on the size of the tyre. The values are given in the following table.

Tyre equipment	Tyre pressure [bar]
10.0 / 75 - 15.3 / 8 PR	4.0
11.5 / 80 - 15.3 / 8 PR	3.5
15 x 6.00 - 6 / 4 PR	2.5

6.4 Main drive gearbox

- **Change the oil only when the round baler is at a standstill.**
- **Switch off the tractor engine and remove the ignition key.**
- **Secure the tractor and round baler from rolling away.**
- **Secure the open tailgate using the shut-off tap.**

The main drive gearbox (1) is located in the front cross carrier of the round baler. When changing the oil or checking the oil level, remove the protective device on the rear of the cross carrier. Move the round baler into a horizontal position. The type and quantity of the gearbox oil is given in the section **"Technical data".**



Checking the oil

Check the gearbox oil after every 500 bales. To do this, turn and pull out the check screw (2). The oil level should reach the check hole.

Changing the oil

The first oil change is made after 500 round bales. Further oil changes should be made after every 2000 round bales. Turn and pull out the level plug and the drain plug. Collect the gearbox oil (approx. 1 litre) in a suitable container. Screw in the drain plug and top up the oil through the check hole until it overflows. Screw in the level plug.

Dispose of old oil in accordance with regulations!

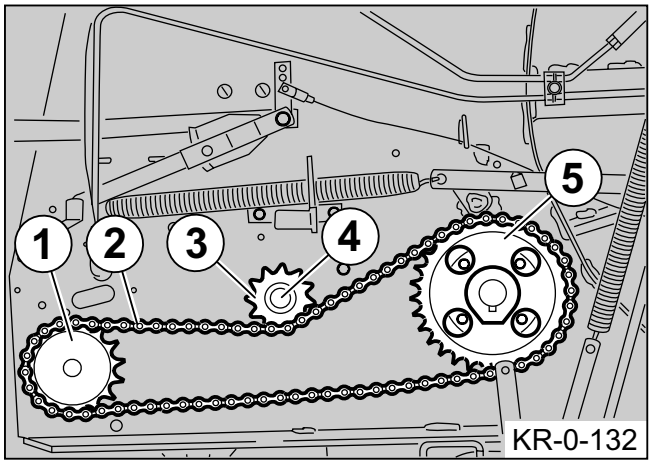
6.5 Drive chains

- **Only oil or tighten the chains when the machine is at a standstill.**
- **The drive chains are fitted with protective devices. After tightening or oiling the chains, the protective devices must be re-fitted.**

For oiling the drive chains use biodegradable oils or vegetable-based oils.

6.5.1 Floor conveyor drive

The floor conveyor drive is located on the left-hand side of the machine. Open the protective flap to access the drive chain (2). The drive chain transfers the torque from the drive chain wheel (1) to the chain wheel (5) in the bottom roller.



Tightening the drive chain

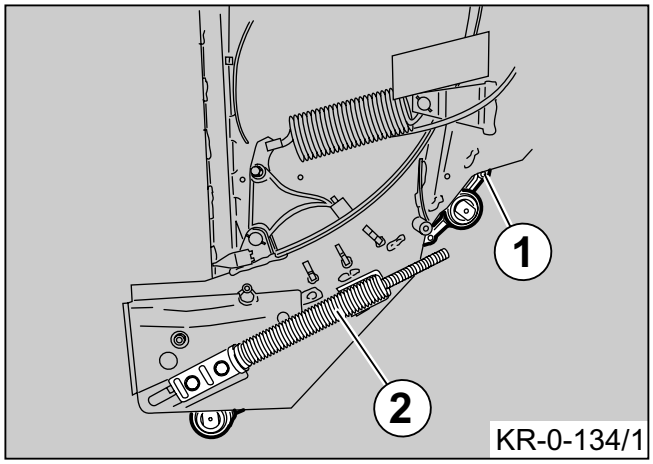
To tighten the drive chain, unfasten the screw (4) and push the chain wheel (3) downwards into the slot until the correct chain tension is attained. Retighten the screws.

Oiling the drive chain

Oil the drive chain with vegetable-based oils at intervals of 24 operating hours.

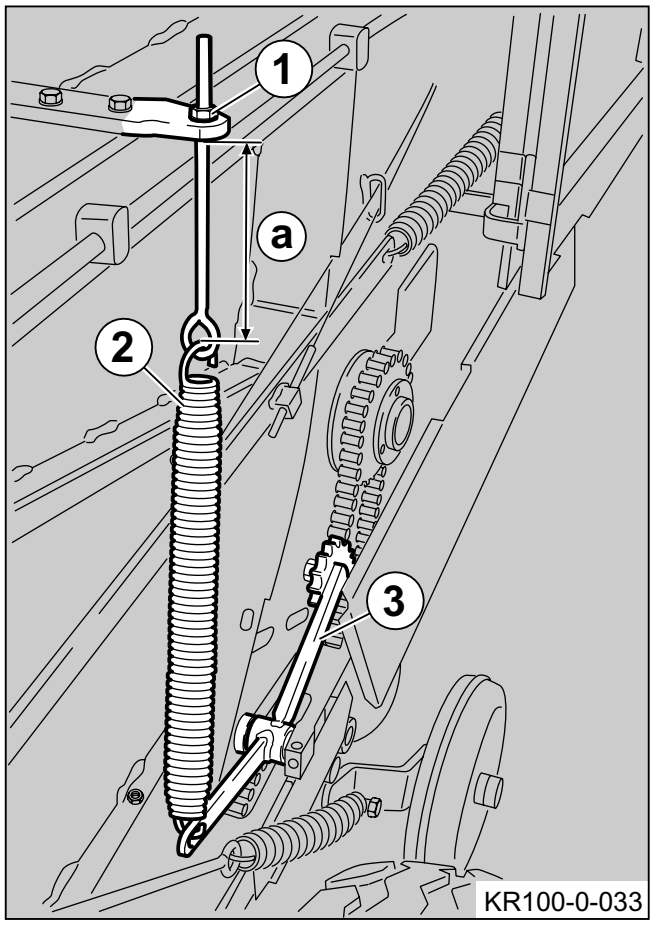
6.5.2 Floor conveyor chain

The floor conveyor chain (1) is kept at the correct tension by an automatic chain tensioner (2). Readjustment is therefore not necessary. If the distance between the floor conveyor chain and the roller decreases to less than **20 mm,** this distance must be corrected by repositioning the roller. A description of the working steps are given in the chapter **"Distance from roller to floor conveyor".**



6.5.3 Roller drive

The rollers are driven on the right-hand side.



Tensioning the drive chain

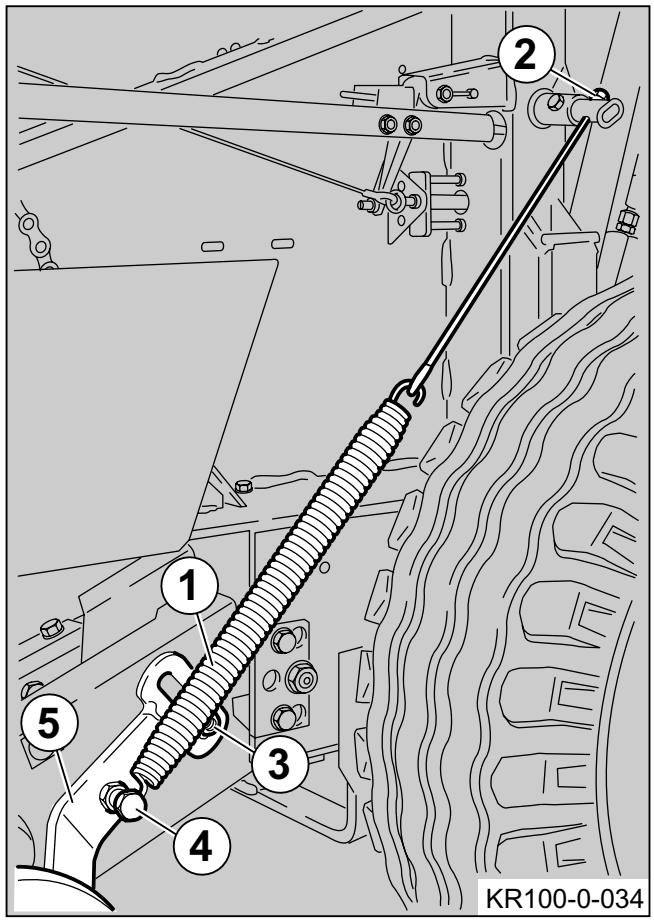
Continuous force is exerted onto the drive chain using the extension spring (2) via the tensioner lever (3) and the chain tensioner wheel. For setting the chain tension, move the locknut (1) until the chain tension required is attained. At normal spring tension, the measurement should be a = 150 mm.

Oiling the drive chain

Oil the drive chain using vegetable-based oils at intervals of 24 operating hours.

6.5.4 Pick-up

Lower the pick-up to the floor. Caution – danger of being crushed!



Drive chain

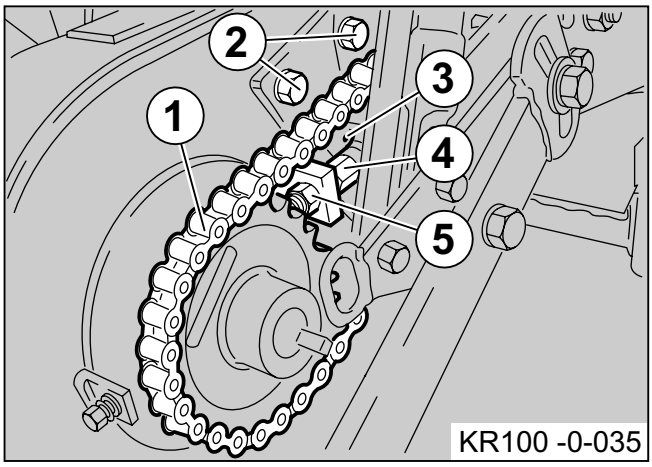
The drive for the pick-up is located on the left-hand side of the machine.

Removing the chain guard

Unfasten the nuts (2) and allow the springs to hang down (1). Unfasten screws (3) and (4) and remove the feeler wheel (5). Remove the chain guard.

Tensioning the drive chain

Unfasten the screws (2) on the left-hand side of the pick-up. There is another screw situated under the mount (3) for the chain tensioner. This screw should also be unfastened. Unfasten the counternut (5). Tension the drive chain (1) on the adjusting screw (4). Retighten the counternut as well as all other screws.



Oiling the drive chain

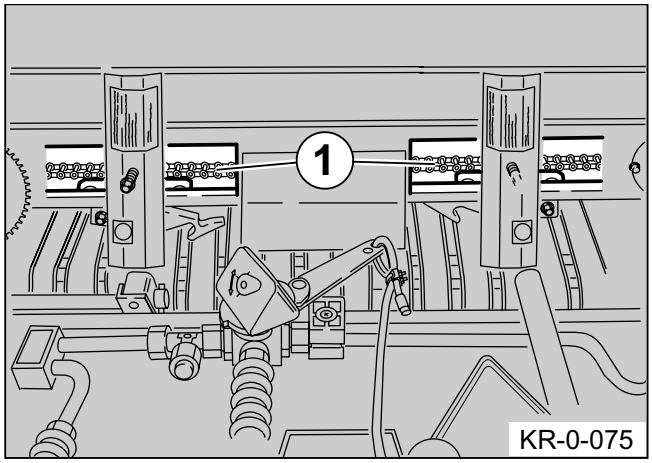
Oil the drive chain using vegetable-based oils at intervals of 24 operating hours.

Assembling the drive cover

When assembling the drive cover, proceed as given for disassembly in the opposite order.

6.5.5 Twin twine guide

The drive chain (1) for the twin twine guide is located in the binding mechanism. It can be accessed from the front by opening the flaps.



Tensioning the drive chain

It is not necessary to tension the drive chain as this is carried out by an automatic chain tensioner.

6.6 Hydraulics

6.6.1 Special safety notes

- **Depressurise the hydraulics unit before work is carried out on it. Serious injuries may be caused by hydraulic liquids being expelled under high pressure. Fetch a doctor immediately in case of injury.**
- **Work on the hydraulics unit, particularly on the accumulators, may only be carried out by experts.**
- **Accumulators must only ever be filled with the correct gas.**

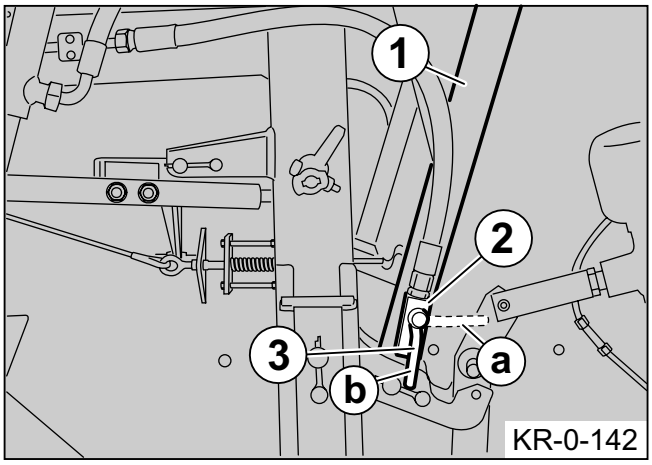
6.6.2 General

The round baler is fitted with various hydraulic function elements:

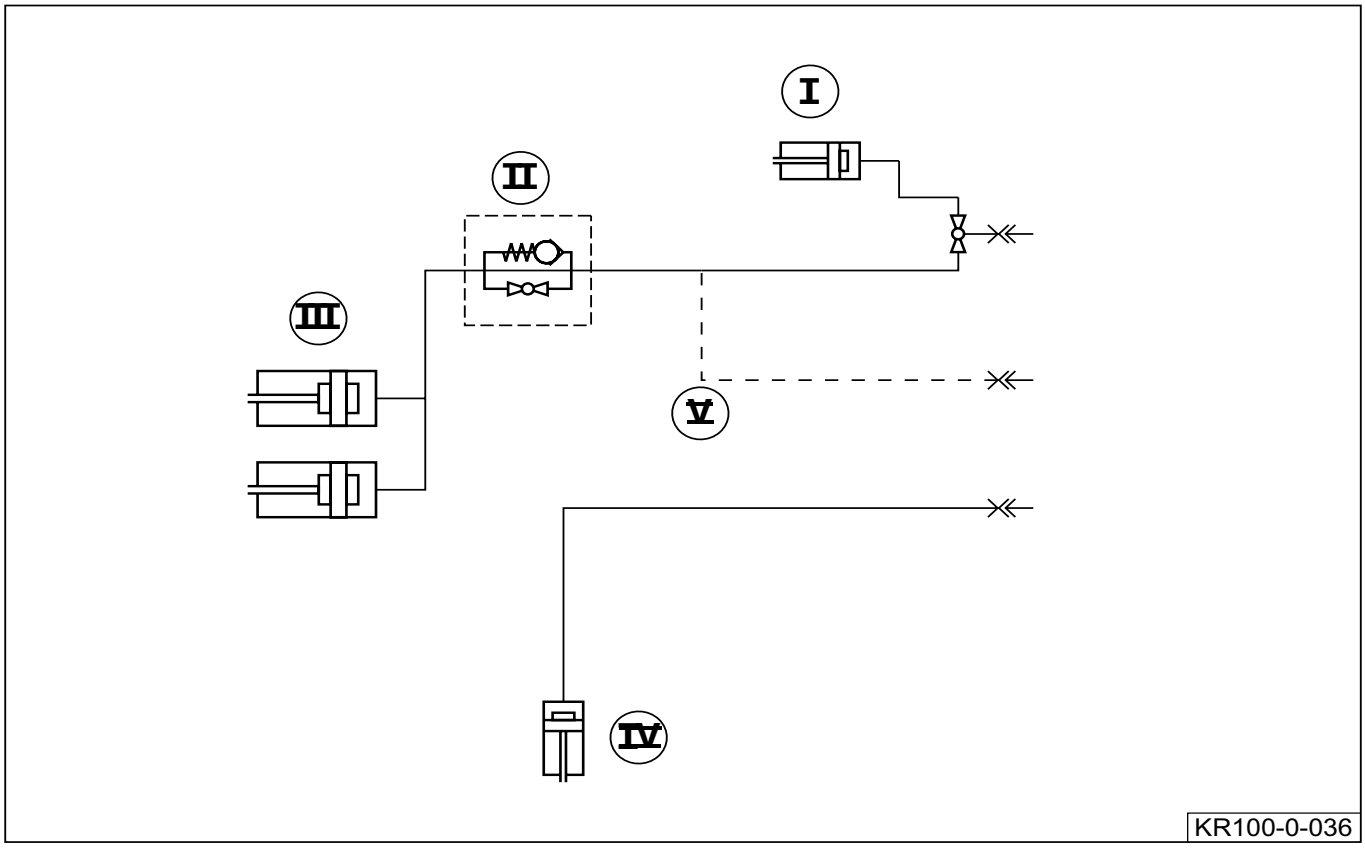
Function element	Connection	Note
Pick-up	one single or double acting control device	Series: switchover on diverter valve Pick-up/tailgate Special equipment: separate pick-up operation
Tailgate	one single or double acting control device	Switchover on diverter valve Pick-up/tailgate
Hydraulic starter unit in the binding and wrapping processes	one single or double acting control device	Special equipment

Shut-off valve on the tailgate

There is a shut-off tap (2) located on the hydraulic cylinder (1) of the tailgate on the left-hand side of the machine. By moving the lever (3) from position **b** to position **a,** the oil flow to the hydraulic cylinder is interrupted. The tailgate is then secured against closing unintentionally.



6.6.3 Hydraulic circuit diagram for the round baler with hydraulic starter system

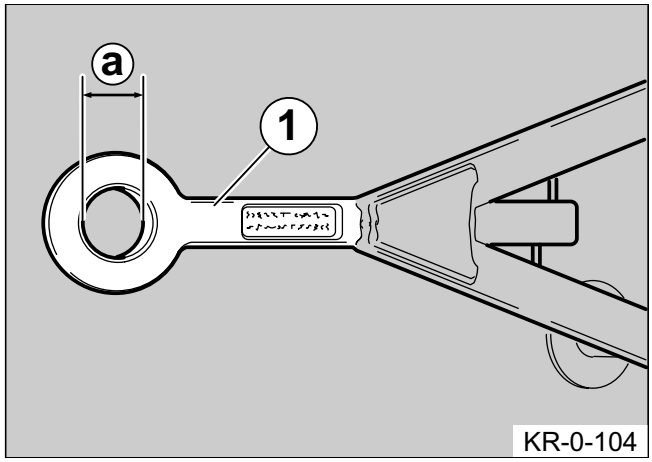


I = Hydraulic cylinder for pick-up
II = Shut-off tap on tailgate
III = Hydraulic cylinder on tailgate
IV = Hydraulic cylinder on starter system (special equipment)
V = Additional connection hose (special equipment)

6.7 Ring hitches on the drawbar

If the wear limit in the ring hitch has been exceeded, it must be replaced. Work on the drawbar, especially welding work, should only be carried out by qualified professionals.

The wear limit for the ring hitch (1) is **a = 43 mm.** If this value is exceeded, it must be replaced. To minimise wear, clean and lubricate the ring hitch every day.

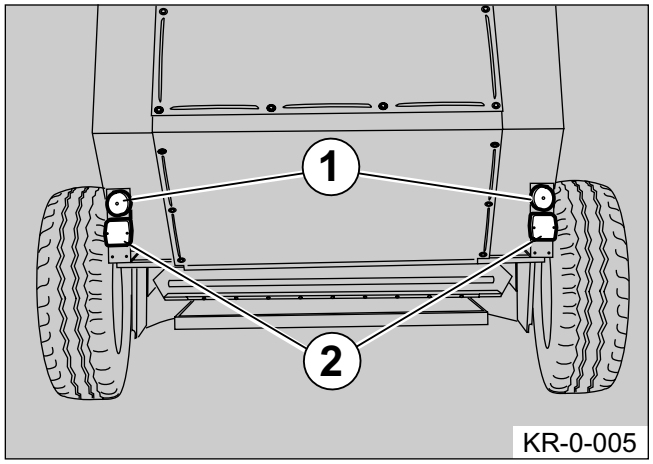


6.8 Electrics

Lighting unit

The electrical connection cable between the tractor and the round baler should be laid in such a way that it cannot come into contact with the tyres.

The lighting unit (2) on the round baler consists of three-unit lamps on the tailgate, round red reflectors (1) on the tailgate and orange cats' eyes on the side protective guards. The connection to the tractor's electrical system is created using a standard 7-pin plug. Additional connection cables are required for the comfort control unit. This is discussed in more detail in the relevant chapters.



7 Lubrication

7.1 Special safety notes

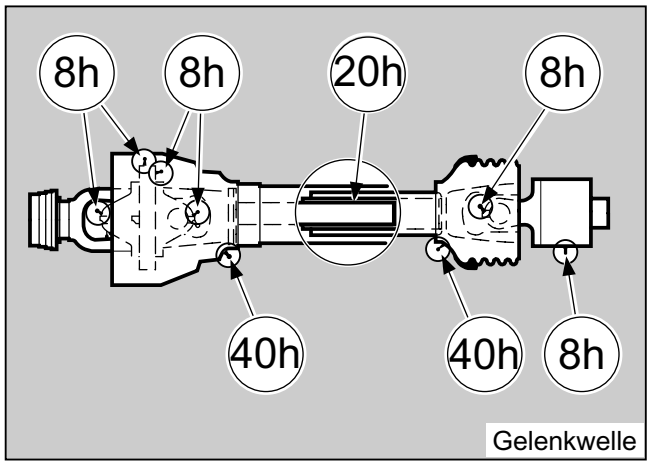
- **Repair, service, maintenance and cleaning work may only be carried out when the machine is at a standstill. Switch off the tractor engine and remove the ignition key.**
- **Secure the round baler and tractor against rolling away.**
- **When the tailgate is open, it should be secured from lowering by repositioning the shut-off tap.**
- **Reassemble all protective guards and protective devices correctly after the service and maintenance work has been completed.**
- **Avoid oil or grease coming into contact with the skin.**
- **For injuries caused by expelled oil, fetch a doctor immediately.**

7.2 General

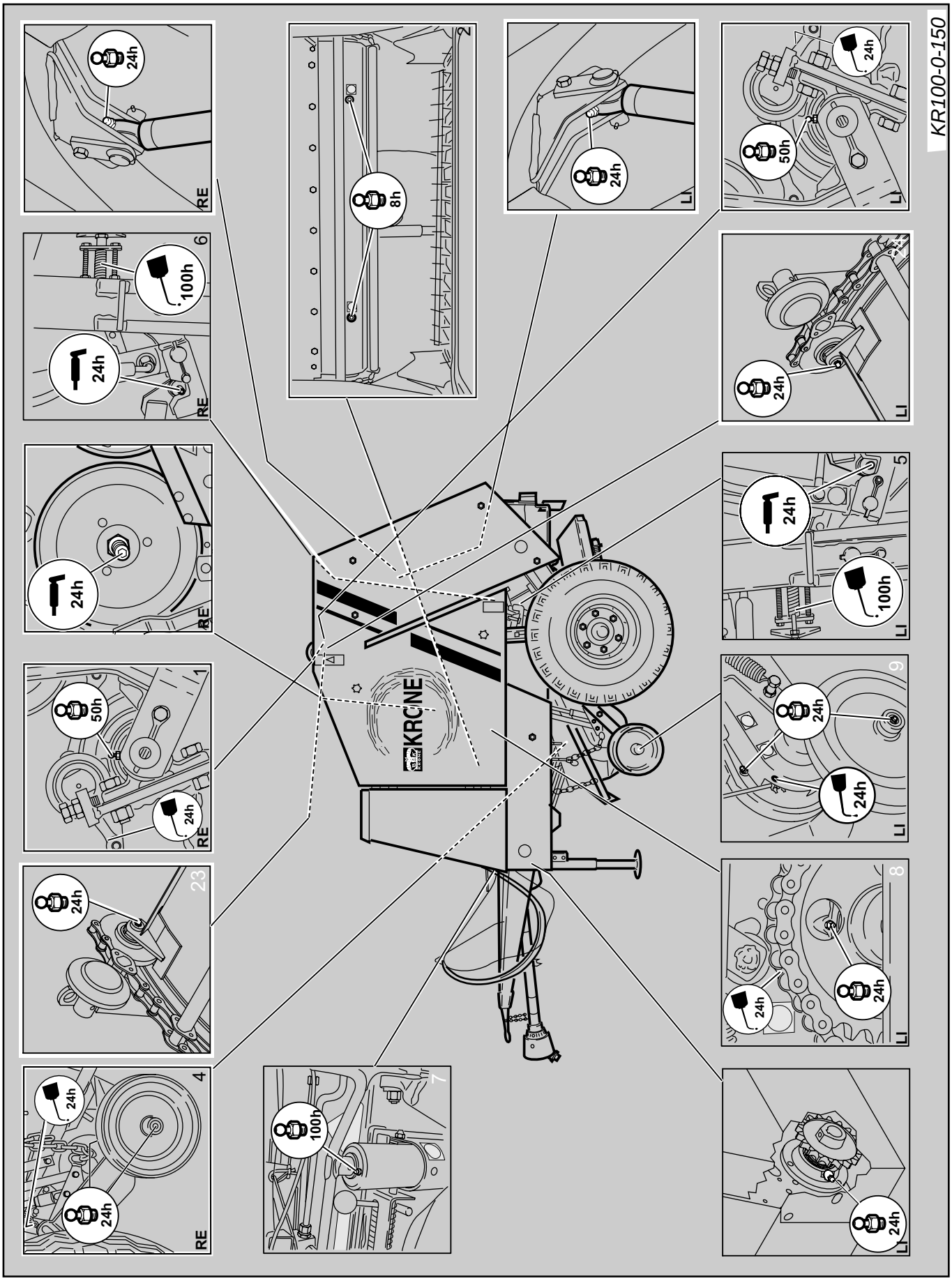
Use multi-purpose grease as lubricants. If a special grease or oil is required, this is given in **"Technical data".**

7.3 Universal drive shaft

The lubrication intervals for the universal drive shaft are given in the diagram opposite. Further information can be found in the operating instructions from the universal drive shaft manufacturer.



7.4 Lubrication points on the round baler



8 Winter storage

8.1 Special safety notes

- **Repair, service, maintenance and cleaning work may only be carried out when the machine is at a standstill. Switch off the tractor engine and remove the ignition key.**
- **Secure the round baler and tractor against rolling away.**
- **When the tailgate is open, secure it against lowering by repositioning the shut-off tap.**
- **All protective guards and protective devices must be reassembled correctly after the service and maintenance work has been completed.**
- **Avoid oil, grease, cleaning agents or solvents coming into contact with the skin.**
- **Fetch a doctor immediately in the case of injuries or irritations caused by oils, cleaning agents or solvents.**
- **Follow all other safety notes for the prevention of injuries and accidents.**

8.2. General

Before storing over the winter, the round baler should be cleaned throughly inside and out. If a high-pressure cleaner is used to do this, do not point the water jet directly at the bearings. Lubricate all grease nipples after cleaning. Do **not** wipe off grease exuding from the bearings. The circle of grease forms additional protection against damp.

Remove the drive chains and wash down with petroleum (do not use any other solvent). Check the wear on the chains and chain wheels at the same time. Cleaned chains should then be oiled, assembled and retensioned.

All moving parts such as deflection rollers, joints, tensioning rollers etc. should be checked for ease of movement. If necessary, they should be replaced. Only use **genuine KRONE spare parts.**

Take apart the universal drive shaft. Grease the inner tube and the protective tube. Grease the cross joint and the bearing rings of the protective tube.

Put the round baler in a dry place, but not near artificial fertilizers.

Repair damage to the paintwork and treat bright areas with rust protection agent.

The round baler should only be jacked up using a suitable vehicle jack. Make sure that the jacked round baler is positioned securely.

Jack up the round baler to take the load off the tyres (when the baler is standing for extended periods of time in the same position, the tyres may become damaged). Protect the tyres against external influences such as oil, grease, sunlight etc.

The repair work required should be carried out in the period directly following the harvest season. Make a list of all spare parts required. This will help your KRONE dealer to process your requirements and you can be sure that your machine will be ready for work in the new season.

9 Putting the baler put into service

9.1 Special safety notes

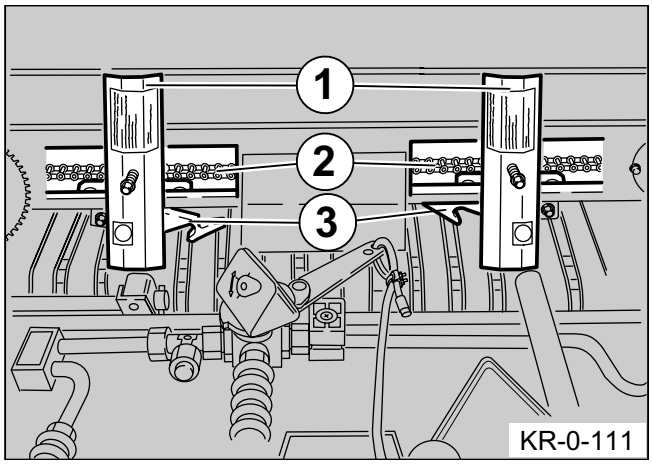
- **The following applies for all maintenance, assembly, repair and setting work – bring the machine to a standstill. Switch off the tractor engine. Remove the ignition key.**
- **Secure the tractor and round baler against rolling away.**
- **When the tailgate is open, secure it against lowering by positioning the shut-off tap.**
- **Avoid oils, grease, cleaning agents and solvents coming into contact with the skin.**
- **Fetch a doctor immediately for injuries or irritations caused by oil, cleaning agents or solvents.**
- **All protective guards and protective devices should be correctly assembled after the service and maintenance work has been completed.**
- **Please also observe all other specific safety notes.**

9.2 General

- Before the baler is put back into service, the binding or wrapping process should be activated and the round baler turned over by hand. Also check the functions of the starter systems of the binding or wrapping process. Ensure that the floor conveyor chain also turns easily at the same time.
- Grease all lubrication points and oil the chains. Wipe off any grease exuding from the lubrication points.
- Check the oil level in the main drive gearbox and top up if necessary.
- Check the hydraulic hoses and connections for leaks and replace if necessary.
- Check the air pressure in the tyres and top up if necessary.
- Check that all screws are fastened securely and retighten if necessary.
- Check all electrical connections and the lighting unit and repair or replace if necessary.
- All settings on the round baler should be checked and corrected if necessary.
- If the round baler is fitted with a comfort control unit, the functioning of the hydraulic accumulator should be checked. To do this, open the tailgate fully, thereby filling the hydraulic accumulator. The binding or wrapping process on the control and indicator device should be activated. If the binding or wrapping process is not started, the hydraulic system should be checked by a workshop.

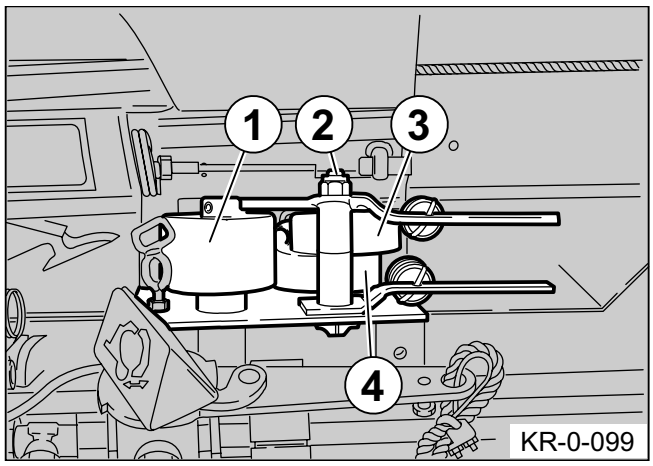
9.3 Checking the twine holder

Before putting the baler back into service and also following extended standing periods, check the functioning of the twine holder and twine hooks (3). To do this, turn the twine holder at least one complete turn on the stepped roller anti-clockwise by hand in the direction of the arrow. If it is difficult to turn, open the cover flaps (1) and remove dirt deposits on the movement path of the twine holder. Oil the drive chains (2).



9.4 Checking the starter rollers

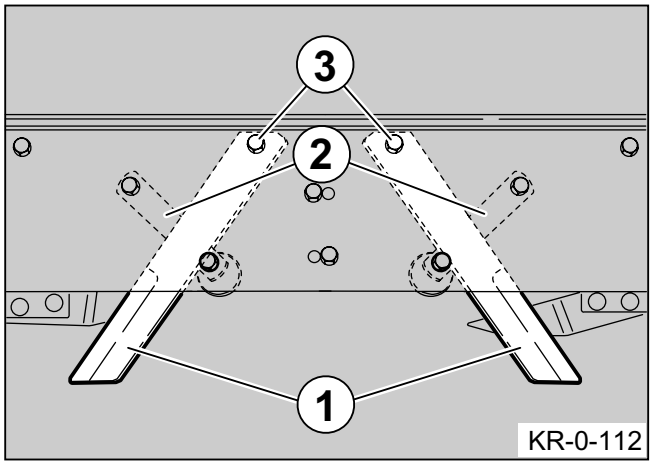
The pressure rollers (3, 4) should turn easily. To check this, turn the drive roller (1). If the pressure rollers will not turn or barely turn, insert a screwdriver between the drive rollers and the pressure roller and move gently from side to side. If necessary, unscrew the screw (2) slightly and oil the bearings.



9.5 Checking the blades

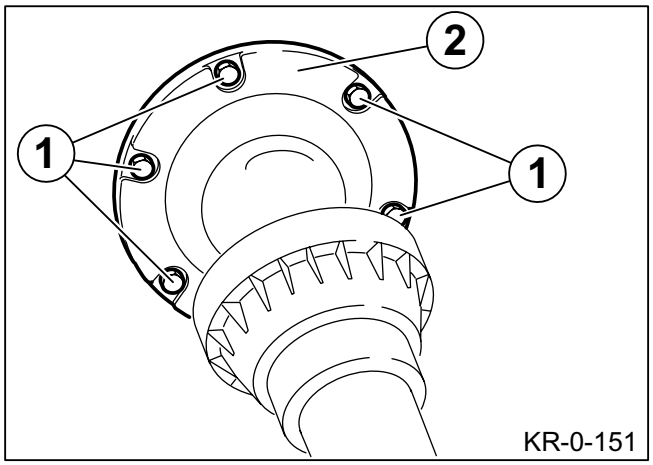
Particular care should be taken when checking the blades. The blades are very sharp. There is a great danger of injury.

The blades (1) must be able to move freely. The blades may be limited in movement by corrosion or hardened grease. Clean the blade guides (2). Unfasten the screws (3). Move the blades back and forth until they move easily again. Then tighten the screw again so that the blade remains easy to move.



9.6 Ventilating the overload coupling on the universal drive shaft

After extended standing periods, the coating on the overload coupling (2) can stick to friction surfaces. Before use, ventilate the overload coupling. To do this, unfasten the eight screws (1) on the overload coupling diagonally and turn the universal drive shaft by hand. Afterwards, retighten the screws in a diagonal sequence.



10 Faults – causes and rectification

10.1 Special safety notes

- **Repair, service, maintenance and cleaning work may only be carried out when the machine is at a standstill. Switch off the tractor engine and remove the ignition key.**
- **Secure the round baler and tractor against rolling away.**
- **When the tailgate is open, secure it against lowering by repositioning the shut-off tap.**
- **All protective guards and protective devices should be assembled correctly after the repair, service and maintenance work has been completed.**
- **Avoid oil or grease coming into contact with the skin.**
- **Fetch a doctor immediately in case of injuries caused by escaping oil.**

10.2 Table of faults, their causes and how to rectify them

Fault	Possible cause	Rectification
Pick-up will not lower	Diverter valve is in the wrong position	Set diverter valve on the pick-up hydraulics
	Compensation springs on the pick-up have been adjusted too strongly	Set the compensation springs so that only the pick-up is relieved of load
	Pick-up bearings barely turn	Oil the bearings
Blockages in the feed area. When blockages occur, stop immediately and switch off the PTO shaft, as damage may otherwise be caused to the floor conveyor bars and the binding system. Remove the blockages.	Swaths of irregular height or size.	Divide the swaths
	Forward speed too great	Reduce the forward speed. Drive more slowly at the beginning of the baling process until the crop picked up rolls into the baling chamber
	Machine is hitched too high at the front	Check the setting of the drawbar and lower machine at the front, if necessary
	Baffle plate is set too low	Raise the position of the baffle plate
Crop is falling out **between the roller and the floor conveyor** chain during the baling process	Distance between the roller and the elevator chain is too great	Reposition the roller to reduce the distance
	The chain is not sufficiently oiled and is reducing in length. This increases the gap between the roller and the elevator chain.	Oil the elevator chain

Fault	Possible cause	Recitification
Floor conveyor chain is hitting the roller. Causes loud noises	Floor conveyor chain has lengthened.	Reposition the roller towards the front.
Floor conveyor chain is becoming shorter.	Chain is dirty and not lubricated.	Clean and oil the chain.
The right-hand **baling pressure indicator** does not quite reach the lower position	Tailgate lock is not properly locked.	Open the tailgate again and close securely.
	Locking hook is not engaging.	Check rod for ease of movement, blow off dirt in the housing, pre-tension extension springs more if necessary.
	The baling pressure indicator set incorrectly.	Check the setting of the baling pressure indicator and reset.
One **baling pressure indicator** does not reach into the upper baling pressure range.	Indicator pin does not extend out fully.	Clear away dirt using an air jet and/or ease the movement of the indicator pin.
	The baling pressure indicator is set incorrectly.	Check the setting of the baling pressure indicator and reset.
With **barrel-shaped bales** the wrapping material is ripped open in the middle.	Baling chamber is filled unevenly.	Change sides when driving over swaths.
	Insufficient number of wraps.	Increase the number of wraps.
Bale is conical-shaped.	Baling chamber is filled only on one side.	Make sure that the chamber is being filled evenly during baling. Drive more slowly at the end of the baling process in particular.
	Driving speed too great at the end of the baling process.	Drive more slowly at the end of the baling process.
	Twine or wrapping material ripped	Only use the appropriate quality of binding or wrapping material.
	Insufficient number of wraps. Binding/ wrapping material comes undone.	Set the twine wrapping system to a narrower wrapping distance and/or increase the number of wraps for the wrapping material.
Bale has varying diameters on the left and right hand sides	Distance between the dowel pin in the locking lever is too great.	Correct the locking lever setting.
	Hydraulic cylinder on the tailgate lock is faulty.	Replace the cylinder.

Fault	Possible cause	Rectification
Twine is not taken up when starting.	O-ring on starter faulty.	Replace the O-ring. The friction wheel must not press against the drive shaft without the O-ring.
	Starter cord on the hydraulic starter system is too long, drive rollers not pressing together at start-up.	Check the cord or the spring setting.
	Pressure rollers on the starter not moving freely enough.	Oil the bearing and/or slightly slacken the screws on the pressure rollers and refasten .
Twine slips off the edges of the bales.	Crop is very dry or crumbly.	Set the twine limiter on the binding system further inwards.
		Drive slowly at the end of the baling process and reroll the bales before binding, without the crop being fed in.
Twine is not being cut at the same time on the twin binding.	Cutting edge on the cut-off blade is not sharp enough.	Sharpen the blades. The cutting device should be free of paint. Readjust the blades on the eccentric.
	Twine tensioner is set too loosely.	
	Pressure rollers on the starter are not moving freely enough.	Oil the bearing and/or slacken the screws on the pressure rollers slightly and refasten.
Twine holder on the twin binding system is not moving with the device.	Chain on the twin binding too loose.	Chain tensioner faulty.
Wrapping material is not transported at start-up.	Wrapping material has the wrong dimensions.	Only use wrapping material with the correct dimensions.
	The actuating wheel on the wrapping system is not pressed against the friction wheel, or the free movement in the actuating wheel is restricted.	Check the setting of the drive wheels and/or make them move more freely.
	The wrapping material rollers are not set correctly in the mounting device and/or the roller brake system is not set correctly.	Insert the roll of wrapping material according to the operating instructions, adjust the roller brake.
	Wrapping material is not set correctly in the wrapping system.	Pull the wrapping material out of the wrapping system and reinsert according to the operating instructions.
	Dirt in front of and on the starter rollers can cause the wrapping to slip off.	After extended use of the twine binding system, remove dirt accumulation in the wrapping system.
Wrapping material rips after the start process or during wrapping process.	The blade carrier has fallen down immediately after the start process.	Repeat start process, and check catch on the spring bar for ease of movement.
	The roller brake is set too tightly.	Check the brake system setting.
	The blade carrier is too low.	Check the blade carrier setting.

Fault	Possible cause	Rectification
Wrapping material is not cut off cleanly.	The locking device is engaged.	Disengage.
	The blade carrier does not come down completely.	With hydraulic starter unit: check the setting of the control cord.
Wrapping material is pulled out towards the front between the starter rollers directly after being cut off.	The PTO speed is too low during the wrapping process.	Let the wrapping process run with a PTO shaft speed of approx. 400 rpm.
Wrapping material is pulled out between the rollers during the baling process.	The extension springs on the blade carrier have become stretched or are ripped off.	Reposition the extension springs on the blade carrier or replace.
Wrapping material does not reach the outer edges of the bale.	Wrapping material is not correctly braked during the wrapping process.	Check the braking system setting.
	Wrapping material has become caught up in the cut-off blades.	Check the cut-off blades setting.
	Starter rollers on the wrapping system are deformed.	Check the wrapping process, replace if necessary.
Tailgate cannot be opened properly.	Hydraulic cylinder is not properly sealed.	Seal the hydraulic cylinder or replace.
The **bale** does not roll out of the bale chamber or does so slowly.	The sides are too tightly packed, or the baling pressure is too high.	Narrow the size of the swaths, lower the baling pressure.

Notes

11 Special equipment

11.1 Net and film wrapping system

11.1.1 Special safety notes

- **Before inserting the wrapping material (net or film) into the round baler, switch off the PTO shaft and allow the machine to come to a standstill.**
- **Switch off the tractor engine. Remove the ignition key.**
- **Particularly for round balers with comfort control, ensure that a wrapping process is not activated unintentionally (see chapter Special equipment "Electronic comfort control").**
- **Pay careful attention to the special safety notes given in the individual chapters.**

11.1.2 Wrapping material (net)

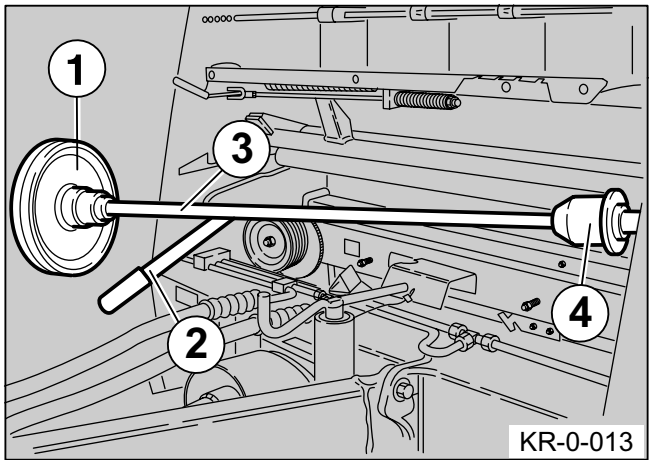
When selecting the wrapping material (net) the specifications given in the section **"1.3 Technical data"** must be observed.

Using high quality wrapping material ensures smooth operation of the wrapping process and safe handling when transporting or using the round bales. We recommend using the wrapping material supplied by ourselves.

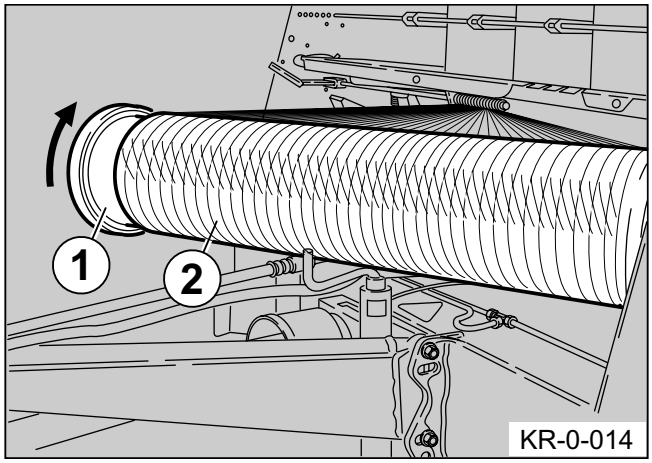
11.1.3 Inserting the net (film) into the wrapping system

Before inserting the net into the wrapping system, the blade carriers must be moved into the top position and secured by inserting the locking pawl (right-hand side of the machine, behind the drive wheel on the net wrapping system). There is a great danger of injury!

The locating bar for holding the rolls of net (3) is under the twine box. To unlock the bar, lift the lever (2). Pull out the brake plate (1). Make sure that the cardboard tube is pushed onto the roll holder (4).

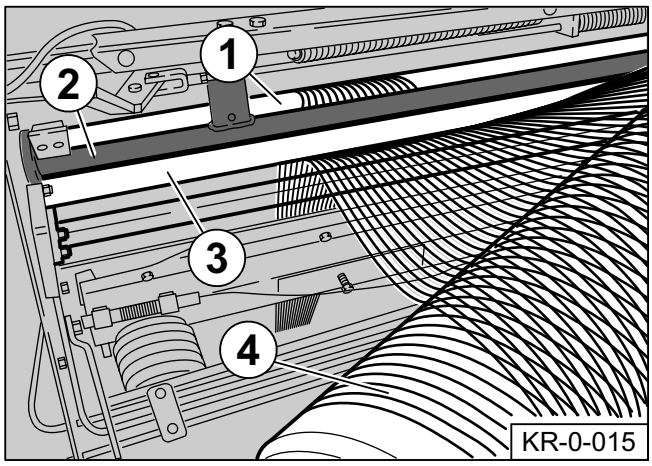


Push on the roll of net (2) in such a way that the net can be rolled from above. Push up the brake plate (1) in an anti-clockwise direction. Make sure that the notched springs on the brake drum reach into the cardboard roll. The roll of net must be positioned exactly in the middle of the machine. The roll of net can be moved to the side when assembled using a lever.

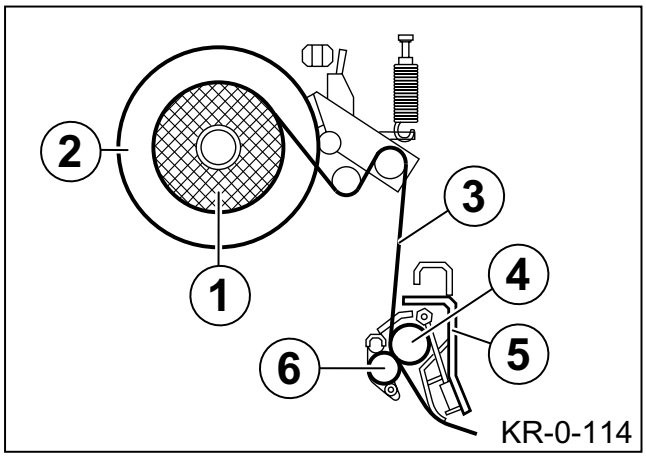


Insert the roll of net so that the net can be pulled out from above.

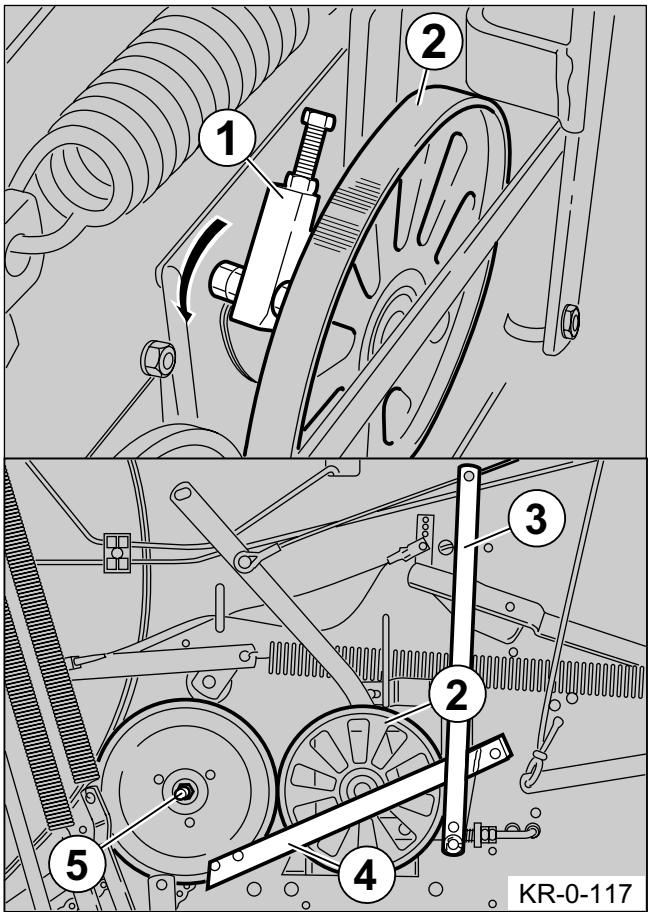
Gather up the net at the end (4). Insert the gathered end under the pipe (3) and over the pipe (1) into the wrapping system (2).



The schematic diagram opposite shows the roll of net (1), the brake drum (2), and the progress of the net (3) which must be observed when inserting the net into the binding system (5). Insert the net between the rubber-coated drive roller (4) and the aluminium roller (5) of the wrapping system. Turn the drive wheel of the wrapping system on the right-hand side of the machine clockwise until the net is visible **approx. 100 mm** under the wrapping system.



After inserting the net into the wrapping system, move back the locking pawl (1) behind the drive wheel (2) (see direction of arrow). Remove the spring bar (4) by pulling the lever (3) away from the adjusting screw (5) and moving it to the position shown.

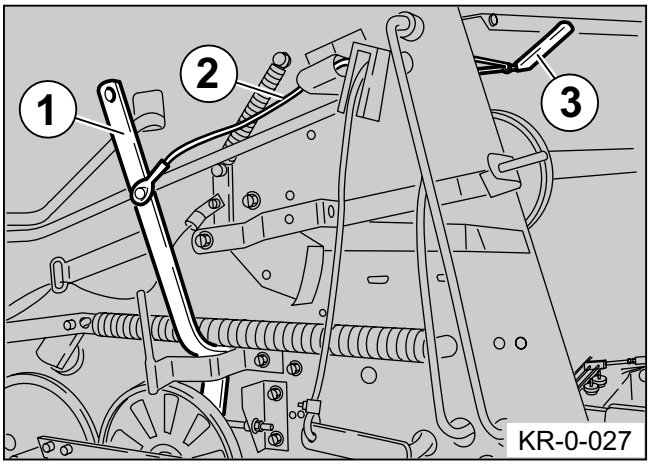


All steps described for “Inserting the net” also apply to using film as a wrapping material.

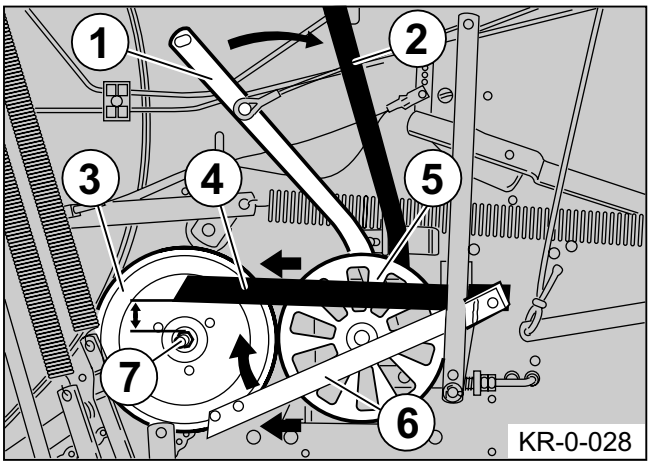
11.1.4 The wrapping process with the net wrapping system

The round baler can also be fitted with a twine wrapping system as well as a net wrapping system. Note that only one wrapping system can be started at a time. For this reason, either the synthetic cord or the steel cable may be attached to the actuating lever.

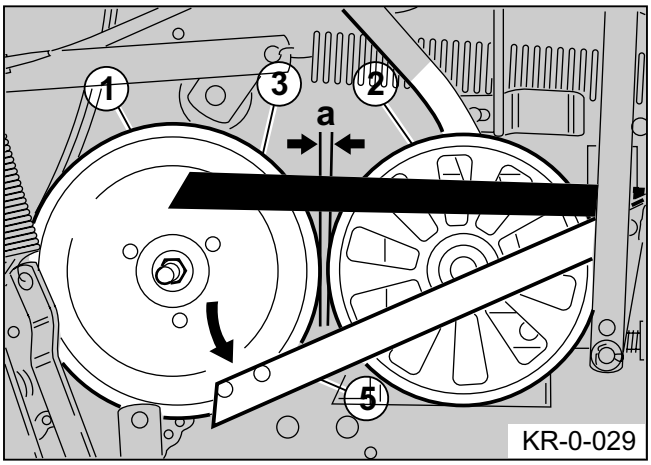
For operating the net wrapping system, attach the steel cable (2) to the lever (3), which is controlled by the starter unit hydraulic cylinder. The hydraulic starter unit is therefore coupled to the operating lever (1) on the right-hand side of the machine. One of the functions of the operating lever is to lift the cutter blades at the start of the wrapping process.



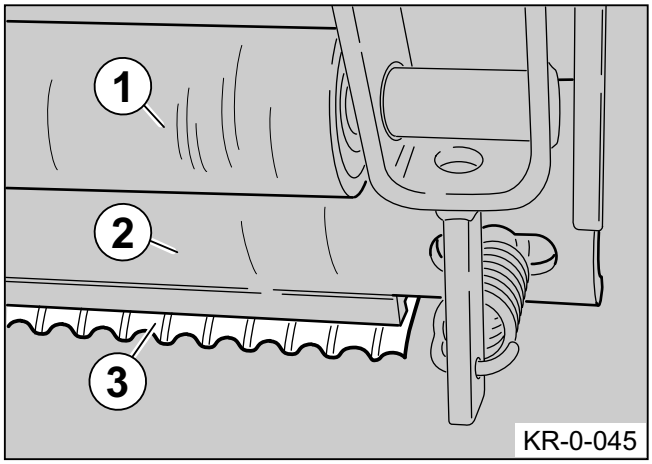
When activating the starting process, the operating lever (1) is moved into position (2). The spring bar (6) moves to position (4), a few centimetres above the thread (7). At the same time, the net roll brake is released (right-hand side under the twine box), so that the net can be inserted more easily at the start of the wrapping process. Via the operating lever (1) the actuating wheel (5) is moved in the direction of the arrow and pressed against the friction wheel (3). This operates the wrapping process, the net is laid on the crop and drawn into the bale chamber. As soon as the starting process has been completed, the actuating wheel moves back into the initial position. The brake on the net roll is re-engaged. The spring bar moves down and rests on the thread (7).



The actuating wheel (2) can be moved freely after the starting process has been completed. The friction wheel (1) turns further. The spring bar (3) is resting on the thread (4) and is pushed outwards by the turning of the friction wheel. It falls into position (5) from the end of the thread (see direction of arrow). This releases the cutting blade. It falls downwards and cuts the net.



The cutting blade (3) is only accessible and visible from below. It is screwed onto the wrapping system (2) underneath the aluminium roller (1) with the blade mount by hex screws.

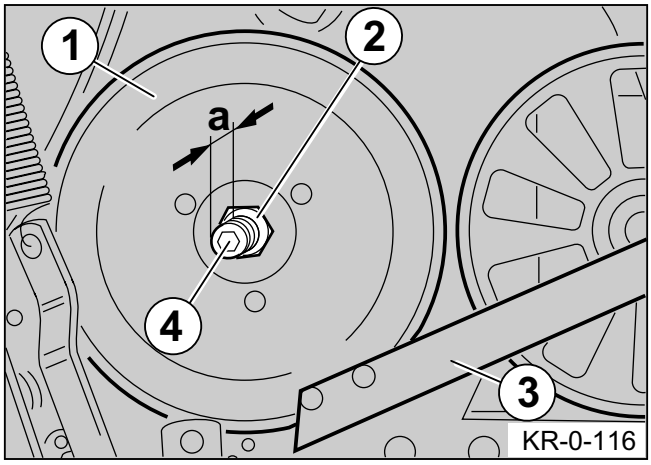


11.1.5 Selecting the number of bale wraps

- **For servicing, maintenance or repair work on the round baler, make sure that the PTO shaft is completely deactivated. Bring the machine to a standstill.**
- **Switch off the tractor engine. Remove the ignition key.**
- **Secure the tractor and the round baler against rolling away unintentionally.**

The adjusting screw for setting the number of bale wraps has a left-handed thread!

The number of times the bales are wrapped can be set on the right-hand side of the machine on the thread (4) on the friction wheel shaft (1). For setting, the spring bar (3) must be in the lower position. Insert an Allen key into the adjusting screw (4) and unfasten the locknut (2) **(caution – left-hand thread)**. The Allen key can be used to turn the adjusting screw in either direction for setting. The further the screw is turned, the more often the round bales are wrapped. Retighten the locknut securely after adjustment.

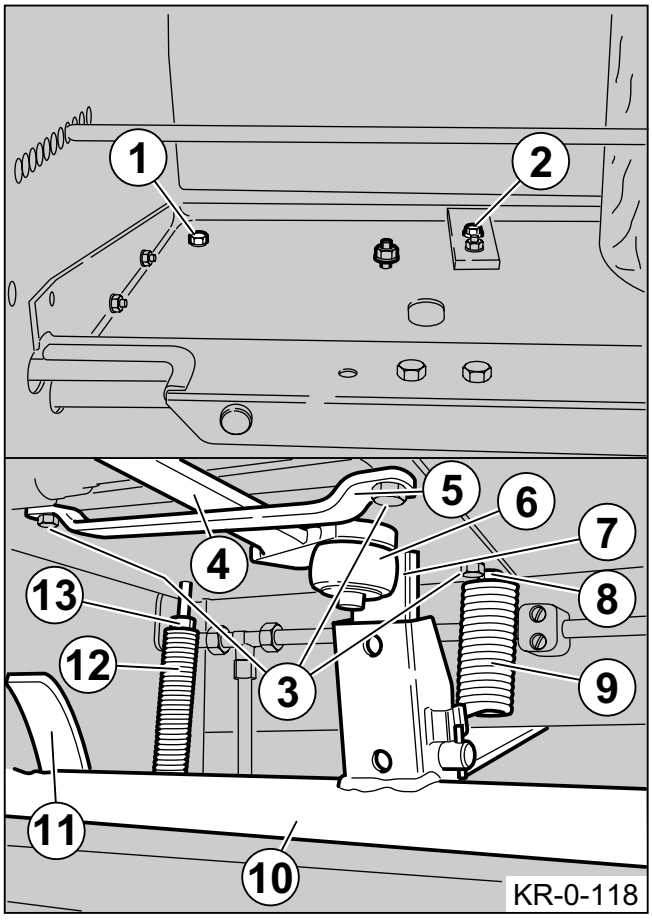


Distance “a” [mm]		Number of wraps
KR 125	KR 155	
12	15	1
24	30	2
36	45	3

11.1.6 Adjusting the net brake

If the wrapping material is not separated cleanly, the brake setting should be checked and corrected if necessary. The main brake spring (9) is fully released during the start process. In this case, the brake (11) is now only activated by the idling brake spring (12). The idling brake spring must be adjusted so that the wrapping material can be pulled out correctly, but is not held taut. The main brake spring must be adjusted so that the wrapping material is cut cleanly and the roll of the wrapping material can be turned by hand. To set the spring tension, release the relevant locknuts (8) and (13) and correct on the adjusting screws (1) and (2). Retighten the locknuts after adjustment.

To adjust the timing for the release of the main brake spring, move the hand lever (4) to the centre of the guide (5). In this position, the roll (6) should lie on the bellcrank (7), which is connected to the brake above the shaft (10). Unfasten the nuts (3) and move the plate into the slots. Retighten the nuts.

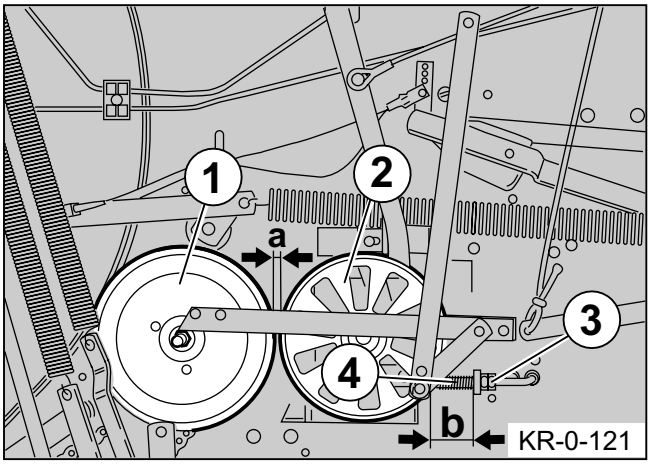


11.1.7 Wrapping system settings

Before performing any adjustment work on the wrapping system, the blade carrier must be moved to the top position and secured by inserting the locking pawl (right-hand side of the machine behind the net wrapping system drive wheel). There is a great danger of injury!

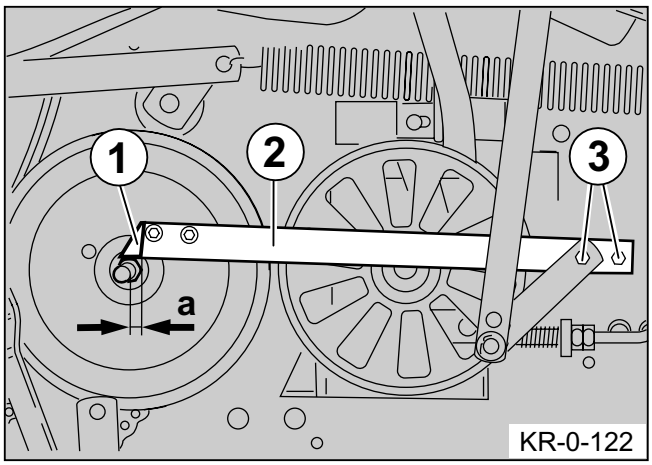
Distance between the actuating wheel and the friction wheel

The distance between the actuating wheel (1) and the friction wheel (2) should be **a = 1 mm.** Adjustment is carried out on the adjusting nuts (3). To adjust, unfasten the adjusting nuts which are fixed with lock nuts. Set the distance and refasten the locknuts. The compression spring (4) should be set to a measurement of **b = 25 – 35 mm** for this process.



Distance from the spring bar to the adjusting screw

There is a fold-up point (1) at the end of the spring bar (2) which is screwed onto the the spring bar so that is can still move. The distance from the spring bar to the adjusting screws should be **a = 2 – 3 mm.** To adjust, unfasten the screws (3) and reposition the spring bar. Retighten the screws after adjustment.



Basic blade setting

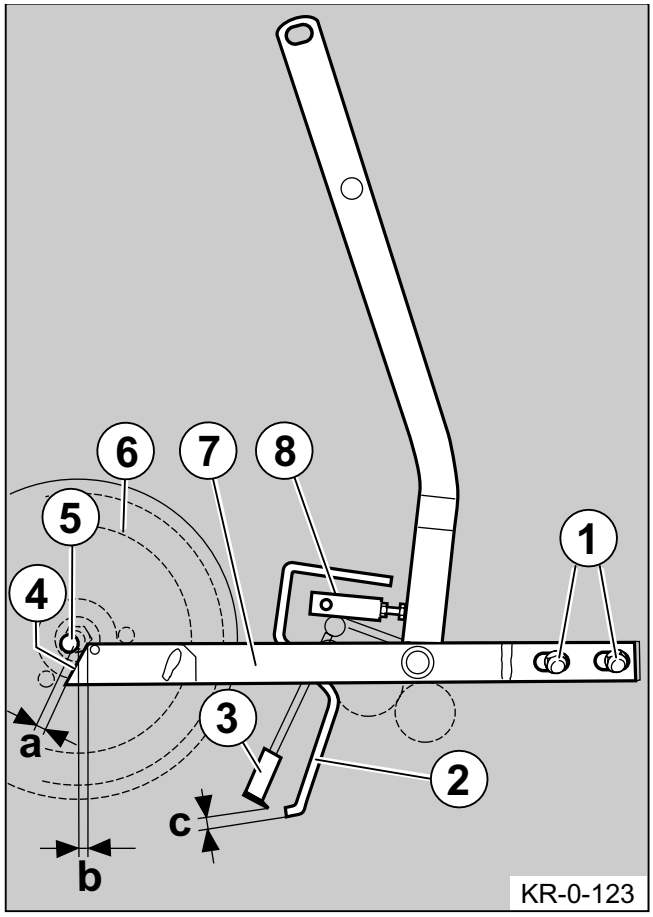
- **The blade setting is checked and corrected when the bale chamber is open. Secure the tailgate against unintentional lowering. To do this, move the hydraulic shut-off tap on the left-hand tailgate hydraulic cylinder into the locked position.**
- **There is a danger of being crushed when lowering the pick-up.**

The checks and adjustment work described below are performed when the bale chamber is open and the pick-up lowered.

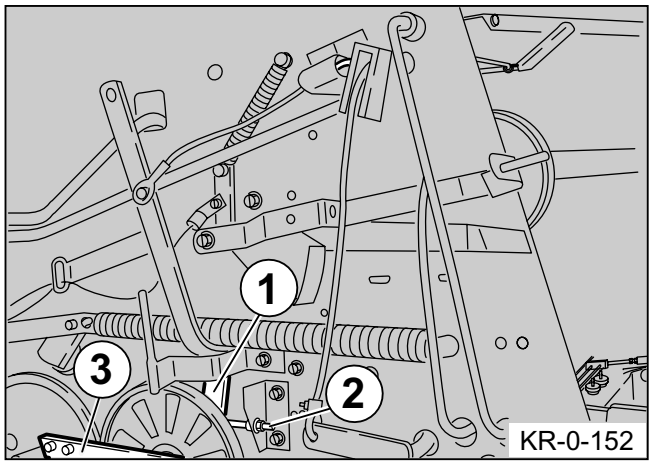
a) Insert the locking pawl (8). The blade (3) should now have a distance of **c = 2 - 5 mm** from the cutting edge (2). The adjustment is carried out on the adjusting screw (9) on the locking pawl. To adjust, unfasten the locknut and turn the screw accordingly. Retighten the locknut.

b) The setting of the slightly lowered spring bar (7) to the adjusting screw (5) in the drive wheel shaft (6) should be checked at two points.

Measurement a: The distance of the incline at the top of the spring bar should be **a = 1 mm.**
Measurement b: The distance of the straight edge to the spring bar to the adjusting screw should be **b = 2 – 3 mm.**
To adjust the distance, unfasten the screws (1) and move the spring bar. After adjustment, retighten the screws.



After the adjustment work has been completed, place the spring bar (3) on the adjusting screw. The head of the adjusting screw (2) should be resting on the operating lever (1). Check the blade setting and correct as described above, if necessary.



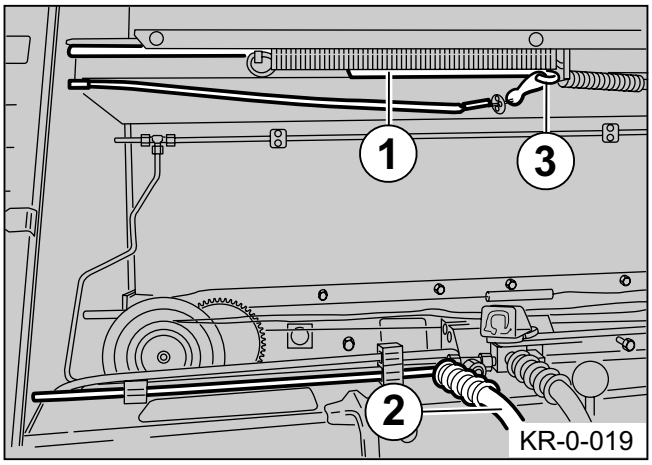
11.2 Hydraulic starter system

11.2.1 General safety notes

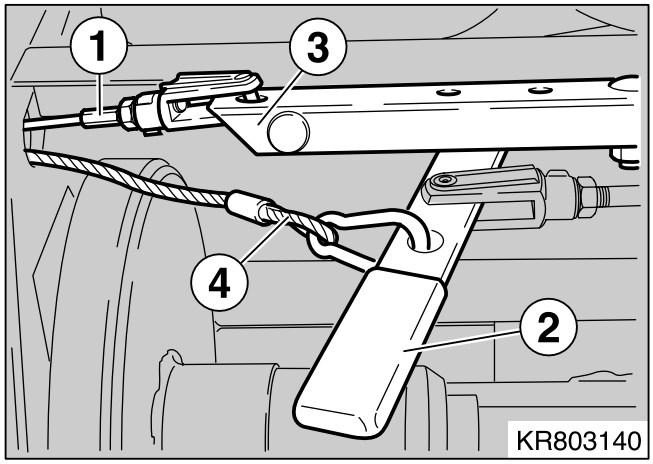
- **For servicing, maintenance or repair work on the round baler, make sure that the PTO shaft is completely switched off. Bring the machine to a standstill.**
- **Switch off the tractor engine. Remove the ignition key.**
- **Secure the tractor and round baler against rolling away unintentionally.**
- **Work on the hydraulic system must only be carried out by trained professionals.**

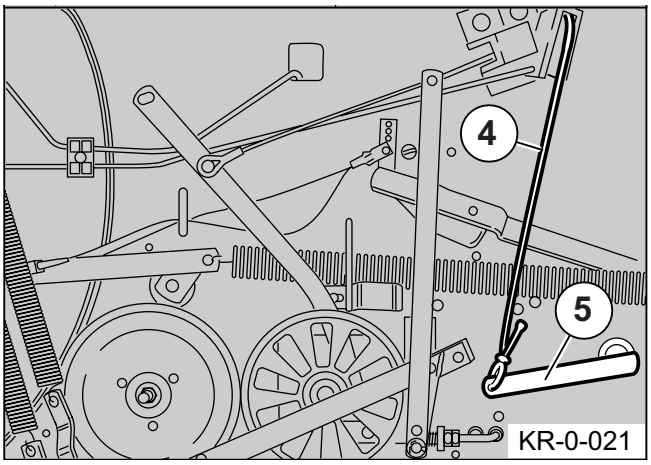
11.2.2 The hydraulic starter system

An hydraulic starter system is available for starting the binding processs as an accessory for round balers without a net wrapping system. The start process is intiated by activating a control valve on the tractor. Via a high-pressure hose (2) and hydraulic cylinder (1) which initiates the start process. The control valve must remain activated until the binding twine from the round bale reaches the bale chamber. The actuating cord (synthetic cord) for the twine binding system is attached in position **“3”.**



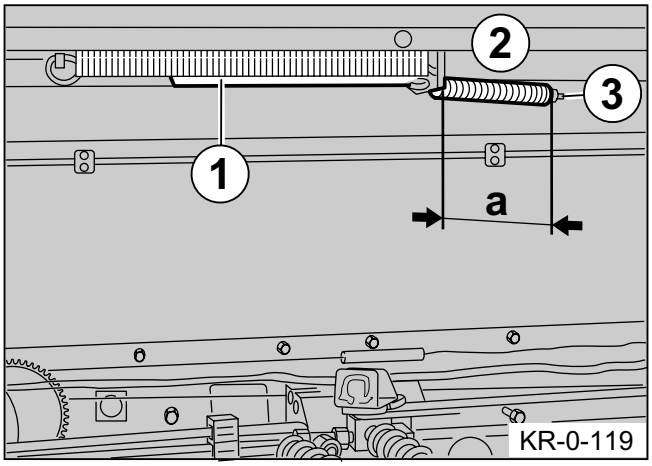
Round balers with an additional net wrapping system are usually delivered with an hydraulic starter system. The synthetic cord (4) must be attached to the lever (2) using a carabiner hook (detach the steel cord (1) and fixed to the twine box (3)) so that the starter mechanism for twine binding can be actuated. The lever (2) is controlled by the hydraulic cylinder which activates the starter system via the cord (4) and the lever (5) to insert the binding twine. The same applies to the net wrapping system. In this case, the steel cable (1) is attached which is used to start the net wrapping system.





11.2.3 Setting the compression springs on the hydraulic start cylinder

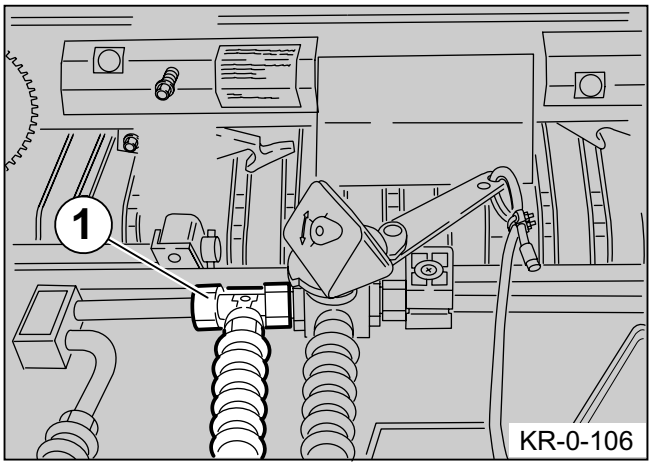
The compression springs (2) on the hydraulic start cylinder (1) should compress down to a measurement of **a = 110 – 120 mm** when the hydraulic cylinder is extended. To adjust, unfasten the locknut (3) and turn the adjusting screw. Retighten the locknuts after adjustment.



11.3 Additional hydraulic hose for activating the pick-up separately

- **For servicing, maintenance or repair work on the round baler, make sure that the PTO shaft is completely switched off. Bring the machine to a standstill.**
- **Switch off the tractor engine. Remove the ignition key.**
- **Secure the tractor and round baler against rolling away unintentionally.**
- **Work on the hydraulic system must only be carried out by trained experts.**
- **Depressurise the system before working on the hydraulics.**

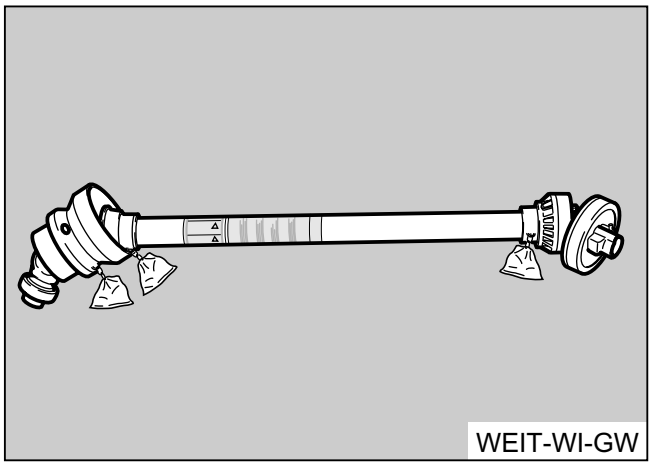
As an accessory, it is also possible to assemble another hydraulic connection (1) for activating the pick-up on its own. An additional, single-acting control valve is required for this on the tractor.



11.4 Wide-angle universal drive shaft

- **Before pushing the wide-angle universal drive shaft onto the PTO shaft on the tractor, switch off the PTO shaft.**
- **Switch off the tractor engine. Remove the ignition key.**
- **Secure the tractor and round baler against rolling away.**
- **Attach the safety chains on the PTO shaft guards.**

For driving round extremely tight corners when the machine is running, the wide-angle universal drive shaft is available as an accessory for the round baler.



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