Operator‘s manual

Translation of the original Operating Manual

Nr. **99+3784.EN.80U.0**

Chassis Nr.

Disc mower

NOVACAT 302 CF

(Type PSM 3786 : + . . 0001**)**

NOVACAT 352 ED/RCB/CF

(Type PSM 3784 : + . . 0291**)**

NOVACAT 402 ED

(Type PSM 3785 : + . . 0001**)**

Pöttinger - Trust creates Affinity - since 1871

"Quality pays for itself." Therefore we apply the highest quality standards to our products which are constantly monitored by our in-house quality management and our management board. Because the safety, perfect function, highest quality and absolute reliability of our machines in operation are the core competencies for which we stand.

There may be deviations between these instructions and the product as we are constantly developing our products. Therefore no claims may be derived from the data, illustrations and descriptions. Please contact your Specialist Service Centre for any binding information about specific features of your machine.

We would ask you to please understand that changes to the scope of supply with regard to form, equipment and technical specifications are possible at any time.

Product liability, information obligation

Product liability obliges manufacturers and dealers to issue operating instructions for the machine at the point of sale and to instruct the customer on the operation, safety and maintenance regulations governing the machine.

Confirmation is required to prove that the machine and the operating instructions have been properly handed over. For this purpose you have received a confirmation e-mail from Pöttinger. If you have not received this mail, please contact your local dealer. Your dealer can fill in the handover declaration online.

For the purposes of product liability law, every farmer is an entrepreneur.

In the terms of product liability law, damage to property is any damage arising due to the machine, but not to the machine, and an excess (500 euros) exists for this liability.

Corporate damage to property within the terms of the product liability law is excluded from this liability.

Be advised! The operating instructions must also be handed over with any subsequent machine sale or transfer and the transferee must be instructed in the regulations stated.

Refer to PÖTPRO for additional information about your machine:

Are you looking for suitable accessories for your machine? No problem! All the information you require is here at your disposal. Scan the QR code on the machine's type plate or look under www.poettinger.at/poetpro

And if we don't have what your looking for, then your Specialist Service Centre is there for you with help and advice.

(EN) INSTRUCTIONS FOR PRODUCT HANDOVER

PÖTTINGER Landtechnik GmbH
Industriegelände 1
4710 Grieskirchen, Austria
Tel. 07248 / 600 -0
Telefax 07248 / 600-2511

According to the product liability please check the above mentioned items.

Please place a cross where appropriate. [X]

- ❑ Machine checked according to delivery note. All attached parts removed. All safety equipment, drive shaft and operating devices at hand.
- ❑ Operation, commissioning and maintenance of the machine or device discussed and explained to the customer on the basis of the operating instructions.
- ❑ Check tyres for correct air pressure.
- ❑ Check wheel nuts for tight fit.
- ❑ Correct PTO shaft speed indicated.
- ❑ Adaptation to the tractor carried out: Three point adjustment
- ❑ Cardan shaft correctly cut to length.
- ❑ Test run carried out and no defects detected.
- ❑ Function explanation during test run.
- ❑ Swivel in transport and working position explained.
- ❑ Information about optional equipment is given.
- ❑ Indication of unconditional reading of the operating instructions.

Confirmation is required to prove that the machine and the operating instructions have been properly handed over. For this purpose you have received a confirmation e-mail from Pöttinger. If you have not received this mail, please contact your local dealer. Your dealer can fill in the hand-over declaration online.

Table of contents

Attention!

Safety hints to observe in supplement!

Introduction

Dear Customer

These Operating Instructions are intended to allow you to familiarise yourself with the implement and provide you with clear information on safe and correct handling, care and maintenance. Thus please take the time to read these Instructions.

These Operating Instructions comprise part of the implement. They are to be kept at a suitable location and accessible to staff over the entire service life of the implement. Instructions based on the national provisions regarding protection against accidents, road traffic and environmental protection are also to be applied additionally.

Any persons commissioned with the operation, maintenance or transport of the implement must read and understand these Instructions, in particular the safety information, prior to starting work. Any warranty claims lapse on non-observance of these Instructions.

In case you have questions related to this operation manual or further questions about this implement, please contact your dealer.

Care and maintenance performed in good time and scrupulously according to the maintenance intervals specified ensure operational and traffic safety as well as the reliability of the implement.

Use only the original spare parts and accessories from Pöttinger or accepted by Pöttinger. For those parts reliability, safety and suitability for Pöttinger machines can be assured. Warranty claims lapse if non-approved parts are used. The use of original parts is also recommended after the warranty period has expired to maintain the performance of the implement in the long term.

Product liability legislation obliges the manufacturer and the authorised dealer to issue Instructions when selling implements and to instruct customers in the use with reference to the safety, operating and maintenance regulations. Confirmation in the form of a declaration of transfer is required to verify that the implement and Instructions have been transferred correctly. The declaration of transfer was attached to the implement on delivery.

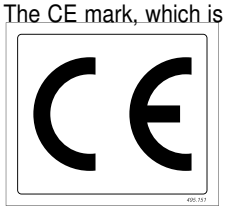
Every self-employed person and farmer is an entrepreneur within the meaning of the product liability legislation. In accordance with the laws of product liability, entrepreneurial property damages are excluded from the liability. All damage to property within the meaning of the product liability legislation is regarded as damage caused by the implement but not to the implement.

These Operating Instructions are integral part of the implement delivery scope. You should therefore hand them over to the new owner if ownership of the implement is transferred. Train and instruct the new owner in the regulations stated.

The Pöttinger Service-Team wishes you good luck.

CE mark

The CE mark, which is affixed by the manufacturer, indicates outwardly that this machine conforms to the engineering guideline regulations and the other relevant EU guidelines.



EU Declaration of Conformity (see Attachment)

By signing the EU Declaration of Conformity, the manufacturer declares that the machine that is brought into service complies with all relevant fundamental safety and health requirements.

Safety hints:

These Operating Instructions contain the following Figures:

DANGER

If you do not follow the instructions in a text section with this marking, there is a risk <u>of fatal or life-threatening injury.</u>

- All instructions in such text sections must be followed!

WARNING

If you do not observe the instructions marked this way, there is the risk of a severe injury.

- All instructions in such text sections must be followed!

CAUTION

If you do not observe the instructions marked this way, there is the risk of an injury.

- All instructions in such text sections must be followed!

NOTE

If you do not observe the instructions marked this way, there is the risk of material damage.

- All instructions in such text sections must be followed!

TIP

The text sections marked in this way provide you with special recommendations and advise regarding the economical use of the implement.

ENVIRONMENT

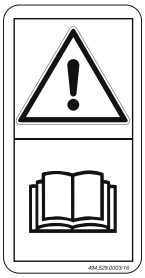
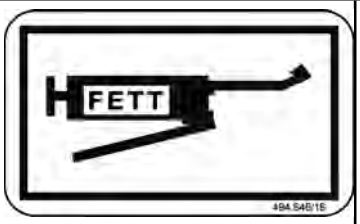
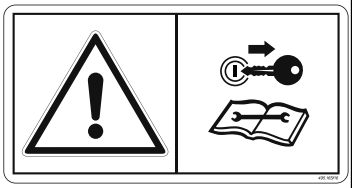
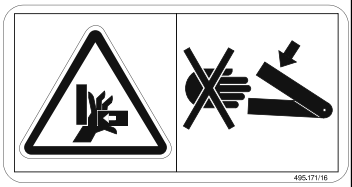
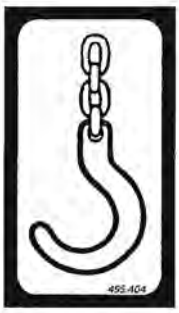
The text sections marked in this way provide practices and advice on environmental protection.

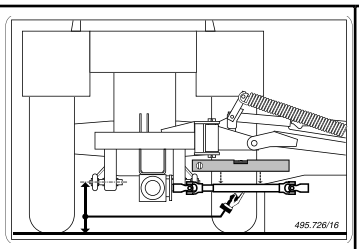
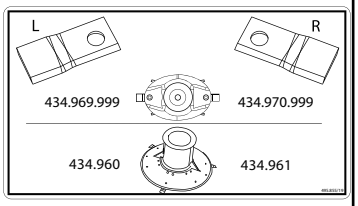
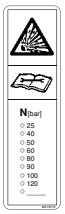
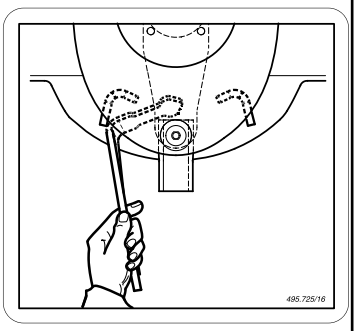
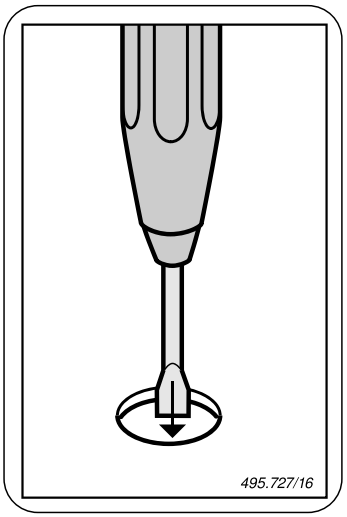
The features marked as (optional) are only available as standard with specific implement versions or are only offered for specific versions as optional equipment or are only offered in certain countries.

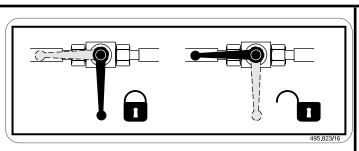
Figures may deviate from your implement in detail and are to be taken as illustrations of operating principle.

Designations such as right and left always apply as the direction of travel unless the text or illustrations clearly show otherwise.

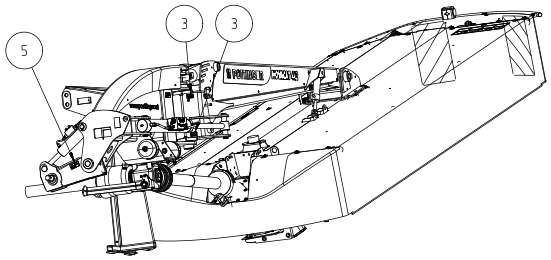
Meaning of warning signs

1 (1x)		Secure your right to product warranty by signing the delivery declaration.
2 (1x)		Read the operating instructions before working with the device. 494,529
3 (6x)		Lubricating position 494,646
4 (1x)		Shut engine off and remove key before carrying out maintenance or repair work. 495,165
5 (7x)		Never reach into the crushing danger area as long as parts can move there. 495,171
6 (3x)		Suspension point for transport 495,404

7 (1x)		Mounting position 495,726
8 (1x)		Blade equipment 495,855
9 (2x)		Pressure in gas storage tank 495,197
10 (1x)		Blade changing 495,725
11 (1x)		Open protection position 495,727

12 (1x)		Operation hoist unit 495,823

Position of the warning signs



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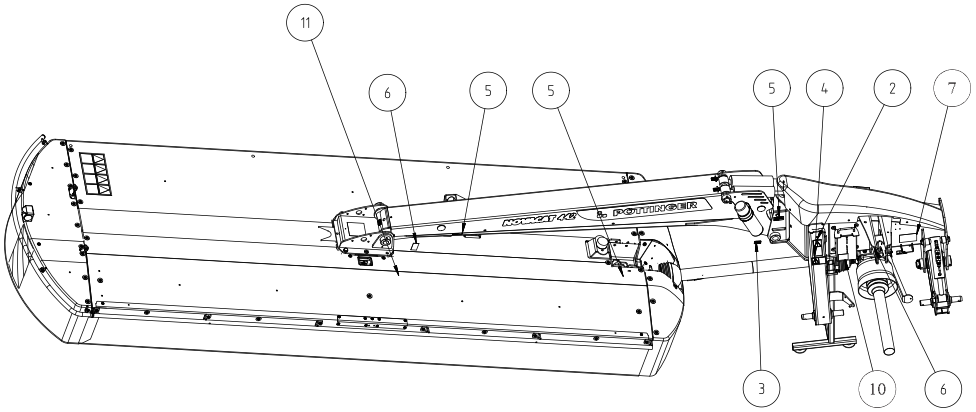

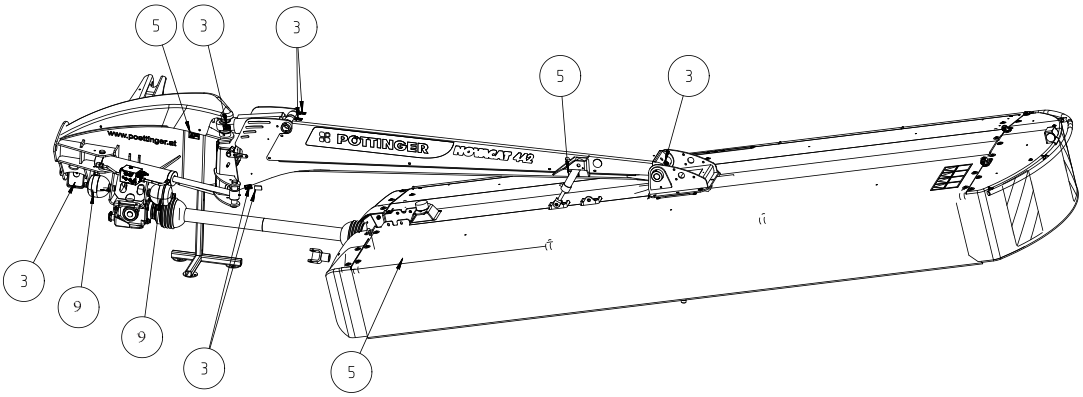

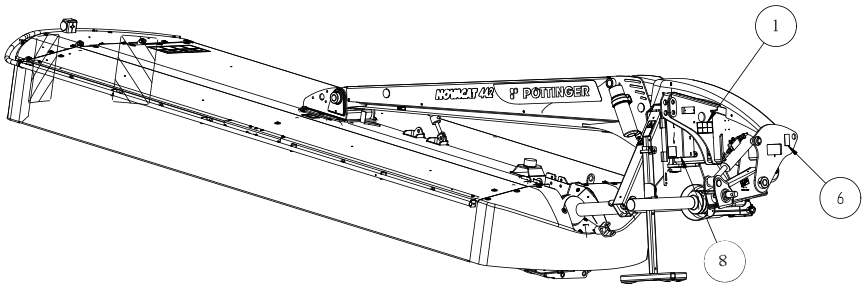

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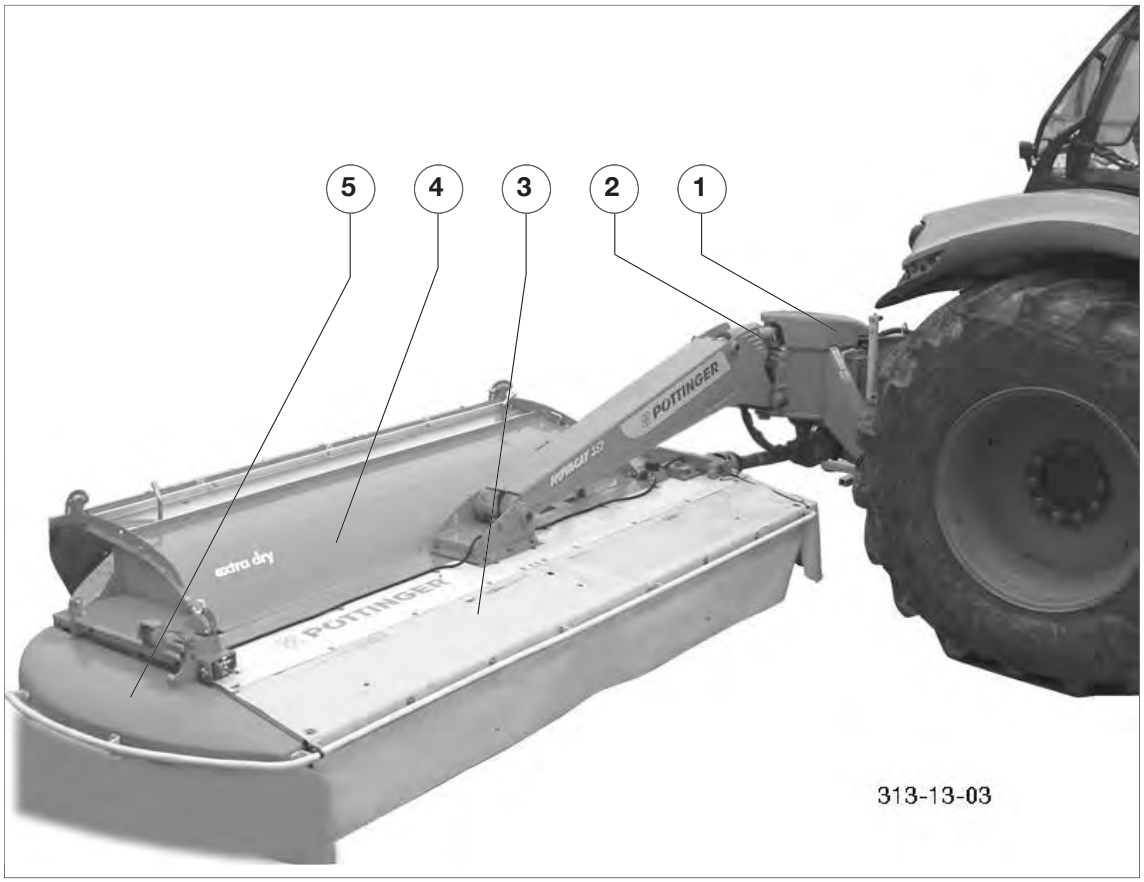
Overview



Descriptions:

(1) Headstock
(2) Hydraulic relief
(3) Cutter bar
(4) Conditioner
(5) Folding lateral protection

Variations

Description	Description
NOVACAT 302 CF	Working width 3.04 m
NOVACAT 352 ED / RC /CF	Working width: 3.46 m
NOVACAT 402 ED	Working width: 3.88 m

Tractor

To operate this machine the following tractor requirements are necessary:

- Tractor power:

NOVACAT 302 CF	from 74 kW / 100 PS
NOVACAT 352 ED / RC / CF	from 96 kW / 130 PS
NOVACAT 402 ED	from 96 kW / 130 PS

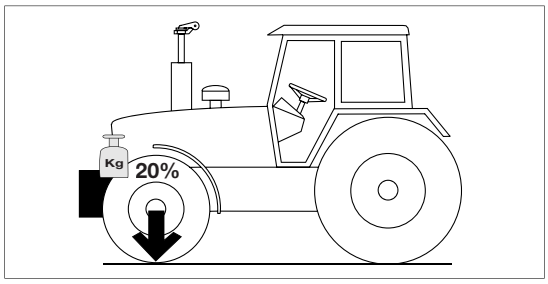
- Attaching:

NOVACAT 302 CF	lower link cat. II or III / width 2 or 3
NOVACAT 352 ED / RC / CF	lower link Cat. III / Width 3
NOVACAT 402 ED	lower link Cat. III / Width 3

- Connections:

  See table "Necessary hydraulic and power connections"

Ballast weights



Ballast weights

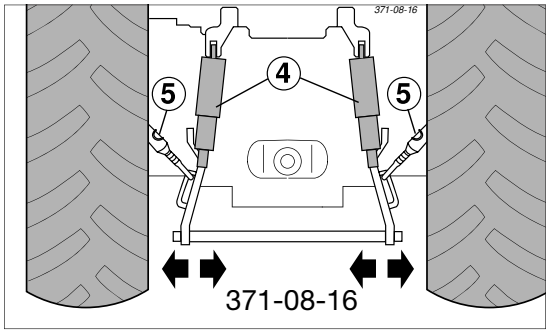
The front of the tractor must have sufficient ballast weights to guarantee braking and steering capabilities.

⚠ DANGER

Life hazard - Steering or brake system failure due to inadequate weight distribution between the tractor axles.

- Make sure that when the implement is hitched, at least 20% of the tractor weight is placed on the front axle.

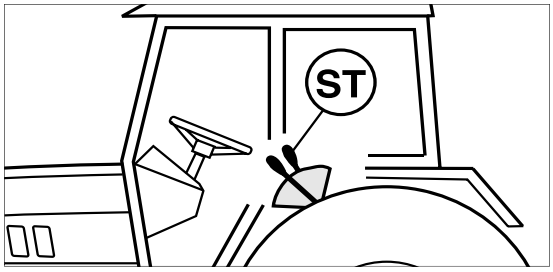
Lifting unit (three-point linkage)



- The tractor's lifting unit (three-point linkage) must be designed for the occurring load. (See technical data)
- The lifting struts are to be set at the same length (4) using the appropriate adjusting device

  (See the tractor manufacturer's operating manual)
- Select the rear position if the lifting rods can be set in various positions on the lower link. This relieves the pressure on the tractor's hydraulic system.
- The limiting chain or lower link stabilisers (5) are to be set so that the attached machine CANNOT move sideways. (Safety measure for transportation)

Hydraulic control on the lifting gear



The lifting hydraulics shall be switched on position control:

Hydraulic connections required

Design	Consumer	Single-action hydraulic connection with floating position	Dual-action hydraulic connection	Identification (on the implement)
Standard	Lift-out cylinder	X		
	with 3-way valve on top Hydraulic lower link rocker or swivel cylinder (with active steering line) with 3-way valve below Hydraulic relief		X	
Optional	Cross Flow (NOVACAT 352 CF only)		X	

Operating pressure	
Minimum operating pressure	170 bar
Maximum operating pressure	200 bar

NOTE

Material hazard - Friction wear on the piston of the control or hydraulic block due to incompatible hydraulic oils.

- Check the compatibility of the hydraulic oils before connecting the implement to the hydraulic system of your tractor.
- Do not mix mineral oils with bio oils!

Power connections required

Design	Consumer	Pin	Volt	Powerconnection
Standard	Lighting	7-pin	12 V DC	According to DIN-ISO 1724
	Terminal (NOVACAT 302 CF only)	3-pin	11-16 VDC	According to DIN-ISO 1724

Safety advice

DANGER

Life-threatening danger through operating a machine that is unroadworthy or damaged

- Check the vehicle for roadworthiness prior to every operation (lights, brakes, protective panels …)!

DANGER

Life-threatening danger through implement operation with self-driven machines. The field of vision during a transport journey is restricted when the device is attached.

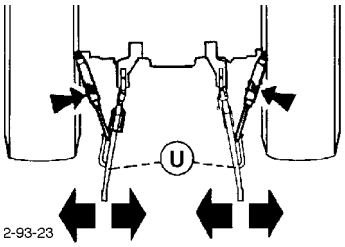
- Operate the machine only with tractors whose field of vision remains unaffected by the unit during transport.

For further safety instructions see Supplement A1, pt. 7), 8a. - 8h.)

Hitching implement to tractor

1. Set lower link on tractor

- Fix the lower linkage so that the implement cannot swivel out to the side and the headstock is centrally positioned.



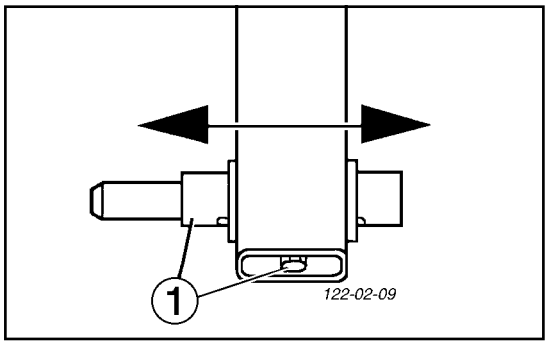
2. Attaching implement to tractor

WARNING

Risk of injury resulting in death or other serious injury from driving over or rolling over a person located between the implement and the tractor.

- Before approaching the tractor, direct all persons out of the danger area between tractor and implement.
- After approaching the tractor, secure it against rolling away (braking in, wheel chocks) before anyone is allowed to enter the danger area.

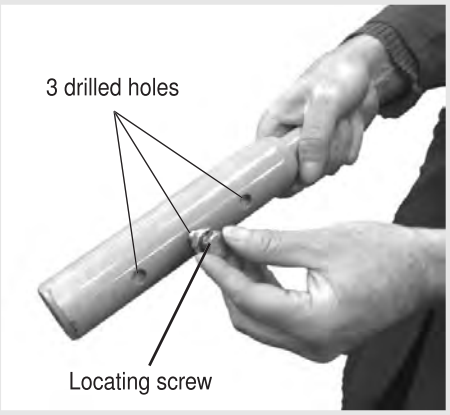
- Connect the lower linkage with the implement lower linkage bolt, and secure. The hydraulic lower linkage compensator can be fitted in the left lower linkage arrester hooks by activating the dual-acting servo unit.
- Adjust the lower link bolts (1) on the bearing frame, according to the three-point category, and the track width using the fixing screw. The mower must not touch the rear tractor tyres.



NOTE

Risk of property damage due to falling of the device.

- Make sure you hit the desired hole on the bolt with the fixing screw! Otherwise the device may come loose from the coupling and fall to the ground.

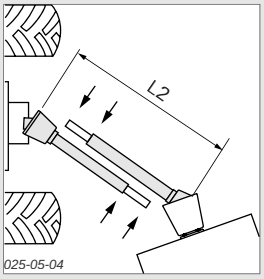


- Connect upper link and secure.
- Connect cardan shaft.

DANGER

Life-threatening danger exists when cardan shaft length is unadapted

- Before initial operation, check the length of the cardan shaft and adapt if necessary.
- A tractor change is considered to be an initial operation.
- See chapter "Adapting the Cardan shaft" in Appendix B.



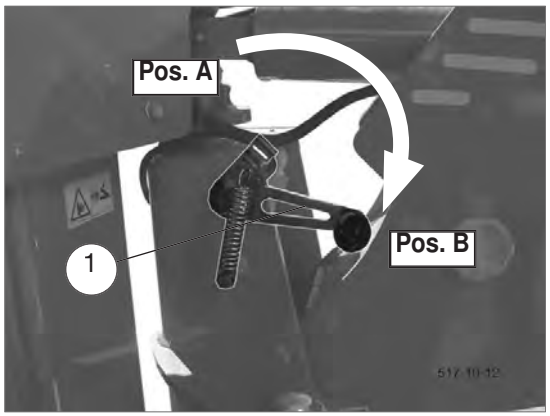
- Je nach Ausrüstung die Hydraulikschläuche anschließen.
- Connect the 7-pin plug of the lighting to the tractor.
- Lay control line in tractor cabin.
- Fold up support stands and secure!

CAUTION

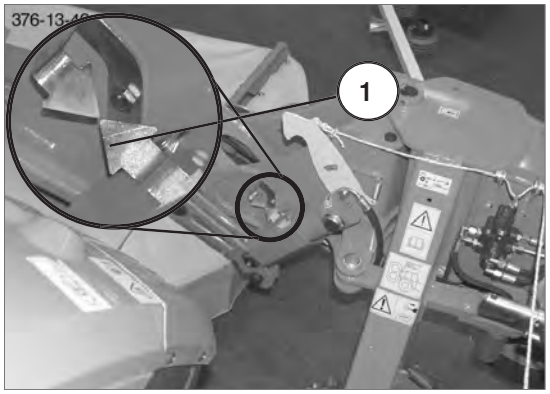
Risk a slight or moderate injury due to squeezing.

- Do not actuate the tractor's lifting hydraulics until you have directed persons out of the danger area between tractor and implement.

- Swivel safety flap!
  a. Set single-acting hydraulic servo to "floating" position!
  b. Raise the tractor's lifting gear until the safety flaps can be moved easily.
  c. Move safety flap (1) position B before lifting to field transport position.



- Set the right lower link.
  1. Set the mowing unit in "floating" position using the single-acting servo
  2. Move the lifting gear in the appropriate direction until the indicator arrow points (1) on the relief cylinder point directly at each other.
     This setting means an approx. 700 mm ground clearance to the right lower linkage bolt.



3. Adjust mounting frame:

TIP

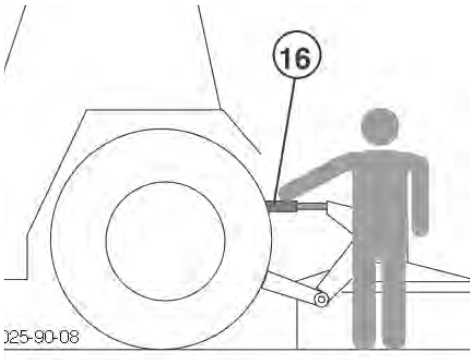
The mower is to be swivelled into field transport position.

Bring mounting frame into horizontal position by adjusting hydraulic lower link rocker.

1. Adjust 3-way-valve on headstock down to select the "Hydraulic lower linkage" function.
2. Activate dual-acting servo on tractor until the mounting frame is horizontal.
3. Close the 3-way-valve on the headstock (move to middle position)

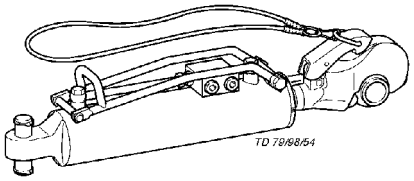
4. Adjust upper link

- Turning upper link spindle (16) adjusts the cutting height.



TIP

The mower is to be swivelled into field transport position.



TIP

A hydraulic upper link is recommended (double-acting implement).

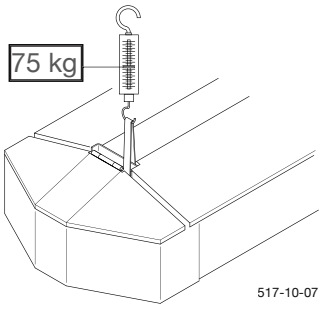
5. Control of hydraulic relief

TIP

The degree of soiling influences the weight with which the tractor presses on the ground.

1. Set the right lower link pin at the correct ground clearance. Arrowheads point to each other. (see "Attaching implement to tractor")
2. Move single-acting servo to "Float" position.
3. Check the bearing pressure:

   by lifting the cutter bar on one side. The weight on the cutter bar, inside and outside, should be 75 kg.



6. Adjustment of the hydraulic relief

1. Adjust the 3-way-valve on the headstock up to set the "Hydraulic relief" function .
2. Activate dual-acting servo
3. Read the preload pressure on the manometer.

   Repeat steps 2 and 3 until the required pressure can be read on the manometer.
4. Close the 3-way-valve on the headstock (move to middle position)

- Reference values for preload pressure ex works:

  Display value on manometer

  for machine without a conditioner: 110 bar

  for implement with conditioner: 145 - 150 bar

7. Set right lower link ground clearance

WARNING

Risk of injury resulting in death or other serious injury from squeezing.

- Stay outside the machine area during the setting process.
- Direct third persons out of the danger area during the setting procedure.

- Set the right lower link.
  1. Set the mowing unit in "floating" position using the single-acting servo
  2. Move the lifting gear in the appropriate direction, until the indicator arrowheads on the relief cylinder point directly to each other.

     For NOVACAT 302, NOVACAT 352 and NOVACAT 402 this setting means approx. 700 mm ground clearance to the right lower link bolt;

8. Set power take-off r.p.m.

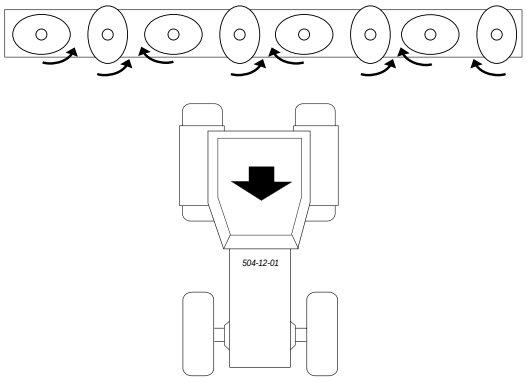
- Set appropriate power take-off r.p.m. on tractor

TIP

A transfer placed near the transmission gives information about the rpm for which the disc mower is designed.

9. Check rotation direction

- The power take-off rotation direction is suitable when, looking from the front, the outer cutting discs rotate inward.



10. Checking the lighting

DANGER

Life-threatening danger through operating a machine that is unroadworthy or damaged

- The lights and corresponding reflector plates are to be checked for functioning, completeness and cleanness before any driving on public roads.

Safety advice

DANGER

Life-threatening danger through the mower tipping over

- Change from the working to the transport position only on level, solid ground.

DANGER

Life-threatening danger through rotating or ejected components

- Switch off the cutter bar drive.
- Wait until the cutter bar has stopped moving before swivelling it up.

WARNING

Risk of injury resulting in death or other serious injury when the mower is swivelled.

- Ensure that no one is standing in the mower's swivel range

Changing from working position to field transport position

Procedure:

WARNING

Risk of injury resulting in death or other serious injury when the mower is swivelled.

- Ensure that no one is standing in the mower's swivel range

1) Raise the mower into field transport position using the single-action control unit

Changing from field transport to transport position

NOTE

Danger of damage to cardan joint or cardan shaft stub at the angular gear input point!

The cardan shaft may break if the brake is engaged when changing the transport position.

- Disengage the cardan shaft brake before changing the transport position.

Procedure:

1) Turn drive off and wait for mower discs to come to a standstill

WARNING

Risk of injury resulting in death or other serious injury when the mower is swivelled.

- Ensure that no one is standing in the mower's swivel range

2) Pull control line

3) At the same time swivel the mower into transport position using the dual-action control unit

TIP

If the double-acting control unit is actuated without pulling the control line at the same time, the horizontal position of the mounting frame changes.

Changing from transport to working position

Procedure:

WARNING

Risk of injury resulting in death or other serious injury when the mower is swivelled.

- Ensure that no one is standing in the mower's swivel range

1) Pull control line

2) At the same time swivel the mower into field transport position until the swivel cylinder is completely extended using the dual-action control unit

TIP

If the double-acting control unit is actuated without pulling the control line at the same time, the horizontal position of the mounting frame changes.

3) Set the single-action control unit to floating position and thus lower the mower into working position.

4) Set the dual-action control unit to floating position so that the collision safety device works to the optimum.

General tips

DANGER

Life-threatening danger should the tractor start moving on its own.

- Before carrying out maintenance and repair work, switch off the engine and remove the key and apply the tractor's brakes.
- Secure the machine with chocks if necessary.

DANGER

Danger to life - by tilting the device

- Make sure the machine is standing securely.
- Park the implement only on flat, firm ground.
- Use the support feet provided for this purpose.

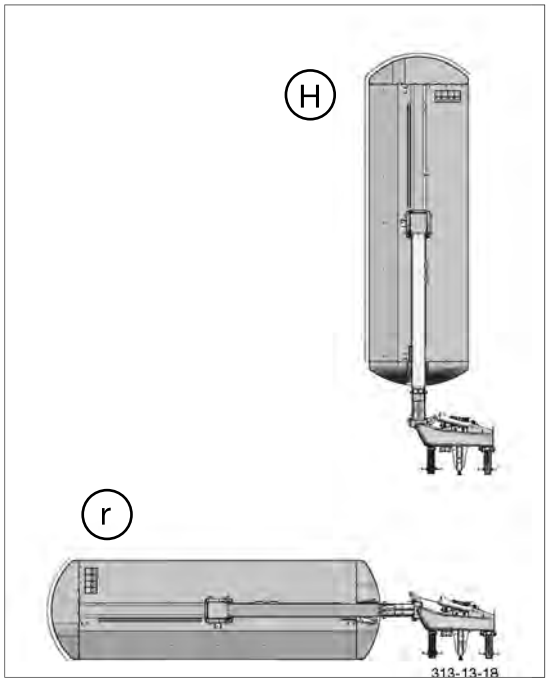
DANGER

Life-threatening danger exists if another person starts up the tractor and drives away or actuates the control lever of the hydraulic system while you are engaged in maintenance.

- Before carrying out maintenance and repair work, switch off the engine and remove the key and apply the tractor's brakes.

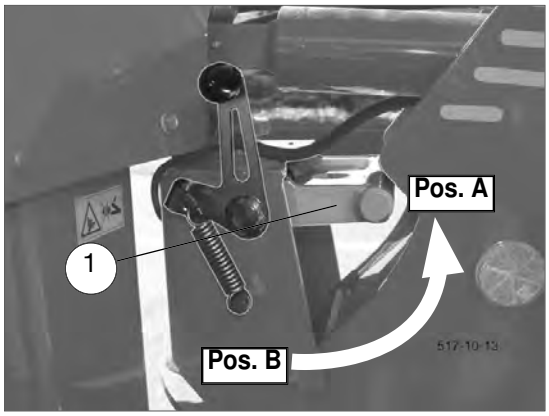
Unhitching implement from tractor

Depending on parking situation, mower can be unhitched in the transport position (H) or working position (R).



The following procedure applies to both situations:

1. Set the single-action control unit to floating position to lower the implement to the required parking position (H, R).
2. Swivel safety flap (1) into (item A).

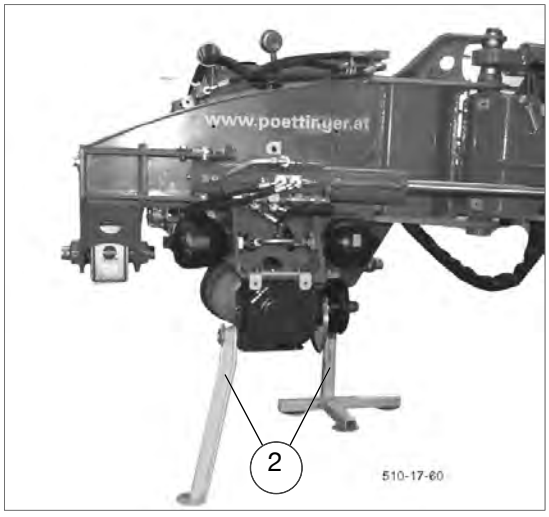


WARNING

Risk of an injury resulting in death or other serious injury due to the failure of the safety flap (1).

- The safety lever (1) is a safety fixture. It should not be changed in its form and functions.
- The safety flap is designed in such a way that it does not jump out of the locking position when the cutter bar is folded up hydraulically, therefore do not actuate the hydraulic cylinder for folding up when the safety flap is in the locking position. (Pos. A)
- Damaged safety flaps must be replaced immediately with new ones.

3. Extend or fold out and secure the support feet (2).
4. Lower implement onto support stands.



⚠ CAUTION

Risk of slight or moderate injury due to jerky lifting of the mower attachment frame when uncoupling from the lower links.

- Check that the safety flap (1) is swivelled to position A before uncoupling the device.

5. Release the catch hook of the lower links by adjusting the hydraulic lower link rocker (with double acting control valve).

⚠ CAUTION

Risk of minor or moderate injury due to the use of force on the lower link hook.

- Relieve the load on the lower link hooks using the hydraulics of the lower link rocker.
- Observe any tensions on the device.
- Never use a hammer to release the lower link hooks.

6. Uncoupling the upper link
7. Remove the steering line from the tractor cab and place it rolled up on the mower's hose deposit.
8. Untension and cap off the hydraulic hoses and place them on the hose rest of the mower
9. Disconnect the 7-pin plug of the lighting at the tractor.
10. Uncouple the PTO shaft and place it on the PTO shaft mounting.
11. Separate the tractor lower link from the lower link pins of the implement.
12. Carefully drive safely with the tractor.

Safety advice

DANGER

Life-threatening danger exists through blades being ejected.

- After the first operating hours tighten all blade screwed connections.
- Check all safety equipment before starting work. In particular, make sure that the side guards are folded down correctly.

DANGER

Life-threatening danger exists through ejected parts when removing a blockage, when changing blades or when adjusting the machine during operation.

- Stop tractor/trailer unit on level ground and apply tractor's brakes.
- Park the mower in the working position.
- Before going to the rear of the machine, make sure that the PTO shaft is stationery and that the hydraulic connections are depressurised.
- Remove the tractor key!

DANGER

Life-threatening danger exists through falling off the machine.

- Do not climb onto, play on or around the machine.
- Do not let anyone climb on or clamber about on the machine.
- Before starting, make sure that no one is standing on the machine or in its danger area!

TIP

Further safety instructions: see Supplement A, pt. 1. - 7.)

Important notes prior to starting work

1. Check

- Check the condition of blades and the blade fastening.
- Check mowing discs for damage (see chapter "Maintenance and Service")

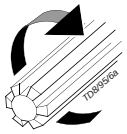
2. Only switch the machine on when in the working position and do not exceed the stipulated p.t.o. speed!

1000 Upm

A transfer located near the transmission advises which p.t.o. speed your mower unit is equipped for.

- Always, and only, switch the p.t.o.drive on when all safety devices (covers, protective aprons, casings, etc.) are in proper condition and are attached to the machine in their safety positions.

3. Pay attention to correct p.t.o. direction of rotation!



4. Prevent any damage!

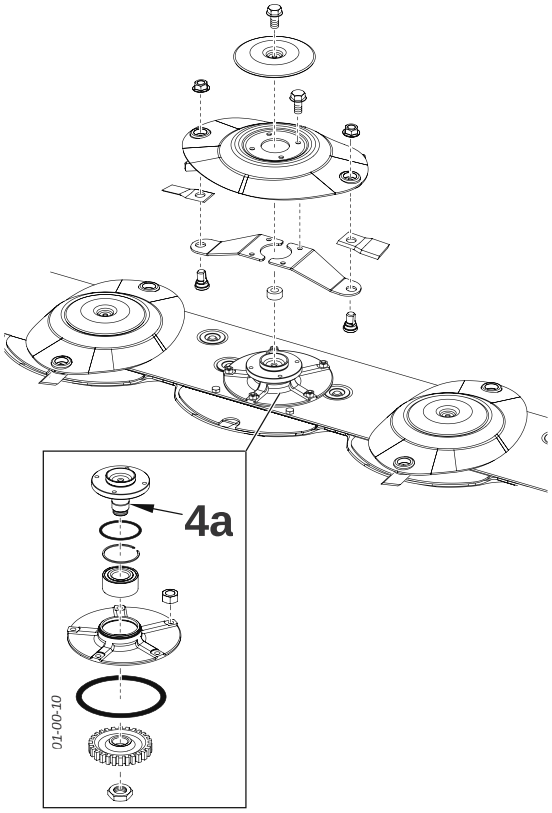
NOTE

Property damage caused through unnoticed obstacles. Obstacles (e.g. large stones, pieces of wood, boundary stones, etc.) can damage the mower unit

- Inspect the field before mowing and remove the obstacles.
- Alternatively: Drive round obstacles at a sufficient distance.

If a collision occurs anyway,

- Stop immediately and switch off the drive.
- Check the machine carefully for any damage In particular, check the mowing discs and their drive shafts (4a).

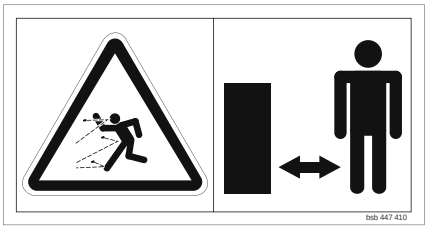


- If necessary have it checked over in a specialist work shop also.

After contact with a foreign object

- Check condition of blades and blade fixing (see chapter "Maintenance and Service").
- Retighten all blade screw fittings.

5. Keep a safe distance while engine is running.



- Direct people out of the danger area as they may become injured by foreign objects ejected by the mower.

  Special care is necessary on stony ground, and near roads and paths.

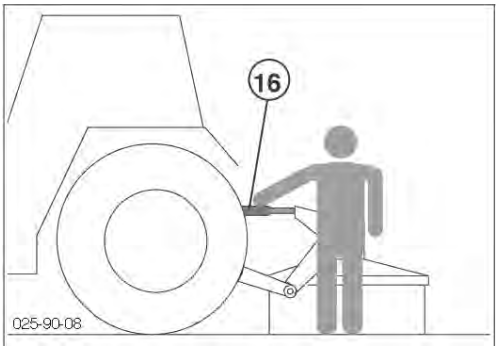
6. Wear hearing protection

The noise level in the workplace can deviate from the measured value (see Technical Data) partly because of the differing cabin types of various tractors.

- If an 85 dB(A) noise level is reached or exceeded, then the farmer (or contractor) must provide appropriate hearing protection (UVV 1.1 § 2).
- If a noise level of 90 dB (A) is reached or exceeded, then hearing protection must be worn (UVV 1.1 § 16).

Mowing

1. Adjust the cutting height by turning the upper link spindle and with the hydraulic upper link (max. 5° inclination to mower discs)



2. To mow, slowly engage the pto outside the mowed fodder (in field transport position) and take the mower rotor to full speed.

Smoothly increase the p.t.o. speed, in order to avoid noises in the free-wheel conditioned by the system.

- Adjust travel speed to terrain and crop.

Reversing

Raise the mower when reversing!

Protective covers

⚠ WARNING

Risk of injury resulting in death or other serious injury from damaged or missing protective equipment.

- Before starting work, make sure that the protective device is undamaged.
- Before starting work, make sure that the protective device is in the working position.

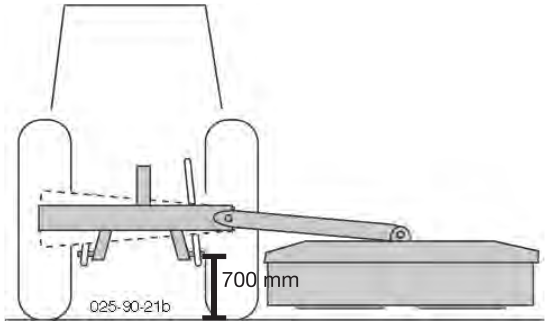
The side guard and front guard can be folded up for cleaning and maintenance work.

The two foldable guards lock mechanically in closed condition. A tool (e.g. screwdriver) is required to open them.

Settings for operation

Tractor hydraulic system

- The right lower link is to be set to H1 ≈ 700 mm ground distance.
- Fix the tractor hydraulic system in this position



Headstock

Set the headstock horizontal. Changes can be performed with the hydraulic lower link compensator.

1. Adjust 3-way-valve on headstock down to select the "Hydraulic lower linkage" function.
2. Activate dual-acting servo on tractor until the mounting frame is horizontal.
3. Close the 3-way-valve on the headstock (move to middle position)

Lift-out cylinder

- The lift-out cylinder control unit is to be switched to floating position during use to achieve correct adjustment to soil

Protective covers

- All protective covers are to be kept closed and in good condition

Comfort control

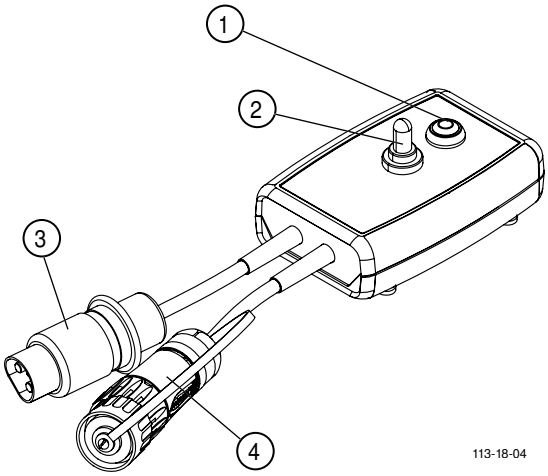
With the comfort control you can preselect which function you want to operate with your control unit.

1. Move device to transport position - Button (1)	
2. Lower link seesaw - Toggle switch (2) right	
3. Tailgate of the transverse screw conveyor - Toggle switch (2) left	

TIP

The tailgate of the transverse screw conveyor can only be operated in the headland position.

Attempts to operate the transverse screw conveyor as long as the mower is in the working position will have no effect.



Connections:

1. 3-pole plug for power supply (3)
2. 7-pin connector for signal transmission (4)

Remove clogging

DANGER

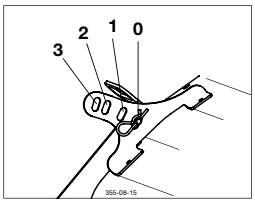
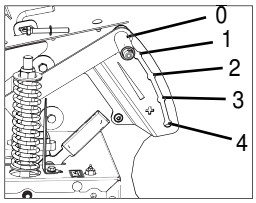
Life-threatening danger exists through ejected pieces when unclogging.

- Stop tractor/trailer unit on level ground and apply tractor's brakes.
- Place the mower in working position on the ground.
- Before going back to the machine, make sure that the pto shaft is stationary and that the hydraulic connections are depressurized.
- Before folding up the guards, make sure the mowing discs are stationary.
- Remove the tractor key!

Different weather and field conditions result in different forage friction and adhesion properties. Therefore, clogging can also occur in situations that would never have been expected.

With tine conditioner:

To facilitate the removal of the blockage, set the intensity of the tine conditioner to position 0 (see chapter Tine conditioner).

NOVACAT 302	NOVACAT 402
	

With roller conditioner:

DANGER

Risk of injury through tensioned springs.

- Relieve the roller conditioner tension before unclogging.

To make it easier to unclog, reduce roller conditioner tension (see chapter Roller Conditioner). This reduces the pressure on the clogging and makes it easier to remove.

General:

DANGER

Risk of injury through careless knife handling

- When cutting the forage with the knife, take special care not to slip and/or cut too much forage all at once. You could cut yourself or stab your hand.

Before removing a blockage, it can be helpful to chop the forage with a knife and then try to remove the blockage.

Working on slopes

DANGER

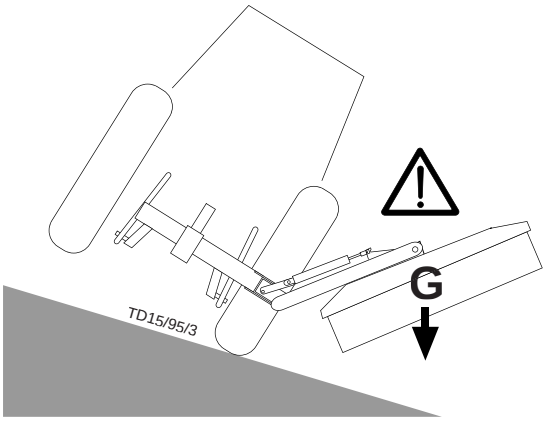
Life hazard - due to tandem tipping. The tractor's travelling characteristics are influenced by the weight (G) of the mower unit. This can lead to dangerous situations, especially on slopes.

Tipping hazard on slopes is present

- when the mowing units are lifted hydraulically
- when bending with lifted mowing unit

Counter-measures:

- Reduce speed when bending accordingly.
- It is better to travel in reverse on a slope than to carry out a risky turning manoeuvre.



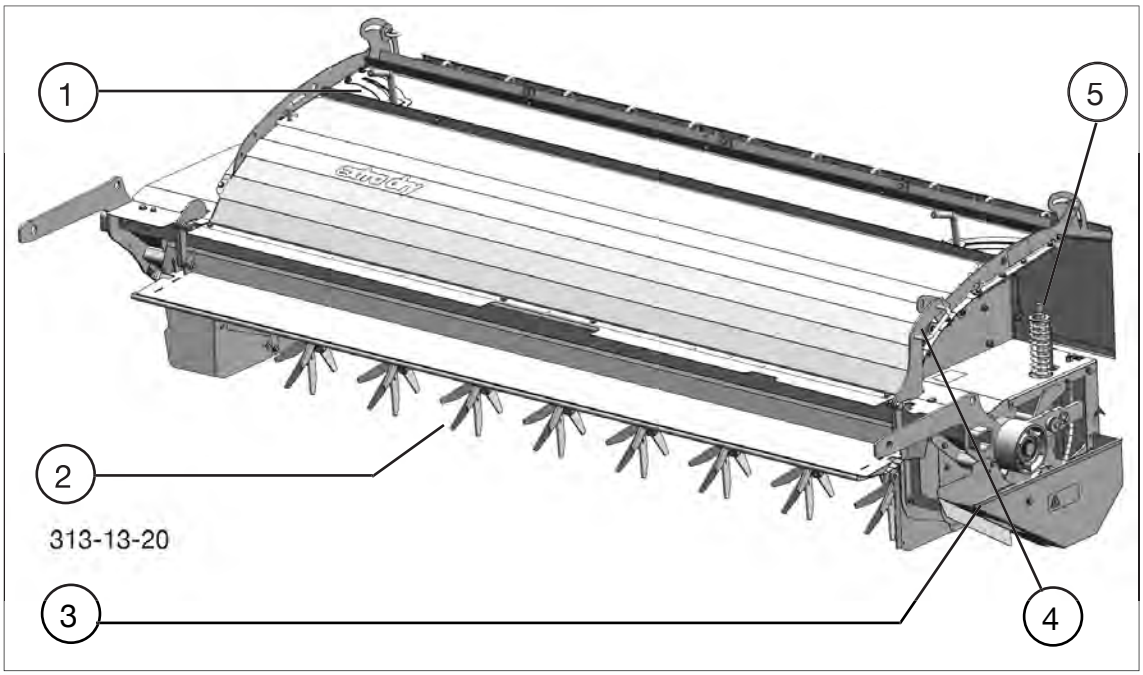
NOTE

Material hazard - due to unnoticed obstacles

- Raise the mower when driving backwards and reversing!

Operation mode

The aim of conditioning is to ream the wax layer (protection layer) from the blade of grass. Consequently, the fodder looses moisture more easily and dries more quickly. Conditioning is carried out using V-shaped tines, placed in a spiral on the conditioner shaft. The intensity is adjusted via an impact plate with conditioner rails.



Designations:

(1) Adjustable swath board
(2) Tine rotor
(3) Drive unit
(4) Intensity adjustment unit
(5) V-belt tensioner

Possible settings

DANGER

Life-threatening danger exists through being drawn in by rotating parts.

- Never open or remove the safety devices as long as the engine is running or parts are moving.

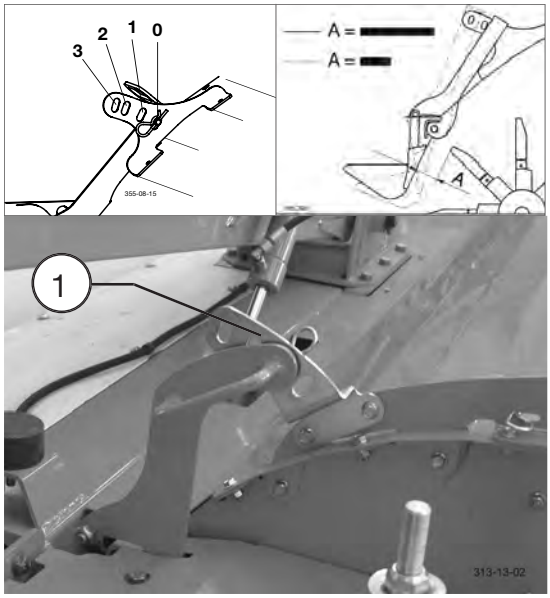
For optimal adaptation to the surrounding conditions, make the following adjustments to the tine conditioner:

Set the conditioning effect:

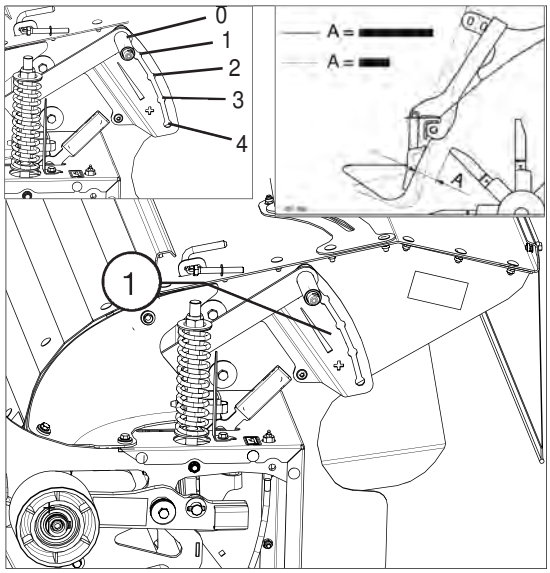
The distance between the adjusting strip and the rotor is set using lever (1).

- Position (3) NOVACAT 352 ED or (4) NOVACAT 402 ED: most effective evenness. The fodder surface is strongly reamed. However, the fodder must not be beaten.
- Position (0): the fodder surface is only lightly reamed.

NOVACAT 352 ED:



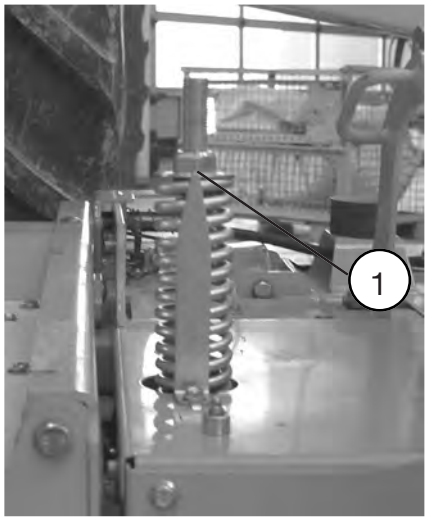
NOVACAT 402 ED



Among other things, the right setting depends on the quantity of cut material, driving speed and tractor capacity. Therefore, a binding recommendation cannot be provided regarding the correct lever setting.

Correct V-belt tension

The marker point (1) must be flush with the shim, then the belt tension is correct.

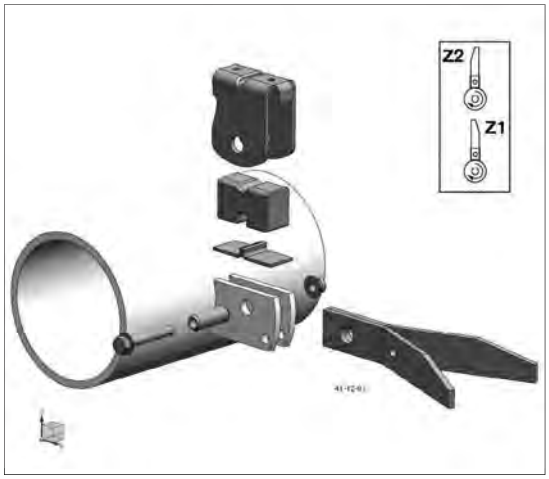


Rotor tines position

Pos. Z1: Rotor tines position for normal operating conditions.

Pos. Z2: For difficult conditions of use, if e.g. the fodder wraps around the rotor.

Turn the rotor prongs 180° (pos.Z2). This tine position solves the problem in most cases. However, this lessens the conditioning effect to a certain extent.



Rotor tine maintenance

1. Replacing tine fixings

If signs of wear are found on the tine fixings, then the affected component(s) must be replaced. (tines, bolt, slotted spring pin ...)

Swath width when mowing with conditioner

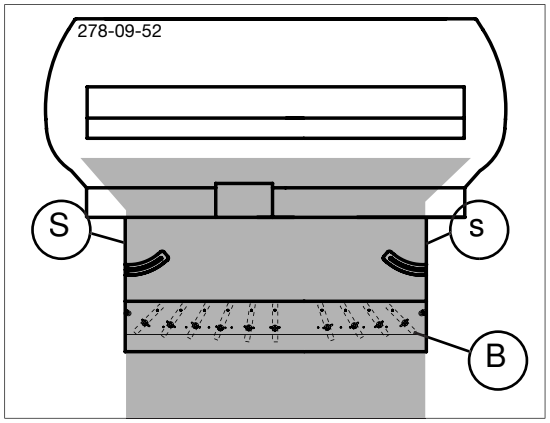
The swath width when mowing with conditioner is set using the guide plates.

TIP

The settings listed below should be taken as basic settings. The optimum swath width can be determined perhaps only in practical use due to the various types of fodder.

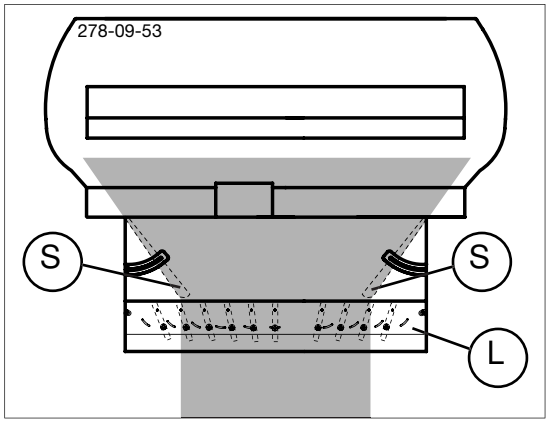
Wide spreading

- Swivel the swath plates (S) completely out
- Set the position of the guide plates (see illustration (B))



Swathes

- Swivel the swath plates (S) in
- Set the position of the guide plates (see illustration (L))



Uncoupling and coupling the conditioner

⚠ DANGER

Life-threatening danger exists when detaching the conditioner. If the conditioner is detached, the cutting blades are freely accessible.

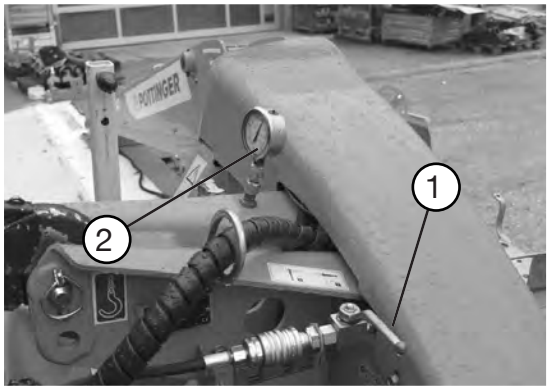
- For mowing without a conditioner, specially designed safeguards for this type of operation must be fitted to the mower bar. These protective devices are not included in the delivery and must be ordered additionally (see spare parts list, component group “REAR PROTECTION”).
- These protective devices are not available for NOVACAT 402 ED. Therefore the implement must not be operated without the conditioner.
- When mounting these guards, turn the three screws on the center bearing. See chapter "Mowing without a conditioner"

⚠ CAUTION

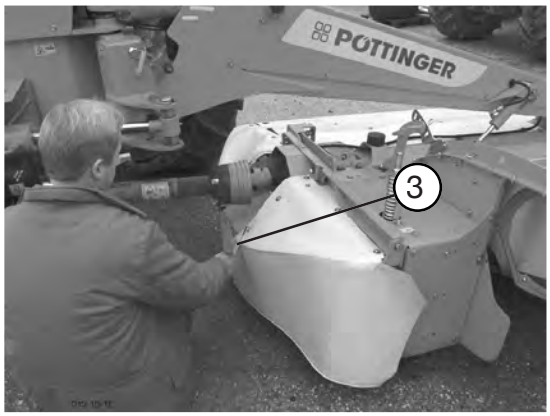
Risk of slight or moderate injury when uncoupling the conditioner due to jerky lifting of the cutter bar as a result of excessive pressure in the hydraulic line.

- Before dismantling the conditioner, set the pressure of the hydraulic relief to 0.

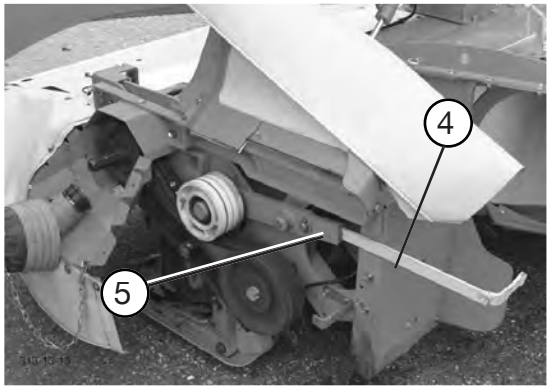
1. Reduce the leader bolt oil pressure in the hydraulic relief by opening the stopcock (1) on the headstock. Read off the reduced oil pressure on the pressure gauge (2).



2. Release the locking screw (3)



3. Swivel the rear side guard up.
4. Remove the V-belt cover (2 screws)
5. Pull the cardan shaft off.
6. Insert the V-belt tension lever (4) into the guide (5) provided for this.

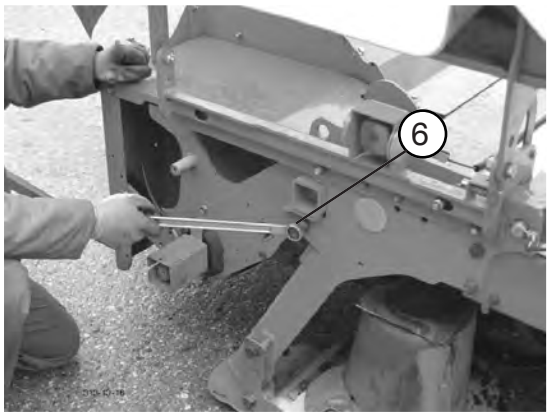


7. Relieve the V-belt by pressing the belt tension lever down.

8. Disengage the V-belt.
9. Re-fit the cardan shaft.

10. Insert the conditioner chassis - left - as far as possible into the opening intended for it

11. Remover tension lever (4)
12. Change to the outer side of the mower and swing the outer side guard up.
13. Loosen the fixing screw (6).

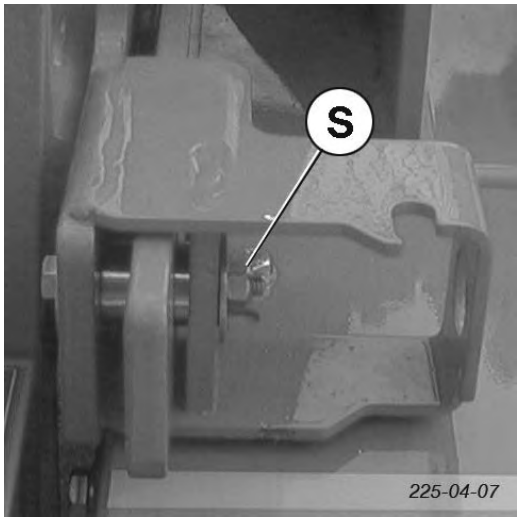


13. Fit the conditioner chassis.

14. Loosenfastenings, left and right

- Variant "Screwed" (standard)

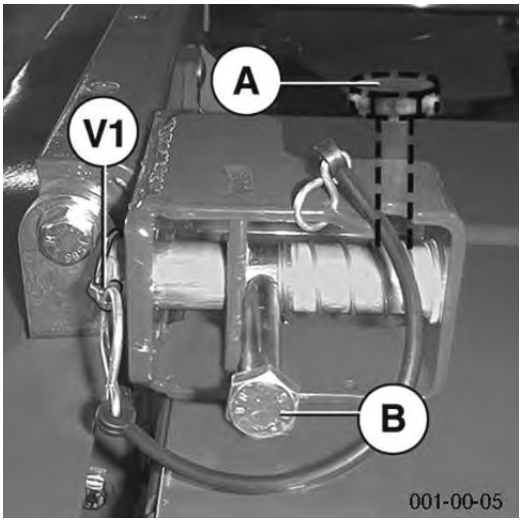
  Remove screw (S)



- Variant "Spring-loadedfastening bolt" (for the chassis option)

  Remove the linchpin (V1) and unlock the bolt

  - Pos A = unlocked
  - Pos B = locked



15. Always park conditioner (CR) stably.

Fitting the conditioner (CR), the swath former (SF) or the "rear protection" component

- is carried out similarly to removal but in the reverse order.

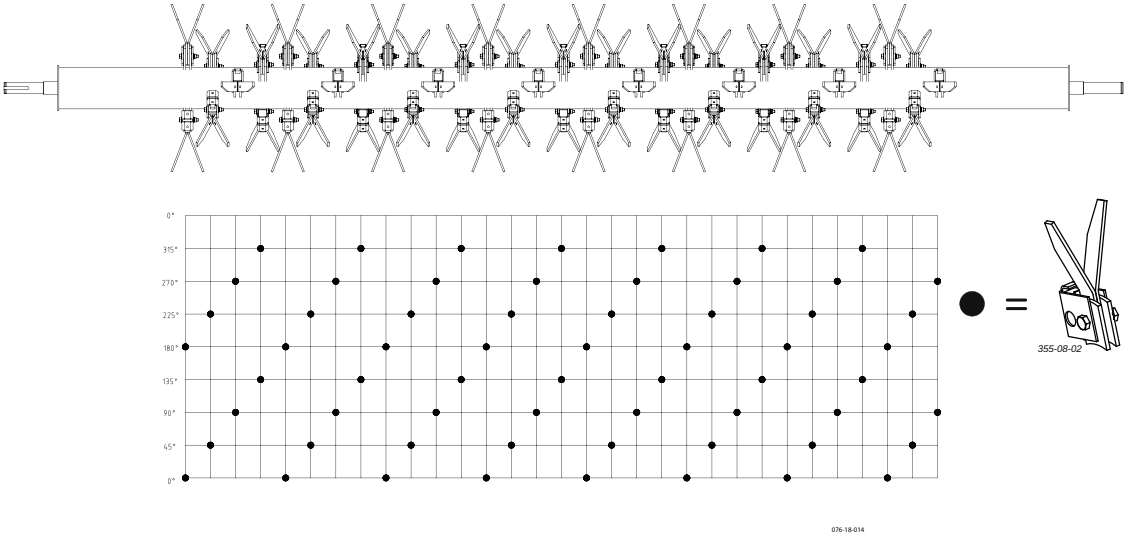
Position of the rotor tines on the conditioner

NOTE

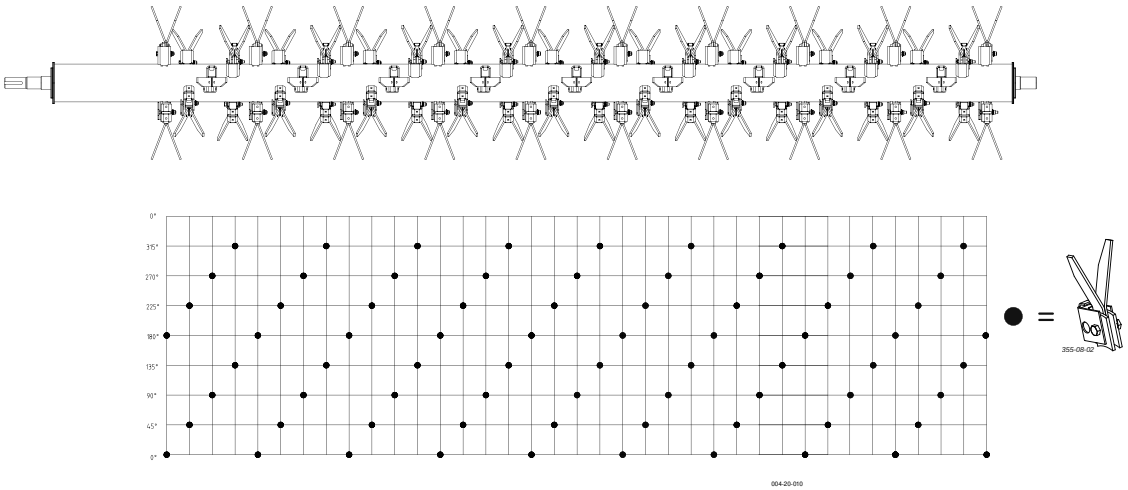
Risk of material damage during operation with unbalance.

- Always remove both opposite tine holders and install them if you want to remove damaged tines.
- In case of noticeable vibrations, stop immediately and check the tine conditioner for lost tines. If necessary, remove the tine and the opposite bracket.

NOVACAT 352 ED



NOVACAT 402 ED



Safety advice

DANGER

Life-threatening danger exists through being drawn in by rotating parts.

- Never open or remove the safety devices as long as the engine is running or parts are moving.

CAUTION

Risk of injury through ejected parts

- Maintain a sufficiently safe distance to people when mowing.
- Stop work if you cannot maintain a safe distance.

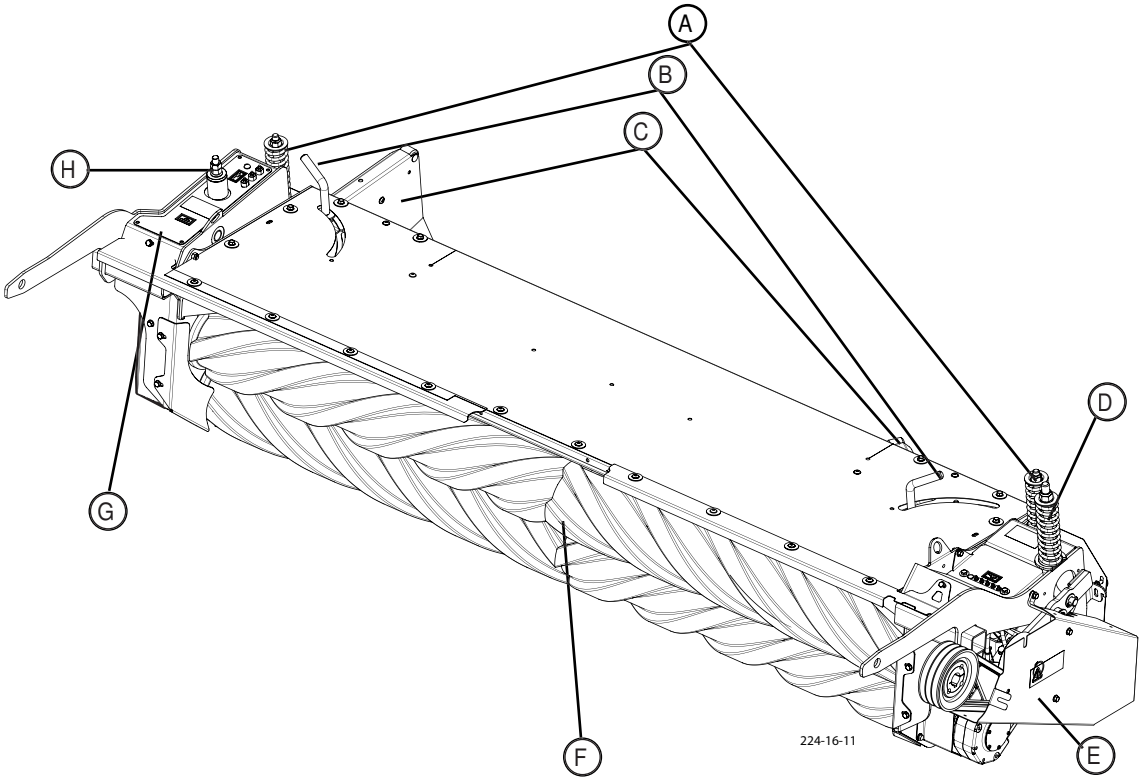
TIP

Before initial operation, read and observe the operating instructions, particularly the safety information.

Operation mode

The roller conditioner is suitable for lucerne and clover types. Two power-driven interlocking rollers crush the fodder. In so doing, the plant's natural wax coating is damaged and the drying time is accelerated.

Overview



Designations:

(A) Adjusting screw for conditioning intensity
B Swath width adjusting lever
(C) Swath plate
(D) Main drive adjusting screw
(E) Main drive unit
(F) Rubber rollers
(G) Auxiliary drive unit (top roller)
(H) Auxiliary drive (top roller) adjusting screw

Possible settings

DANGER

Life-threatening danger exists through being drawn in by rotating parts.

- Never open or remove the safety devices as long as the engine is running or parts are moving.

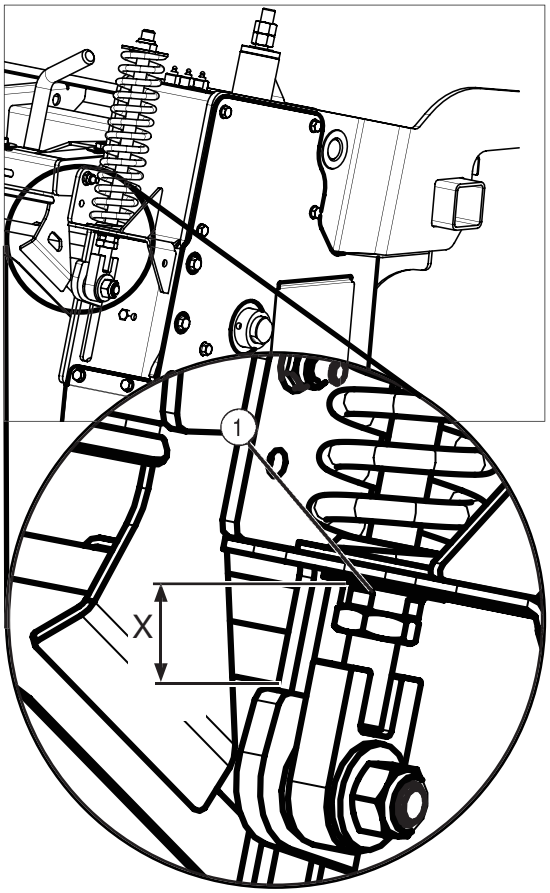
TIP

Before initial operation, read and observe the operating instructions, particularly the safety information.

When delivered, the roller conditioner is preset for medium intensity. Make the following adjustments for optimum adaptation to the surrounding conditions:

Distance between rollers:

The distance between the rollers is equally set, left and right, using the adjustment screw (1). Basic setting: (X) = 45 mm (Valid for RCB and RC)



TIP

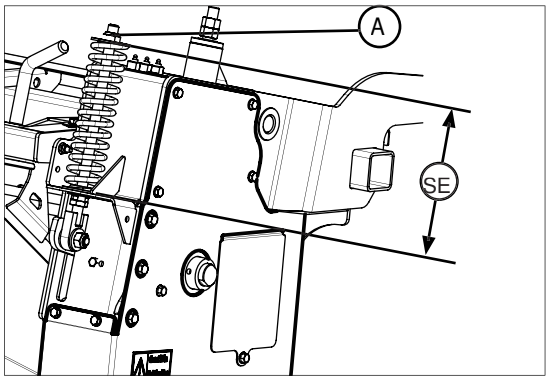
Because of component tolerances, an uneven roller gap can occur despite basic setting. Check the gap on both sides and readjust the adjusting screw (1) on one side if necessary.

Conditioning intensity:

See overview (A):

The upper roller is moveable and is tensioned left and right with a spring. The spring tension intensity is always adjusted using nut (A).

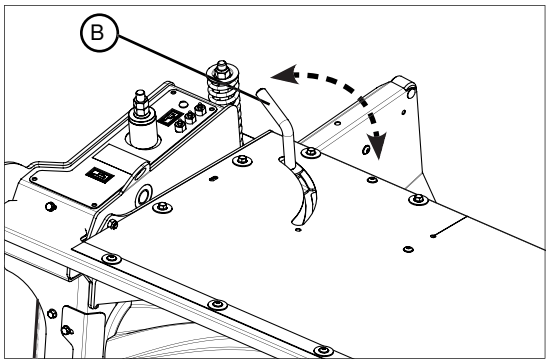
Standard setting (SE): 210 mm



Set swath width:

See overview (B):

The swath boards form the cut and conditioned fodder into the desired swath width. Adjusting the swath board is carried out identically, left and right, by unscrewing and adjusting the adjusting screw (B)



Operation

DANGER

Life-threatening danger exists through parts being thrown out.

- Make sure that third parties also keep a sufficient safe distance from the running engine.

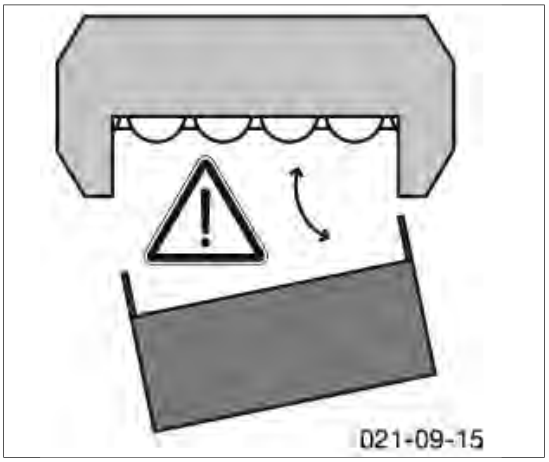
Driving speed:

Adapt the speed to fodder consistency. Travelling too fast reduces conditioning quality and evenness.

Working without roller conditioner:

If required, the roller conditioner can also be removed and replaced with a tine conditioner or swath former. (Contact your Service Centre for more information.)

A machine with a conditioner as a complete unit is fitted with the proper safeguards. Should the conditioner be removed then the mower unit is no longer a completely safeguarded. In this case, mowing must not take place without fitting additional safeguards!



DANGER

Life-threatening danger exists when detaching the conditioner. If the conditioner is detached, the cutting blades are freely accessible.

- For mowing without a conditioner, specially designed protective devices for this type of operation must be fitted to the mower bar.

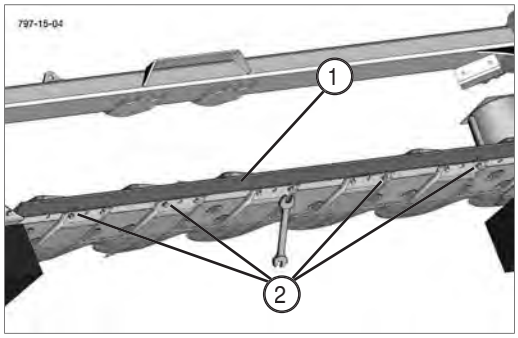
  These safety elements are not included in the scope of delivery for a new machine with conditioner. The parts must be ordered additionally (see spare parts list, component: "REAR PROTECTION“).

If the rear safeguards and swath discs are to be mounted, remove the cutter bar reinforcement (1).

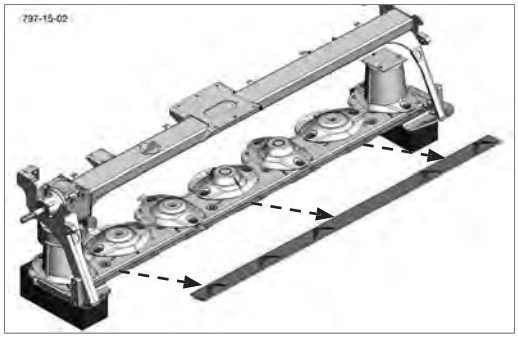
If the swath discs are not to be mounted, the cutter bar reinforcement does not have to be removed.

Removing the cutter bar reinforcement.

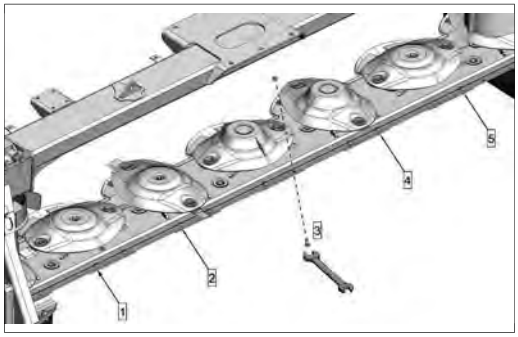
1. Remove screws (2). The number of screws varies according to cutter bar length.



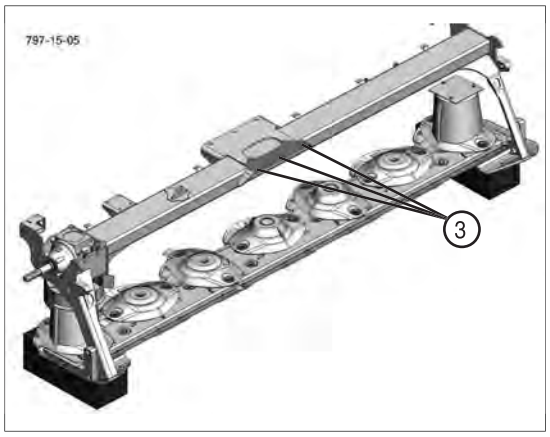
2. Remove the cutter bar reinforcement.



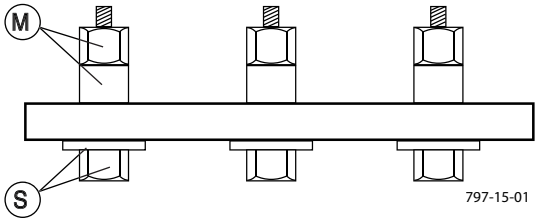
3. Replace the screws removed in step 1 with shorter ones. Re-use the screws that were used on the mower before the conditioner was fitted.



Reverse the three screws in the centre bearing.



- Insert the three screws (3) in the rear area of the centre bearing. These must be inserted with the screw head facing down. The nut and the bushing (M) can be seen from the top. Shim and screw head underneath the console (S). (See illustration)



Maintenance

DANGER

Life-threatening danger exists through another person putting the tractor into operation and driving off, or switching on the cardan shaft while you are busy with maintenance work.

- Shut engine off and remove key before carrying out maintenance or repair work.

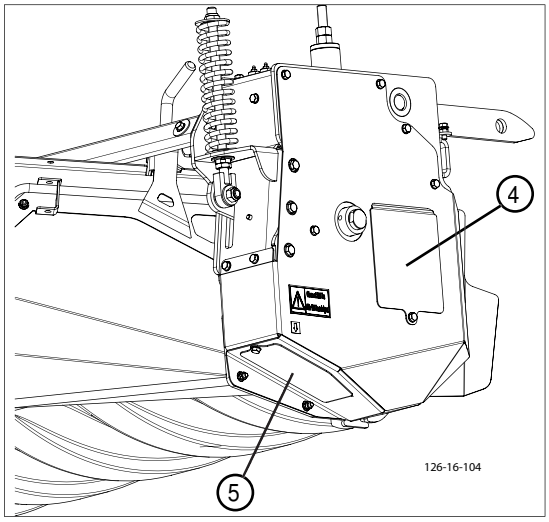
DANGER

Life-threatening danger exists through being drawn in by rotating parts.

- Never open or remove the safety devices as long as the engine is running or parts are moving.
- Wait until the rotating machine parts are at a complete standstill before starting any repair work.
- Wear close-fitting clothes and tie back long hair when carrying out repairs.

Cleaning the auxiliary drive: after 50 hours of operation

See overview (G)



- Unscrew the coverings (4,5) on the auxiliary drive maintenance accesses.
- Remove dirt deposits
- Clean rubber rollers

NOTE

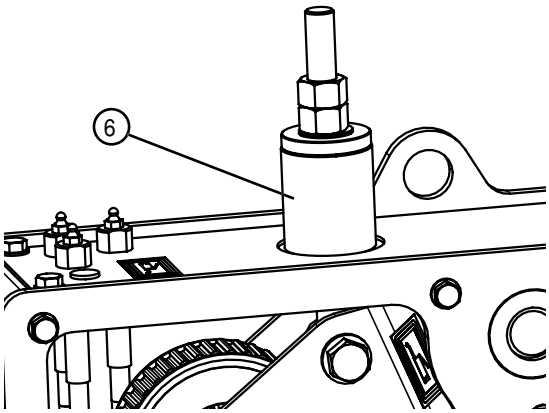
Property damage through dirty toothed belts. A dirty and thus impaired toothed belt can lead to property damage.

- Check and clean the toothed belt.

Check belt tension on the longer belts:

See overview (H)

- Basic setting: The sleeve (6) is easily turned and has no free-play.



Main drive belt tension:

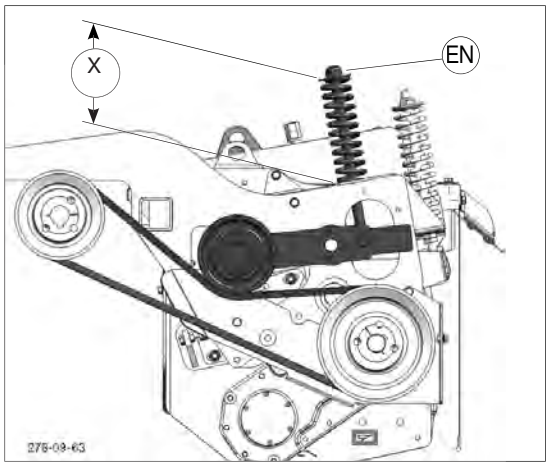
See overview (D, E)

Check belt tension:

- Basic setting (X): 180 mm

Changing belt tension:

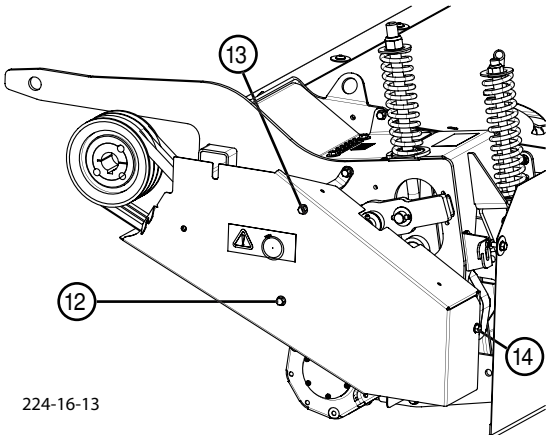
- Adjust screw (D)



Replacing belts:

When the drive belts show signs of damage or wear, they must be replaced. **(Note: Always replace the complete belt set!)**

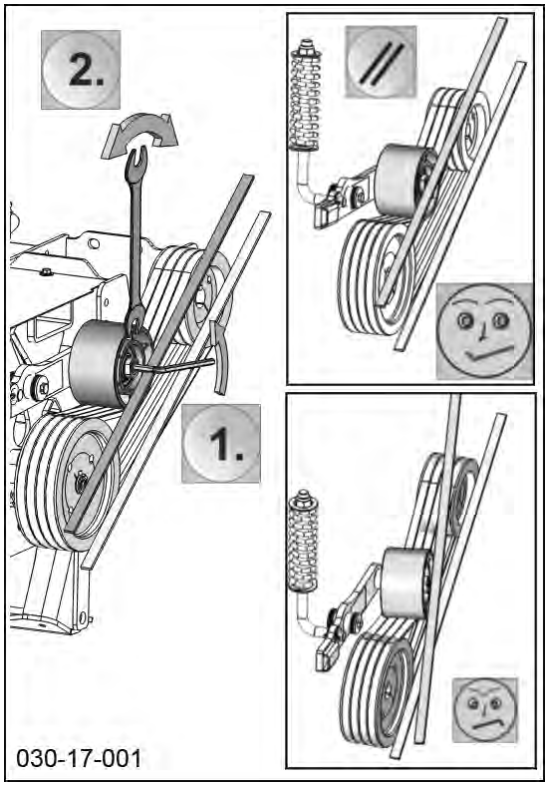
- Remove the covering. To do this, remove the screws (12-14), see illustration.



- Loosen belt tension. To assist in this, the belt tensioner can be deactivated using the blade quick-change wrench
- Replace belt
- Restore belt tension
- Re-tighten covering (screws 12-14, see illustration above)

Check tensioner pulley running

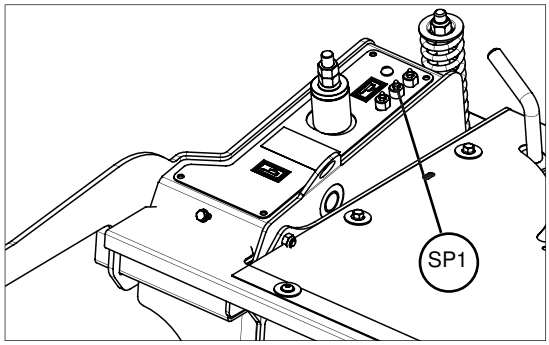
Check the tensioner pulley running after the initial operation and after every change to the drive. The tensioner pulley must run parallel to the drive belt (see illustration)

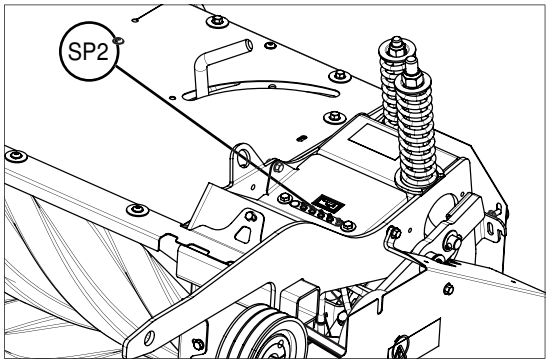


Lubricating the drive:

(After every 50 operating hours) with grease

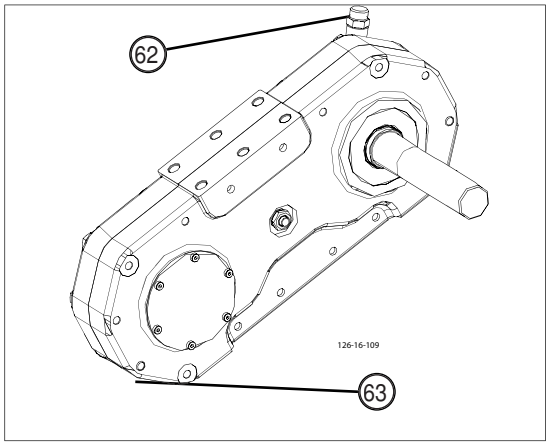
- SP1
- SP 2





Gear oil:

(After every 100 operating hours)

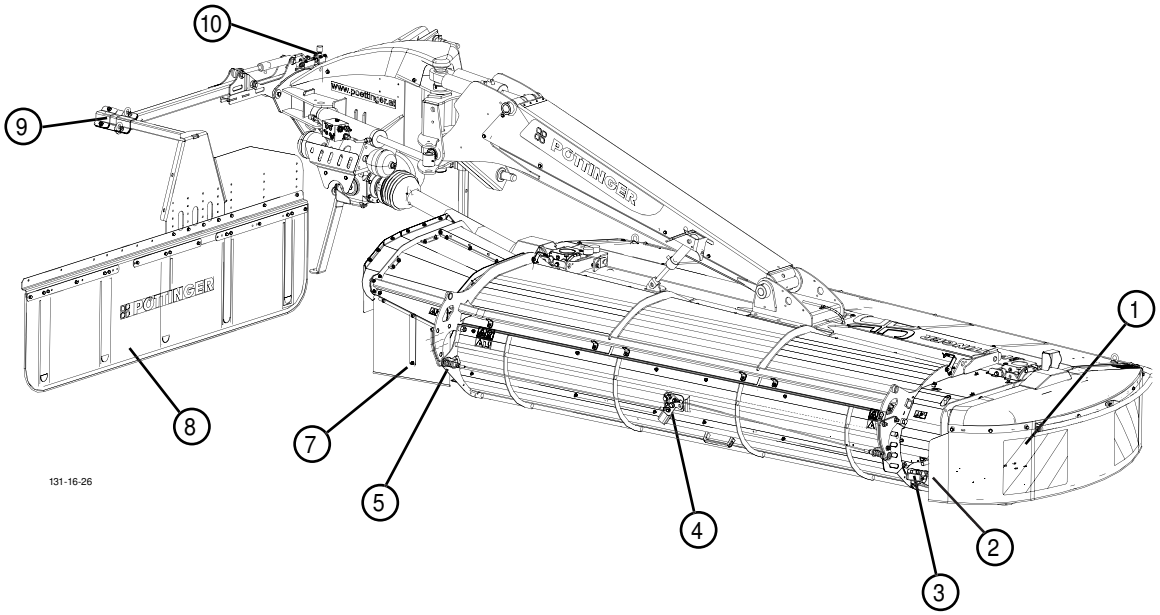


The gearing is located on the innerside of the conditioner.

- • Open drain plug (63) and drain oil.
- Fill with gear oil (700 ml) through the refill screw (62)

(Fully synthetic lubricating oil for high-temperature lubrication, ISO-VG class 220)

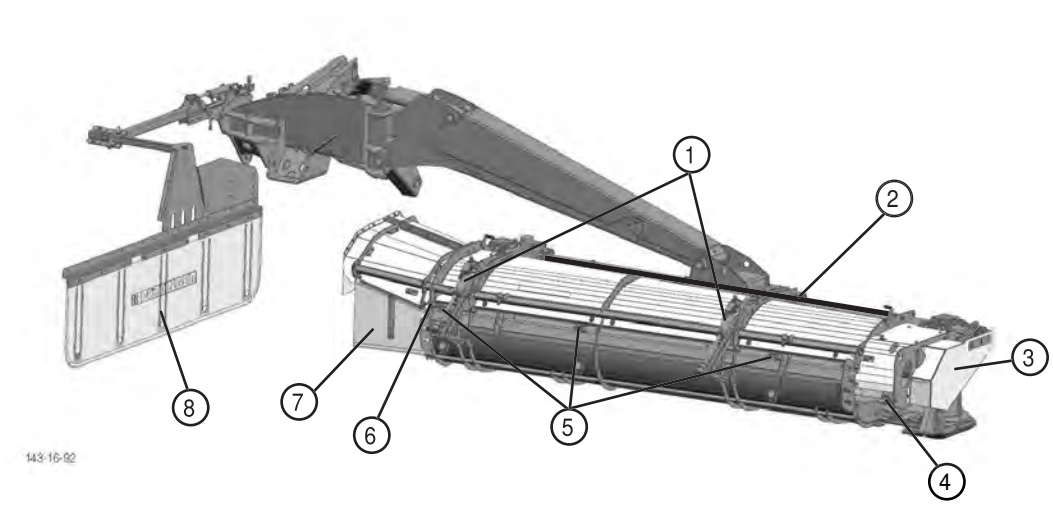
Overview - Device with mechanical tailgate opening



Designations:

(1) Drive unit (under the protective cover)
(2) V-belt tensioner
(3) Locking lever tailgate (open position)
(4) Locking lever tailgate (closed position)
(5) Spare belt position
(7) Protective apron ejector
(8) Protective apron (option)
(9) Distance setting swath curtain
(10) Shut-off valve swath curtain pivoting and throttle of the folding speed

Overview - Device with hydraulic tailgate opening



Designations:

(1) Hydraulic tailgate opening cylinder
(2) Additional scraper bar (parking position)
(3) Drive unit
(4) V-belt tensioner
(5) Adjusting screws of the scraper bar
(6) Spare belt position
(7) Protective apron ejector
(8) Swath apron

Safety advice

⚠ WARNING

Risk of serious injury through the drawing-in of clothing, hair or body parts.

- Never open or remove guards while the motor is running!

⚠ CAUTION

Danger of injury through ejected stones and other foreign bodies. Particularly from the the ejector end of the transverse auger (7) and when tailgate is open.

- Maintain a safe distance from the machine when motor is running.
- Guide people out of the danger areas.
- Take extra care when the fields are stony or when working near roads and paths.
- Immediately replace damaged equipment parts that limit the throwing distance of the objects. (e.g.: Protective apron ejector (7))
- Refer people out of the danger areas.

⚠ CAUTION

Risk of injury through cutting, amputation and crushing of body parts by moving parts. Particularly from the the ejector end of the transverse auger (7) and when tailgate is open.

- Always operate this machine from the tractor seat.
- Maintain a safe distance from the machine when motor is running.
- Guide people out of the danger areas.

⚠ CAUTION

Risk of injury through cutting, amputation and crushing of body parts by the V-belt drive.

- Maintain a safe distance from the machine when motor is running.
- Guide people out of the danger areas.

Mode of operation

The CF unit (option for A10) is used to deposit the cut material in a swath immediately after mowing.

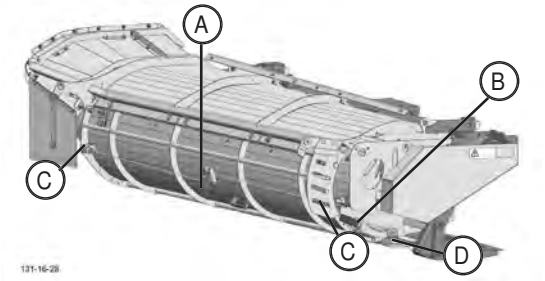
CF unit operation

The CF unit runs fully automatically and requires no operating elements.

Mechanical tailgate

The forage is transported in the direction of the swath along the tailgate of the CF unit. If depositing the cuttings as swath is not desired, the tailgate can be opened. When the tailgate is open, the cuttings are spread widely.

Overview:



A Middle position of the unlocking lever: to unlock the pins (C)

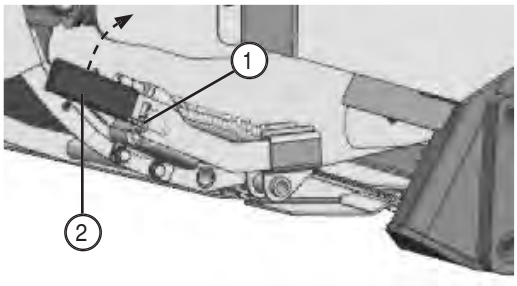
B Lateral position of the unlocking lever: For unlocking and locking the locking shaft, parking position of the unlocking lever

C Tailgate locking bolts

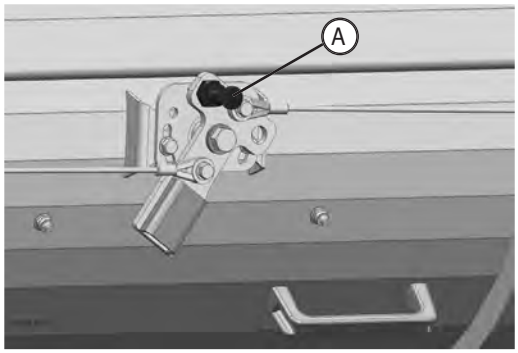
D Locking shaft

Opening the tailgate:

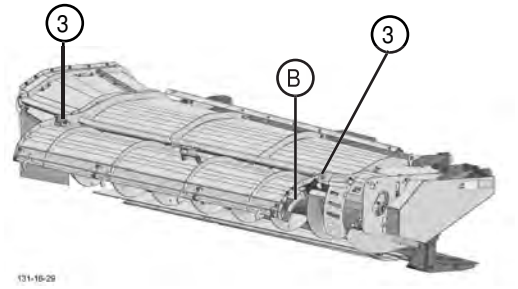
1. Unlock the locking shaft at the side
   - Remove the release lever (2) spring pin (1)
   - Push the release lever (2) out
   - Push the lever (2) up, in order to unlock the tailgate locking shaft.



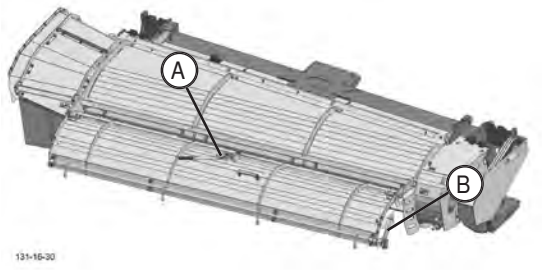
2. Open tailgate
   - Hold tailgate by the lever
   - Loosen centre (A) locking bolt.



   - Pull the tailgate all the way up until the side locking bolts (3) engage.
3. Store the release lever:
   - Put the release lever (2) in the side position (B).
   - Secure release lever (2) with spring pin (1).

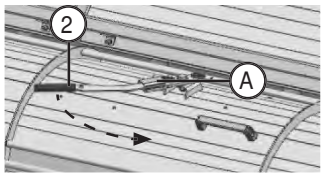


Close tailgate :



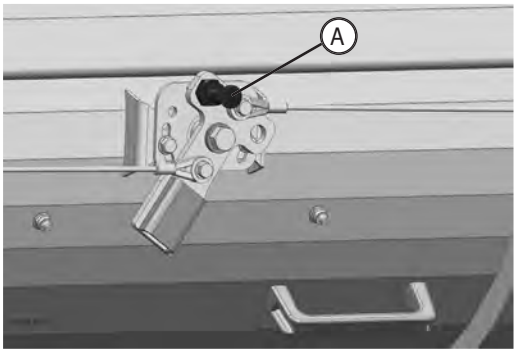
1. Fit the release lever in the middle position

   At the side position (B):
   - Remove spring pin (1)
   - Take release lever (2) out of the side position (B)
   - Fit the release lever (2) in the middle position (A)



2. Loosen locking pins
   - Push release lever (2) to the right to release the side locking bolts (3)

3. Close tailgate
   - Central locking bolt (A) must be free

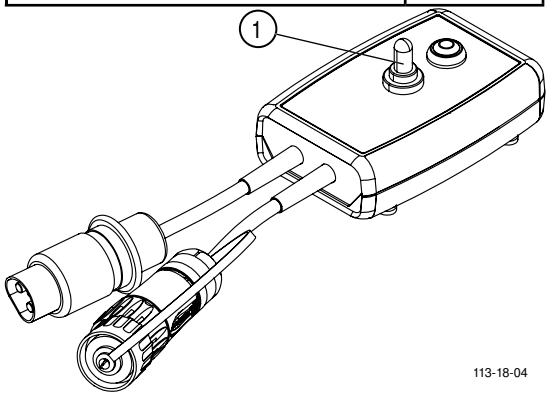


   - Carefully close tailgate
   - Check side locking mechanism
4. Lock the locking shaft at the side
   - Insert release lever (2) into the side position (B).
   - Secure release lever (2) with spring pin (1).

Hydraulic tailgate (option)

Use the comfort control to operate the hydraulic tailgate.

Select the "tailgate of transverse screw conveyor" function on the left toggle switch (1) to operate the tailgate with the control device.	

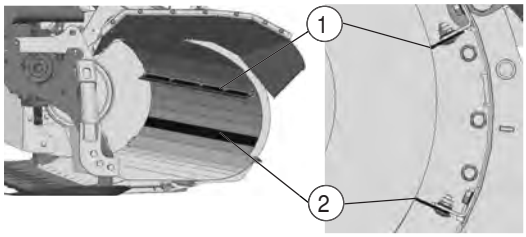


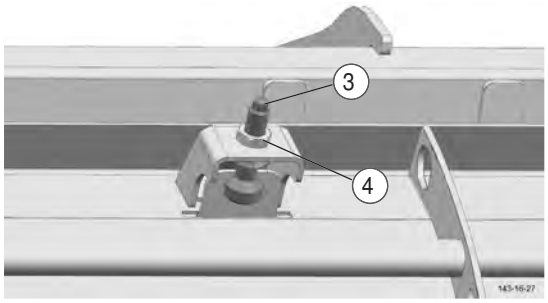
TIP

The tailgate of the transverse screw conveyor can only be operated in the headland position.

Attempts to operate the transverse screw conveyor as long as the mower is in the working position will have no effect.

Scraper bar





Adjust the scraper bar:

Adjust the scraper bar so that as much food as possible is scrapped. Leave only a minimal gap between the scraper bar and the transverse screw conveyor.

1. Loosen the fixing screws (1, 2) in the slotted holes on the inside of the cover.
2. Adjust the distance using the adjustment screws (3) on the outside of the cover.
   - Loosen the nut to do so (4).
   - Adjust the distance.
   - Tighten the nut (4) again.
3. Tighten the fixing screws (1, 2) again.

TIP

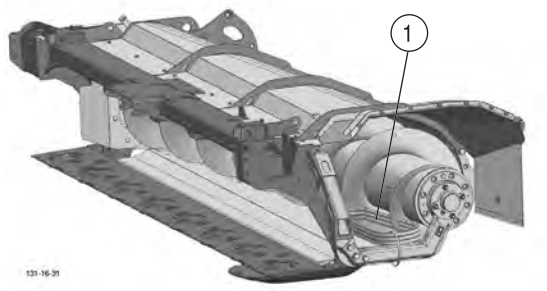
For long forage and increased power requirements, the scraper bar can be dismantled from position (2).

Swath apron

The swath apron prevents throwing of the swath and assures a safe deposit.

Spare belt

The spare belt (1) is stored in the chute next to the auger. Remove the spare belt before initial operation.



Maintenance

DANGER

Life-threatening danger exists through moving or rotating parts

Only carry out maintenance when...

- they have parked the appliance safely and securely on firm ground.
- the tractor engine is turned off and the pto shaft is stationary.
- all moving or rotating parts (especially the mowing discs) have come to a complete standstill. (Hearing test!)
- the tractor's ignition key has been removed.

Clearing blockages

DANGER

Life-threatening danger exists when under the machine

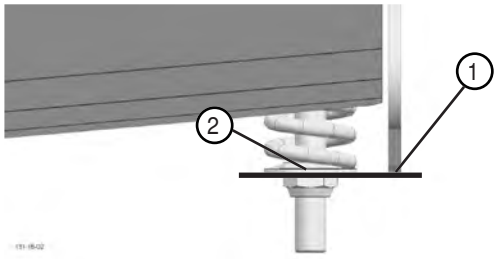
- Support the subsections you are under in an adequate way.
- Lock the control unit for the machine's lifting cylinders.
- Do not crawl under the machine

A blockage is generally found in the ejector.

Open the tailgate to be able to clear the blockage.

Check V-belt tension (if necessary)

When the tip of the bracket (1) is flush with the washer (2), this means the V-belt tension is correct.



Replacing driving belts:

When the driving belts show signs of damage or wear, they must be replaced. (Note: Always replace the complete belt set!)

• Relieve belt tension by loosening the nut.

- Replace belt
- Restore belt tension

Cleaning (every 20 hrs)

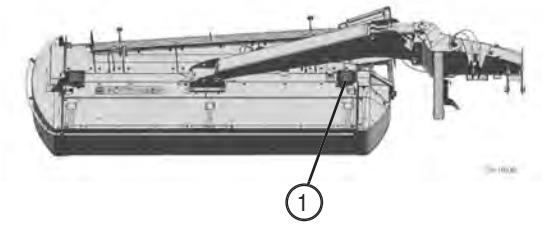
- Open the coverings and service accesses to the belt drive.
- Remove collected debris
- Clean transverse auger.

NOTE

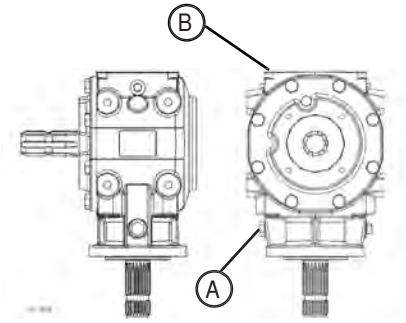
Damage to property caused by dirt in the lubrication system

- Pay attention to cleanliness when lubricating

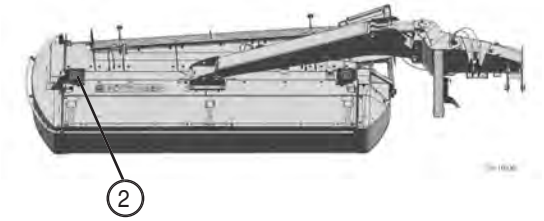
Lubricate angular gear (1)
after 50hrs, then after every 100 operating hours



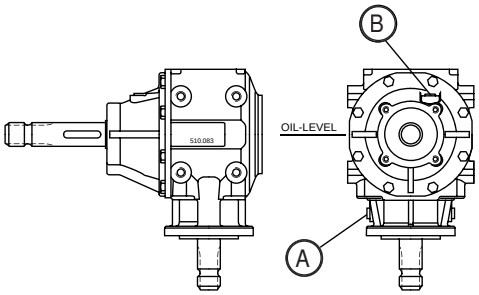
- Undo drain plug (A) and drain oil
- Refill with 1.2 l gear oil 75W-90 GL5 into the filling inlet (B)
- Check oil quantity at oil level



Lubricate angular gear (2)
every 100 operating hours



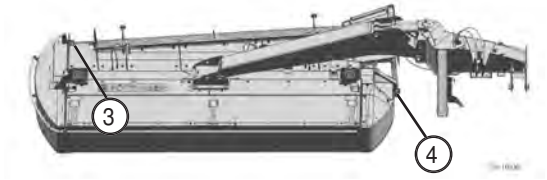
- Undo drain plug (A) and drain oil
- Pour 0.8 l SAE 90 gear oil into the filling inlet (B)
- Check oil quantity at oil level

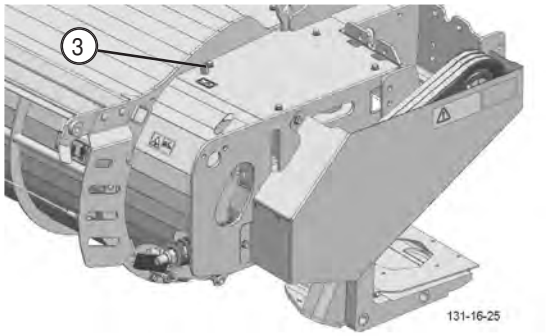


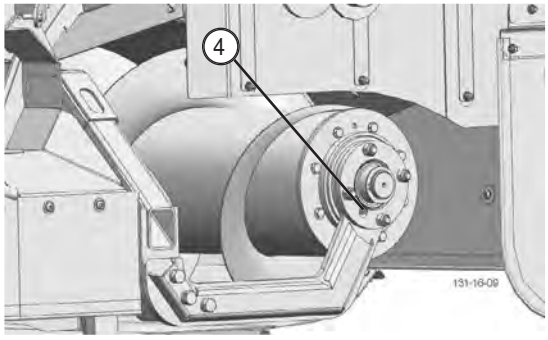
Lubricate transverse auger

every 50 operating hours

Lubricate grease nipples (3) and (4) on the transverse auger bearing with grease (IV) .







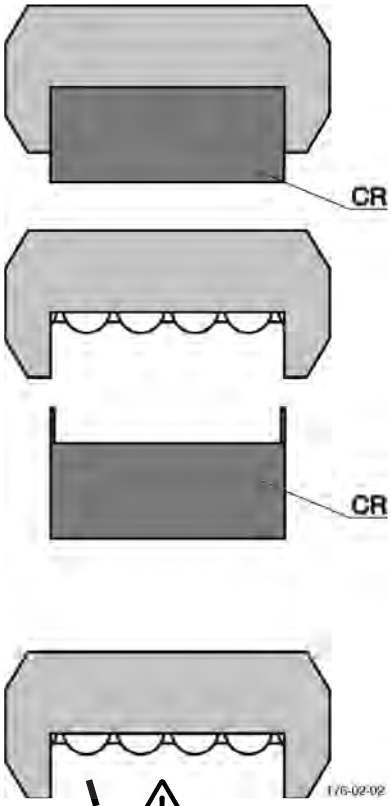
Mowing without a conditioner

Pay particular attention if the conditioner has been removed from the cutter bar!

Note

A machine with a conditioner (CR) as a complete unit is fitted with proper protection elements. However, if the conditioner has been removed then the mower unit is no longer completely covered. In this case mowing must not take place without fitting additional protective elements!

These protective elements are not available for NOVACAT 402 ED. The conditioner must therefore not be removed from this machine.



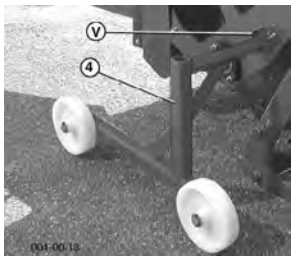
DANGER

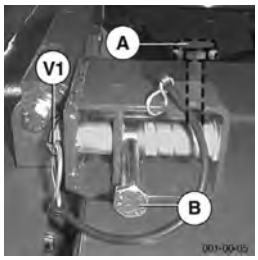
Life-threatening danger exists when detaching the conditioner. If the conditioner is detached, the cutting blades are freely accessible. There is danger to life!

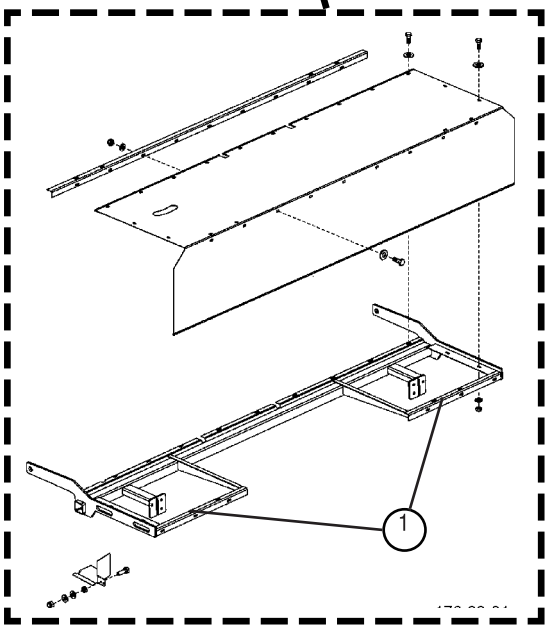
- For mowing without a conditioner, specially designed safeguards for this type of operation must be fitted to the mower bar. Mowing must not be carried out without these protective elements! These protective elements are not available for NOVACAT 402 ED.
- These safeguards are not included in the scope of delivery for a new machine with conditioner. The parts must be ordered additionally (see spare parts list, component: "REAR PROTECTION“).

Optional equipment:

- Conditioner chassis (4)
- Spring-loaded fixing bolts (A-B)
- Swath discs





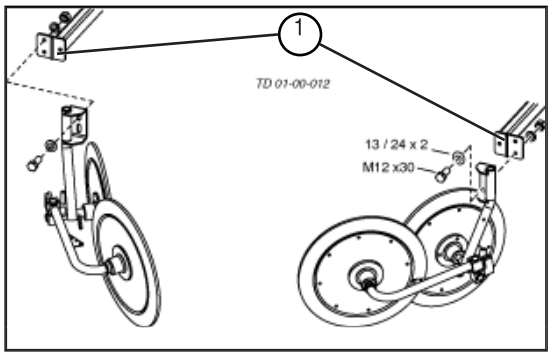


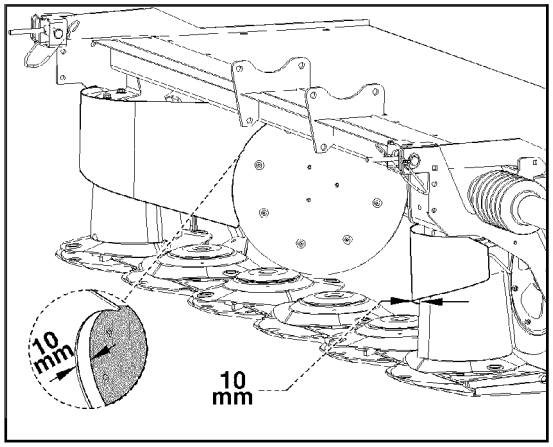
Swath width when mowing without a conditioner

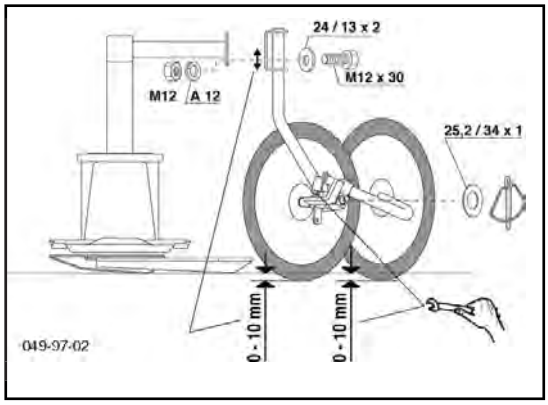
When mowing without a conditioner, the swath width is determined by the swath discs. This avoids driving over the crop with wide tractor tyres.

Fitting swath discs

- Fit the swath discs in Position 1, left and right (see also previous page: frame "Rear Protection")





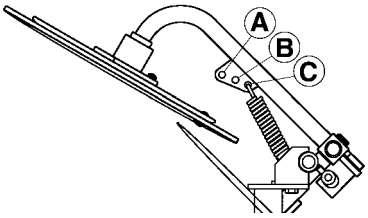


Setting both tension springs

A = for high, dense forage.

B = basic setting.

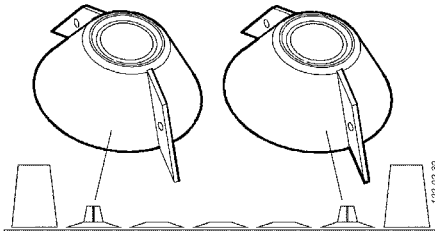
C = for short forage.



Conveying cones (optional)

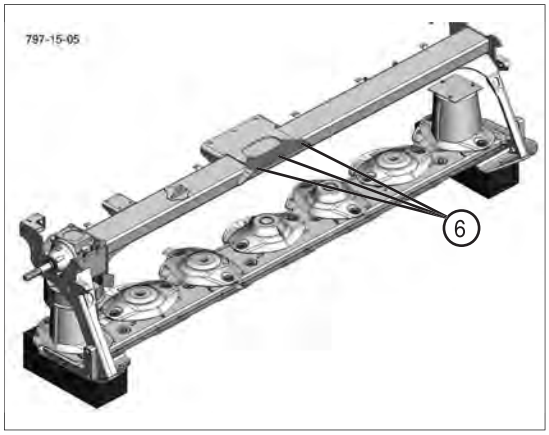
Conveying cones are recommended:

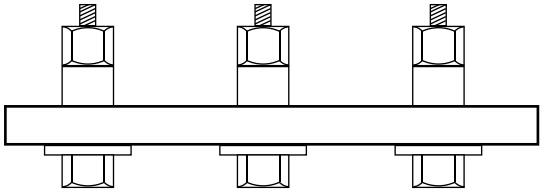
- to improve the conveyance rate of swath deposits, particularly with heavy, dense forage.
- See spare parts list for individual parts



Reverse the three screws in the centre bearing.

- Insert the three screws (6) in the rear area of the centre bearing. This are to be inserted with the screw head facing down. The nut and the bushing can be seen from above. Shim and screw head underneath the console. (See illustration)





Collision Prevention

NOTE

Material damage - It is not the purpose of collision avoidance to avoid damage to the machine when driving at full speed.

- Drive at an appropriate speed.
- Drive within the line of vision.

When mowing around trees, fences, boundary stones, etc., the cutter bar may collide with obstacles despite careful and slow driving. To prevent damage, the cutter unit is equipped with an anti-collision safety.

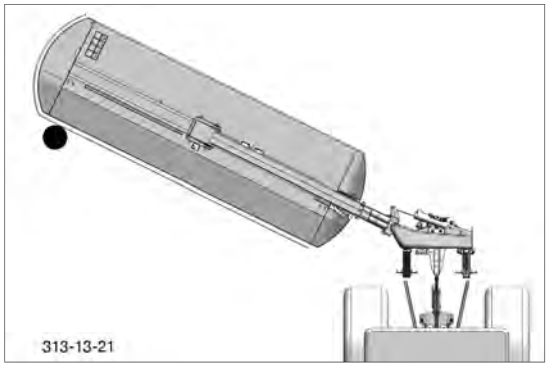
TIP

Always set the single-acting control unit to the float position when working to ensure optimum collision avoidance.

Mode of operation

If a collision occurs with an obstacle, the mower bar moves back slightly.

Move the mower bar back to working position using the dual-action control unit (ST) to continue working.



TIP

Switching from working to transport position and vice versa can also be carried out via this control unit. See also chapter entitled ”Transport and working position”

Safety advice

DANGER

Life-threatening danger exists through moving or rotating parts

Carry out maintenance works on the machine only when:

- It has been parked securely on level, firm ground.
- It has been secured against rolling with wheel chocks.
- The tractor engine is turned off and the pto shaft is stationary.
- All moving or rotating parts (especially the mowing disks) have come to a halt. (Hearing test!)
- The tractor's ignition key has been removed.
- If necessary, remove the cardan shaft.

Life-threatening danger exists when under the machine.

- Support the sub-areas you are under in an adequate way.

WARNING

Risk of serious injury through escaping oil.

- Pay attention to scuffed or clamped hose areas.
- Clean the couplings of the oil hoses and the oil sockets prior to each connection!
- Wear the relevant protective clothing.

NOTE

Material damage due to impurities that have penetrated into the hydraulic system

- Clean the couplings of the oil hoses and the oil sockets prior to each connection!

General maintenance information

Please observe the information below to maintain the machine in good condition even after a long period in operation:

- Re-tighten all bolts after the first hours in operation.

The following should be checked in particular:

Blade bolt connections on the mowers

Tine bolt connections on the rake and tedder

Spare parts

a. Genuine parts and accessories are specially designed for the machines.

b. We expressly draw your attention to the fact that genuine parts and accessories not supplied by us, have not been tested and approved by us.

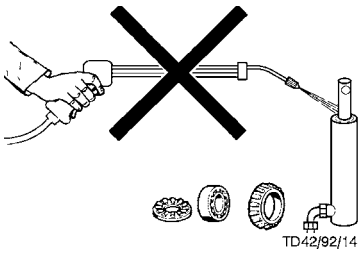
c. Under certain circumstances, the installation and/or use of such products may negatively modify or impair the specified structural properties of the machine. The manufacturer accepts no liability for any damage caused through the use of non-genuine parts and accessories.

d. Any unauthorised modifications and/or fitting of components and attachments to the machine negates any liability on the part of the manufacturer.

Cleaning of machine parts

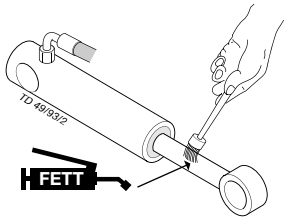
Be advised! Do not use high-pressure cleaners for the cleaning of bearing and hydraulic parts.

- Danger of rust!
- After cleaning, lubricate the machine according to the lubrication plan and carry out a brief test run.
- Cleaning pressure being too high may damage the paint.



Parking in the open

Clean and protect the piston rods with grease prior to longer periods parked out in the open



Winter storage

- Clean machine thoroughly prior to winter storage.
- Park protected against the weather.
- Change or top up gear oil.
- Protect exposed parts from rust.
- Lubricate all greasing points.
- Disconnect terminal, store dry and protected from frost.

Articulated shafts

- See information in the supplement

Please observe the following for maintenance!

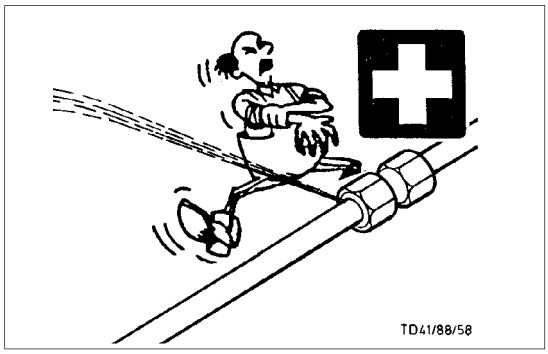
The directions in these Operating Instructions apply.

If no particular instructions are available here, then the information in the instructions supplied by the respective cardan shaft manufacturer apply.

Hydraulic unit

Caution: injury and infection hazard!

Liquids escaping at high pressure may penetrate the skin. Therefore seek immediate medical help!



Make sure that the hydraulic system is suited to the tractor before connecting the hydraulic lines.

After the first 10 hours of operation and every 50 hours in operation thereafter

- Check hydraulic unit and piping for leaks and if necessary re-tighten bolt connections.

Prior to every startup

- Check hydraulic hoses for wear.

  Replace any worn or damaged hydraulic hoses immediately. The replacement hoses must meet the manufacturer's technical requirements.

Hose lines are subject to natural ageing. The period of use should not exceed 5 – 6 years.

Cutter bar oil level check

- Top up or change the oil annually under normal operating conditions.

DANGER

Life-threatening danger exists through another person starting the tractor and driving off, or switching on the cardan shaft while maintenance work is being carried out.

- Shut engine off and remove key before carrying out maintenance or repair work.
- Wait for the mower discs to come to a standstill

DANGER

Life-threatening danger exists if the machine starts to roll or tilt.

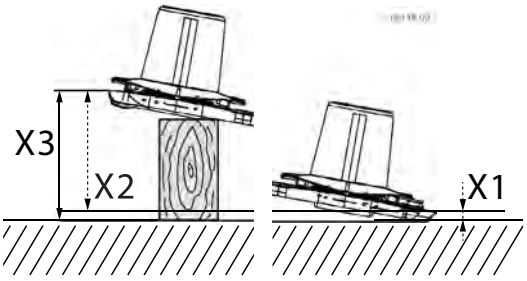
- Before any maintenance and repair work, park the machine on even, firm ground.
- Braking the machine

1. Lift one side of the mower bar X3 and support it.

X3 = X2 + X1

X1 = Distance from ground to upper skid edge.

X2 = Vertical measurement from the upper left skid edge to the upper right skid edge



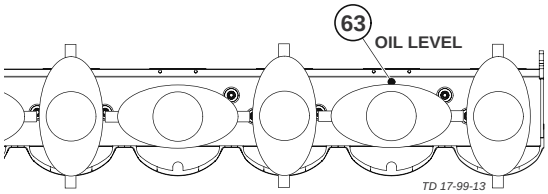
NOVACAT 302:	X2 = 300 mm
NOVACAT 352:	X2 = 300 mm
NOVACAT 402:	X2 = 250 mm

- The side where the oil refill screw is located remains on the ground.
- Lift the other side of the mower bar by **X3** and support with a suitable prop.
- The full width of the cutter bar must be positioned horizontally.

2. Leave mower bar in this position for about 15 minutes.

- This time is necessary to allow the oil to collect in the lower area of the mower bar.

3. Remove oil fill screw (63).

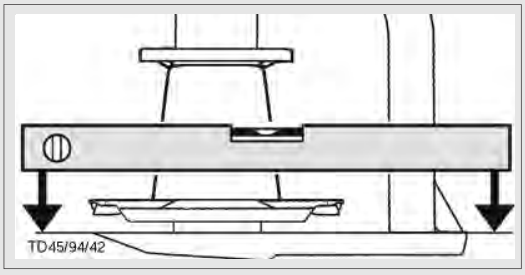


4. Oil level check

NOTE

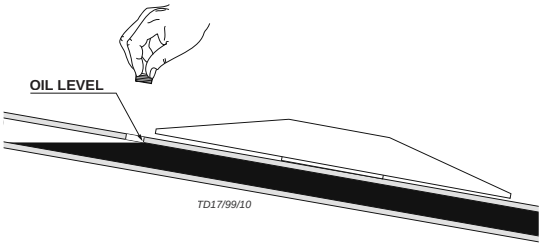
Property damage through too much or too little oil.

- The full length of the cutter bar is propped up. The width of the cutter bar must be exactly horizontal (see illustration).



Measure oil level through the opening (63).

The oil level is correct when the gear oil comes up to lower edge of the level screw (63) (OIL LEVEL).



5. Topping up oil

Add the amount of oil lacking.

NOTE

Property damage through too much or too little oil.

Too much oil can cause the cutter bar to overheat during operation.

Too little oil does not guarantee the necessary lubrication.

- Be precise when adding oil!

Cutter bar oil change

- Change oil after the first 50 operating hours or after 100 ha at the latest.

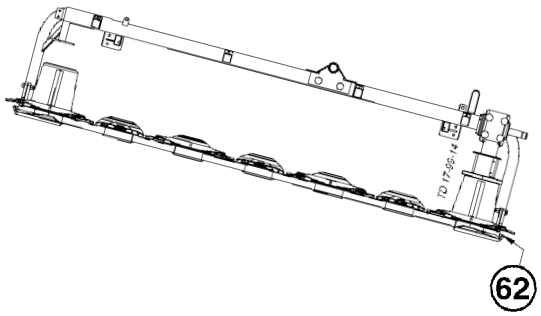
TIP

- Carry out oil change at operating temperature
- The oil is thick when cold. Too much waste oil sticks to the gears and as a result any suspended particles are not removed from the gearbox.
- It can take some time until the old oil has completely drained.

Oil quantity:

NOVACAT 302:	3.0 litre SAE 90
NOVACAT 352:	3.5 litre SAE 90
NOVACAT 402:	3.9 litre SAE 90

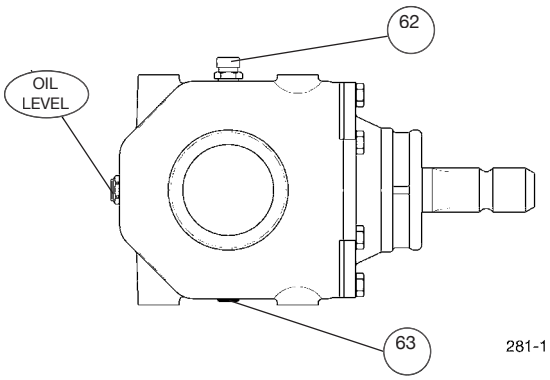
- Bring mower bar to max. tilt.
- Take out oil drain plug (62), let oil run out and dispose of waste oil correctly.

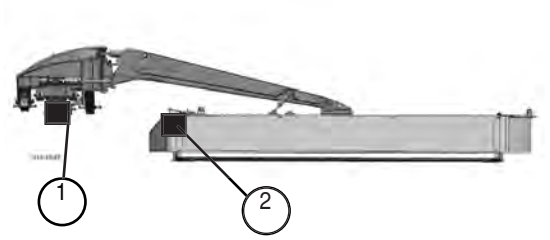


Oil change angular gear 1

- Change oil after the first 50 operating hours.
  Under normal operating conditions, oil is to be topped up annually (OIL LEVEL).
- Change oil after 100 ha at the latest.

Oil quantity: 1.25 litre SAE 90

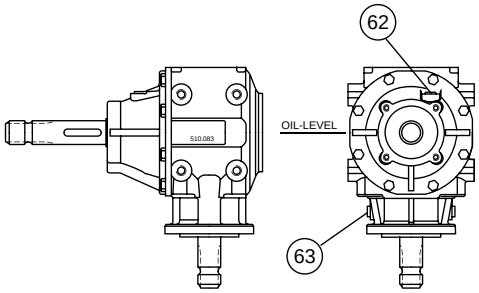


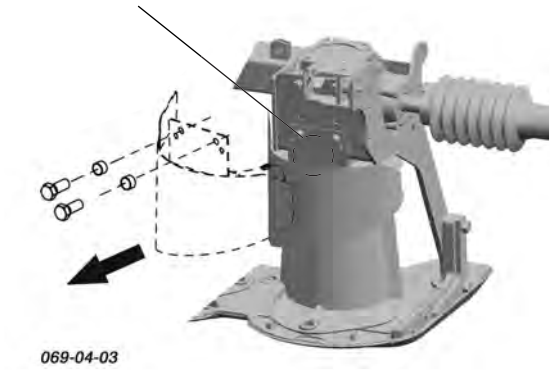


Oil change angular gear 2

- Change oil after the first 50 operating hours.
  Under normal operating conditions, oil is to be topped up annually (OIL LEVEL).
- Change oil after 100 ha at the latest.

Oil quantity: 0.8 litre SAE 90

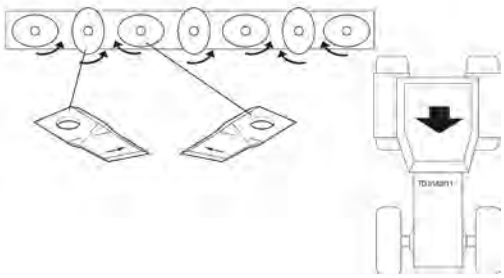




Installing cutter blades

TIP

- The arrow on the cutter blade shows the cutter disc's direction of turn.
- Before assembly, the screw-on surfaces must be free of paint.



Lubricating the hydraulic relief

TIP

Reduce relief pressure to 0 bar before lubricating cylinder suspensions to ensure uniform lubrication.

Wear control of mowing blades and holder

WARNING

Risk of injury resulting in death or other serious injury.

- Worn-out blade bolt
- Loose fit of the blade pin
- Worn blade holder
- Uneven wear of the pair of blades, which could cause unbalance

Check the blade holder, blade bolts and mowing blades regularly. Replace the worn parts!

TIP

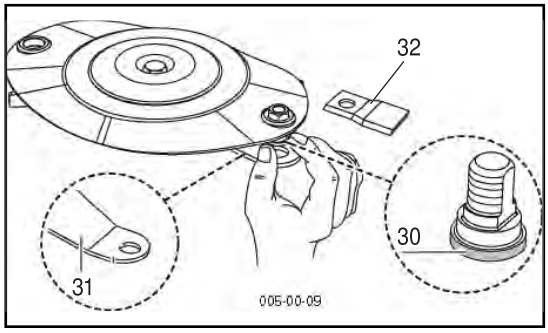
Use original Pöttinger spare parts! As these are optimally matched to the forces to be expected.

Parts to be checked:

Blade bolt (30)

Blade holder (31)

Mowing blades (32)



Control intervals:

Before each start-up

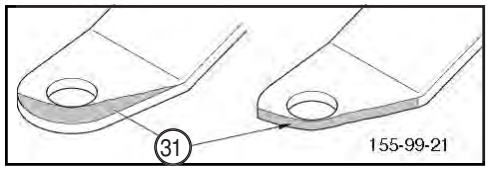
When mowing on stony terrain, carry out further checks during work.

Immediately after hitting an obstacle

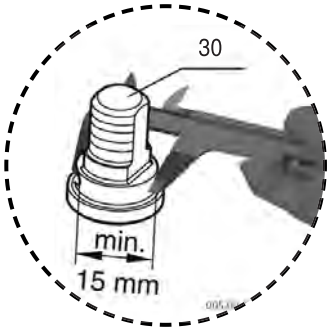
Immediately in case of abrasive noises in the area of the cutter bar

Control criteria:

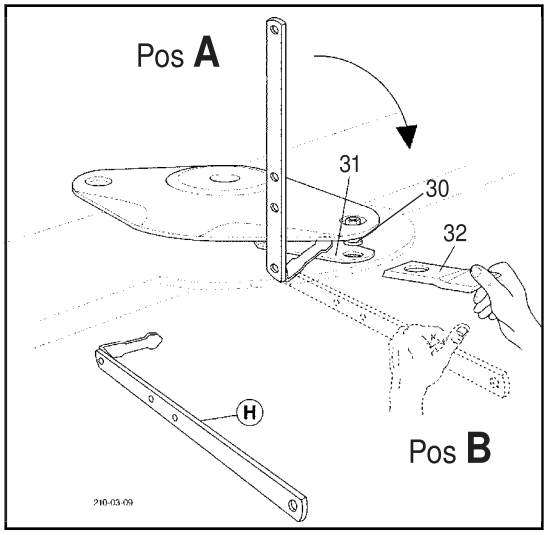
- Uneven wear of mowing blades (32) (danger of unbalance)
- Bent or damaged mowing blades (32)
- Bent, damaged or worn blade holder (the wear area of the blade holder has reached the edge of the hole) (31)



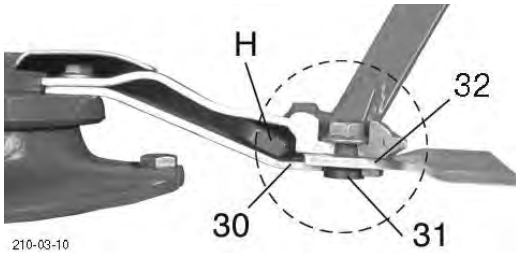
- Bent, damaged or worn blade bolts (middle area of the bolt: Diameter < 15 mm>; wear in the lower area of the bolt) (30)



Carrying out the check (with blade change):



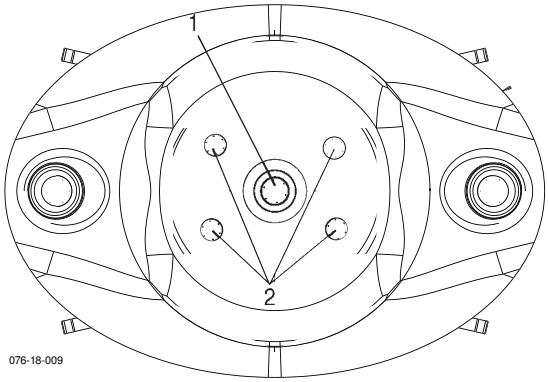
1. Insert lever (H) at a right angle to the ground (Pos A) between mower disc and blade holder.
2. Turn the lever (H) until it appears in line with the mower disc (Pos B). This will push the blade holder (31) downwards.
3. Remove the mowing blade (32).
4. Cleaning: Remove chuck residues and dirt from the blade bolt (30) and on the inside of the hole on the blade holder (31).
5. Check wear parts for the control criteria listed above.
6. Insert mower blade:
   a. If you have to change the mower blade (32), always change both blades of the respective mower disc.
   b. When inserting a mowing blade (32), pay attention to the running direction of the mowing disc. The mowing blades are labeled accordingly. Insert a mowing blade with the same direction of rotation (R,L) as the old mowing blade.
7. Visual inspection of the assembly: Ensure that the mowing blade (32) is placed between blade bolt (31) and blade holder (30) as shown.



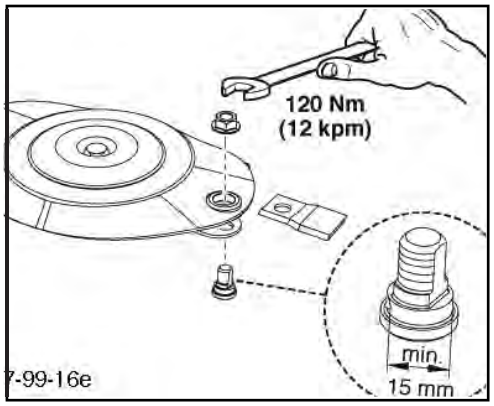
8. Raise lever H 90° to floor again (Pos A) and pull out sideways.

Bolt exchange passage:

1. Removing the mower disc



   a. Loosen the retaining screw (1) of the mower disc cover.
   b. Removing the mower disc cover
   c. Loosen 4x the retaining screw (2) of the mower disc.
   b. Remove mower disc
2. Loosen the nut of the locking bolt.
3. Changing the blade bolt
4. Tighten the blade bolt to 120 Nm.



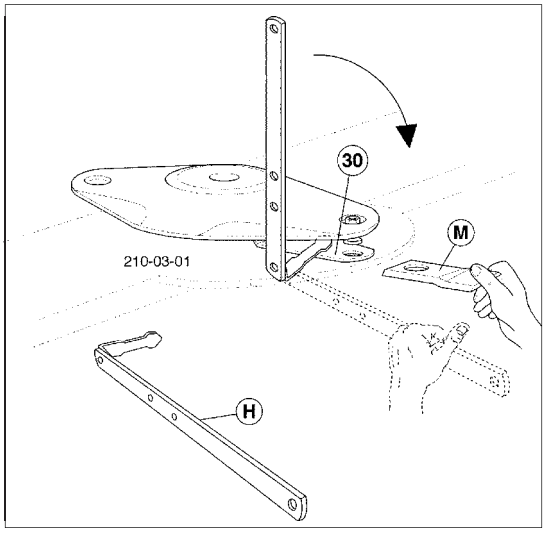
5. Replace mowing blade
6. Mounting the mower disc
   a. Reassemble the mower disc in the reverse order.

Storing of the lever

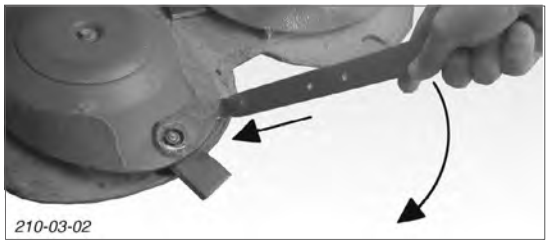
- Place lever in the respective retaining tab after use.

Changing the Cutter Blades (from 2004 model)

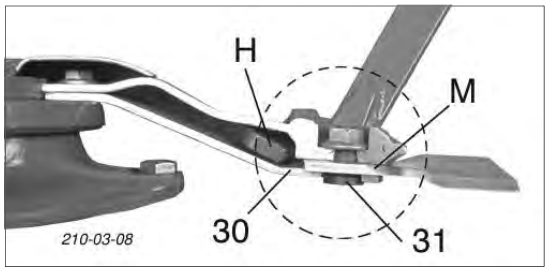
1. **Move lever (H) from the left or right to the stop between mower disk and blade holder (30) into position "A"**
2. **Swivel lever from pos. A to pos. B and thus press the moveable blade holder (30) down.**



3. **Remove cutter blade (M)**
4. **Clean forage remains and dirt away.**
   - around the bolts (31) and inside the borehole (32)



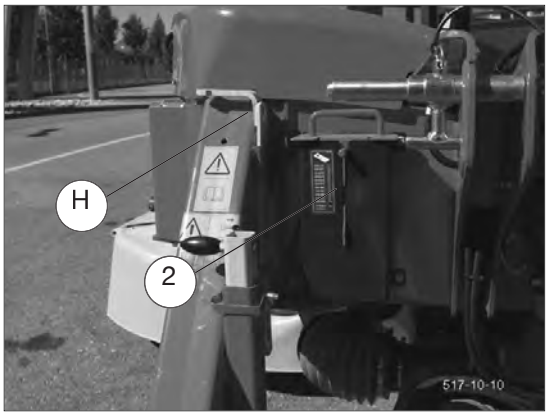
5. **Check:**
   - blade bolts (31) for damage, wear and fitting
   - holder (30) for damage, change in position and fitting
   - borehole (32) for damage.
     - Side surfaces must not show signs of deformation



6. **Install cutter blades**
7. **Visual check! Check that blade (M) is correctly positioned between blade bolts (31) and holder (30) (see diagram).**
8. **Swivel lever (H) to ”A” again and remove.**

Storing the lever

- Place and secure lever (H) in holding bracket on mounting frame after use.
- Replacement blades (2)



Technical data

Description	NOVACAT 302 CF Type 3786	NOVACAT 352 ED / RC /CF Type 3784	NOVACAT 402 ED Type 3785
Coupling	3-point coupling Cat.II / III - width 2 / 3	3-point coupling Cat. III / Width 3	3-point coupling Cat. III / Width 3
Working width	3.04 m	3.46 m	3.88 m
Transport width	< 3.00 m	< 3.00 m	< 3.00 m
No. of mowing discs	7	8	9
No. of cutter blades	14	16	18
Area output	3 ha/t	3.7 ha/t	4.4 ha/t
Drive speed (r.p.m.)	1000/540	1000	1000
Cardan shaft overload safeguard	1500 Nm	1500 Nm	1500 Nm
Power requirements	74kW (100 PS)	96 kW (130 PS)	96 kW (130 PS)
Weight [1)]	1400 kg	1350 kg / 1325 / 1440 kg	kg
Continuous sound emmission level	91.6 dB (A)	91.6 dB (A)	91.6 dB (A)

All data subject to change without notice

Necessary connections:

- 1 single-acting servo with float position (is the min. tractor configuration necessary)

  Min. operating pressure: 170 bar

  Max. operating pressure: 200 bar
- 1 double-acting servo (is the min. tractor configuration necessary)

  Min. operating pressure: 170 bar

  Max. operating pressure: 200 bar
- 7-pin connection for the lighting (12 volt)

Depending on the equipment:

- 1 double-acting control unit for NOVACAT 352 CF/ NOVACAT 352 CF with hydraulic rear wall of the cross-flow screw conveyor (Cross Flow)

  Min. operating pressure: 170 bar

  Max. operating pressure: 200 bar
- 3-pin connector for terminal power supply (NOVACAT 302 CF / NOVACAT 352 CF only)
- 7-pin connector for terminal signal transmission (NOVACAT 302 CF / NOVACAT 352 CF only)

Optional equipment:

- Conditioner chassis
- Rear guard
- Swath discs (only in combination with rear guard)
- High cut skids
- Conveying cone
- Wear skids
- Hydraulic swatch transmission (NOVACAT 302 CF / NOVACAT 352 CF)
- Counterweight (NOVACAT 302 CF / NOVACAT 402 ED)

1)Weight Deviations are possible depending on the machine's fittings.

Type plate position

The chassis number is engraved on the type plate shown adjacent. Guarantee claims, enquiries and spare part orders cannot be processed without the chassis number.

Please enter the number onto the front page of the operating instructions immediately after accepting the vehicle / machine.

Type plate position

The type plate is located on the upper link bracket of the mounting frame on the left in the direction of travel.

The defined use of the mower unit

The mowers **"NOVACAT 302 CF (TYPE PSM 3786)", "NOVACAT 352 ED/RC/CF (TYPE PSM 3784)", "NOVACAT 402 ED (TYPE PSM 3785)"** are intended exclusively for normal agricultural use.

- For the mowing of grassland and short stemmed fodder

Any other use outside of this is regarded as not in accordance with the designated use. The manufacturer is not liable for any damage resulting from this. The user alone accepts full responsibility for any resulting machine damage.

Using as designated also includes complying with the manufacturer's stipulated maintenance and repair conditions.

SUPPLEMENT

Things will run better with genuine Pöttinger parts

Original inside

- **Quality and precise fitting**
  - Operating safety.
- **Reliable operation**
- **Longer lasting**
  - Economy
- **Guaranteed availability** through your Pöttinger Sales Service.

The decision must be made, ”original” or ”imitation”? The decision is often governed by price and a ”cheap buy” can sometimes be very expensive.

Be sure you purchase the ”Original” with the cloverleaf symbol!

PÖTTINGER

TIP

This operating manual contains this symbol at all points relating to the safety of persons.

1.) Operating instructions

a. The operating instructions are an important part of the machine. Make sure that the operating instructions are always on hand when operating the machine.

b. Keep the operating instructions as long as the machine is in your possession.

c. Pass the operating instructions on to the buyer when selling the machine or changing the operator.

d. Make sure that all safety and warning symbols remain attached on the machine and keep them readable. The hazard warnings provide important information for a safe operation and, thus, your safety.

2.) Qualified personnel

a. Only persons of legal age who are mentally and physically able and have been trained or familiarized accordingly is allowed to operate this machine.

b. Persons not yet trained, familiarized or under training or in a general education must only operate this machine under the supervision of an experienced person.

c. Inspection, setting and repair work must only be performed by authorized persons.

3.) Performing maintenance work

a. These instructions only refer to service, maintenance and repair operations the user is able to carry out without assistance. Any work beyond this scope has to be carried out at authorized workshops only.

b. Repairs on the electrical and hydraulic system, preloaded springs, pressure accumulators, etc. require sufficient knowledge, correct tools and protective clothing and, thus, must only be performed at authorized workshops.

4.) After maintenance work on brakes

a. After each repair of the brakes, a functional check or a test drive must be carried out to ensure that the brakes function properly. New drums or brake linings only have optimum braking effect after a few braking operations. Violent braking should be avoided.

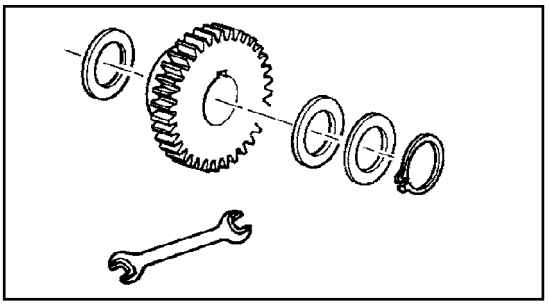
5.) Modification work

a. Do not undertake any unauthorised additions, modifications or alterations to the machine. This also applies to the installation and setting of safety devices as well as welding or drilling in stress-bearing parts.

6.) Appropriate use

a. see technical data

b. Intended use also includes compliance with the manufacturer's stipulated operating, maintenance and service conditions.



7.) Spare parts

a. **Original parts and accessories** are specially designed for the machines and their equipment.

b. We expressly draw your attention to the fact that genuine parts and accessories not supplied by us, have not been tested and approved by us.

c. Under certain circumstances, the installation and/or use of such products may negatively modify or impair the specified structural properties of the machine. The manufacturer accepts no liability for any damage caused through the use of non-genuine parts and accessories.

d. Unauthorised changes as well as the use of components or attachments on the machine lead to the exclusion of manufacturer's liability.

8.) Safety devices

a. All protection devices must remain on the machine and be maintained in proper condition. Replacement of worn or damaged covers or guards is required in good time.

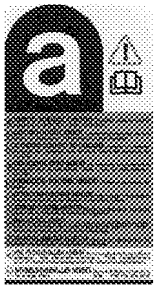
9.) Before starting work

a. Before commencing work, the operator must familiarise with all of the operating devices and functions. The learning of these is too late after having already commenced operation!

b. Before every putting into operation check the vehicle or the implement for traffic and operating safety.

10.) Asbestos

a. Certain sub-supplied components of the vehicle may contain asbestos due to technical reasons. Please observe the marking of spare parts.



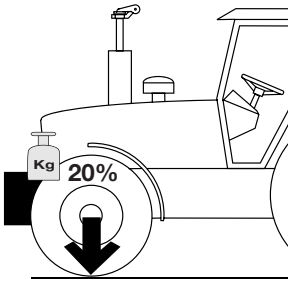
11.) Transport of people prohibited

a. The transport of people on the machine is not permitted.

b. The machine may only be driven on public roads when in the position stipulated for road transport.

12.) Driving ability with auxiliary equipment

a. The towing vehicle is to be sufficiently equipped with weights at the front or at the rear in order to guarantee the steering and braking capacity (a minimum of 20% of the vehicle's tare weight on the front axle).



b. The driving ability is influenced by the road and auxiliary equipment. The driving must be adapted to the corresponding terrain and ground conditions.

c. When driving through curves with a connected implement, observe the radius and swinging mass of the implement!

d. When travelling in a curve with attached or semi-mounted implements, take into account the working range and swing mass of the implement!

13.) General

a. Before attaching implements to the three-point linkage, move system lever into a position whereby unintentional raising or lowering is ruled out!

b. Danger of injury exists when coupling implements to the tractor!

c. Danger of injury through crushing and cutting exists in the three-point linkage area!

d. Do not stand between the tractor and the implement when using three-point linkage external operation!

e. Attach and detach drive shaft only when motor has stopped.

f. When transporting with raised implement, secure operating lever against lowering.

g. Before leaving tractor, lower attached implement to the ground and remove ignition key!

h. Nobody is allowed to stand between tractor and implement without the tractor being secured against rolling using parking brake and/or wheel chocks!

i. For all maintenance, service and modification work, turn driving motor off and remove the universal drive.

14.) Cleaning the implement

a. Do not use high-pressure washers for the cleaning of bearing and hydraulic parts.

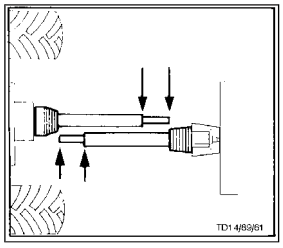
Adapting cardan shaft

NOTE

Material damage - due to inferior spare parts

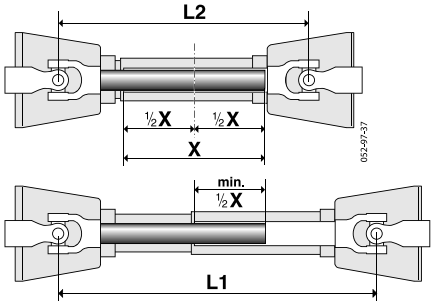
- Only use the cardan shaft supplied or stated; otherwise the warranty claims for any damage are not valid.

The correct length is determined by comparing both cardan shaft halves.



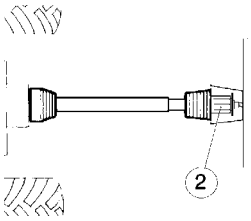
Cutting to length procedure

- To adapt the length, hold cardan shaft halves side by side in the shortest operating position (L2) and mark.



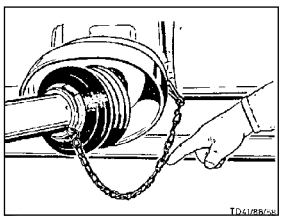
Caution!

- Note the maximum operating length (L1)
  - Aim at the maximum possible tube superimposition (min. $^1/_2$ X)
- Shorten the inner and outer safety tube equally
- Attach overload protection (2) to the machine!
- Always check that cardan shaft locks are securely engaged before starting work.



Safety chain

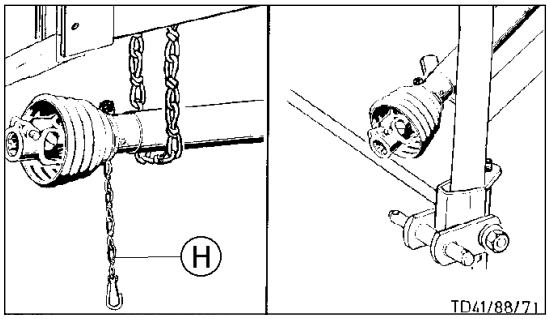
- Use chain to prevent tube guard from rotating.
  Ensure sufficient swivel space for the cardan shaft!
- Trim the safety chain so that it cannot wind around the cardan shaft.



Instructions for working

Do not exceed the permissible pto speed when using the machine.

- The attached machine may run-on after the pto is switched off. Work must only be performed on it once it has completely stopped.
- When parking the machine, the cardan shaft must be taken off or secured using a chain, as instructed. Do not use safety chain (H) to suspend the cardan shaft.



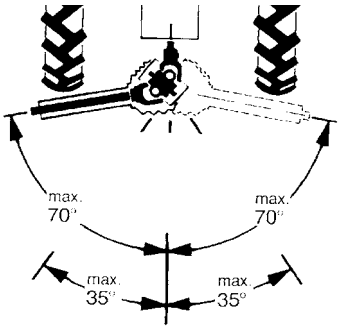
Wide-angle joint:

Maximum angle for operation and at standstill 70˚.

Standard joint :

Maximum angle at standstill 90˚.

Maximum angle for operation 35˚.



Maintenance

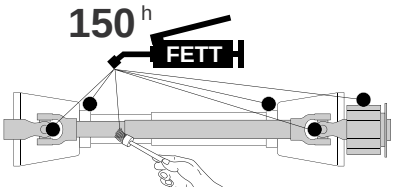
DANGER

Mortal danger - due to worn covers

- Replace the worn covers immediately

- Lubricate with a brand-name grease before starting work and every 150 operating hours.
- Before any extended period of non-use, clean and lubricate cardan shaft.

  For winter working, grease the tube guards to prevent freezing.



Function information when using a cam clutch.

The cam clutch is an overload clutch that switches the torque to "zero" when overloaded. Switch the clutch on again by disengaging the p.t.o. drive.

The clutch switch-on speed is below 2oo r.p.m..

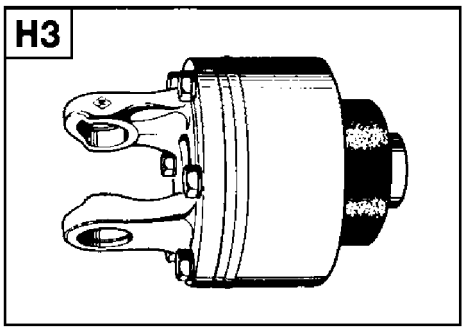
TIP

Switching-on is also possible by decreasing p.t.o. r.p.m.

TIP

The cardan shaft cam clutch is not a “Full” indicator. It is purely an overload protection device designed to protect your vehicle against damage.

Sensible driving avoids frequent clutch response and prevents unnecessary wear to the clutch and the machine.



Greasing interval: 500 hrs (Special lubricant)

Important for driveshafts with friction clutch

Torque is limited with overloading and brief torque peaks and evenly transferred during slipping.

Prior to initial operation and after long periods of non-use, check friction clutch for proper function.

a) Determine measurement „L“ on compression spring at K90, K90/4 and K94/1, or set screw at K92E and K92/4E.

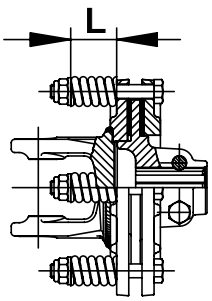
b.) Loosen screws to release the pressure on the friction disc.

Slip the clutch.

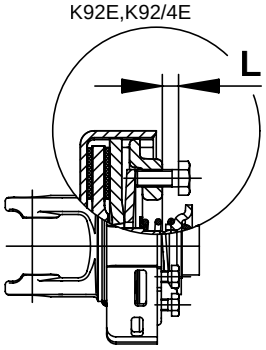
c.) Set screws to dimension "L".

Clutch is ready for use again.

K90,K90/4,K94/1

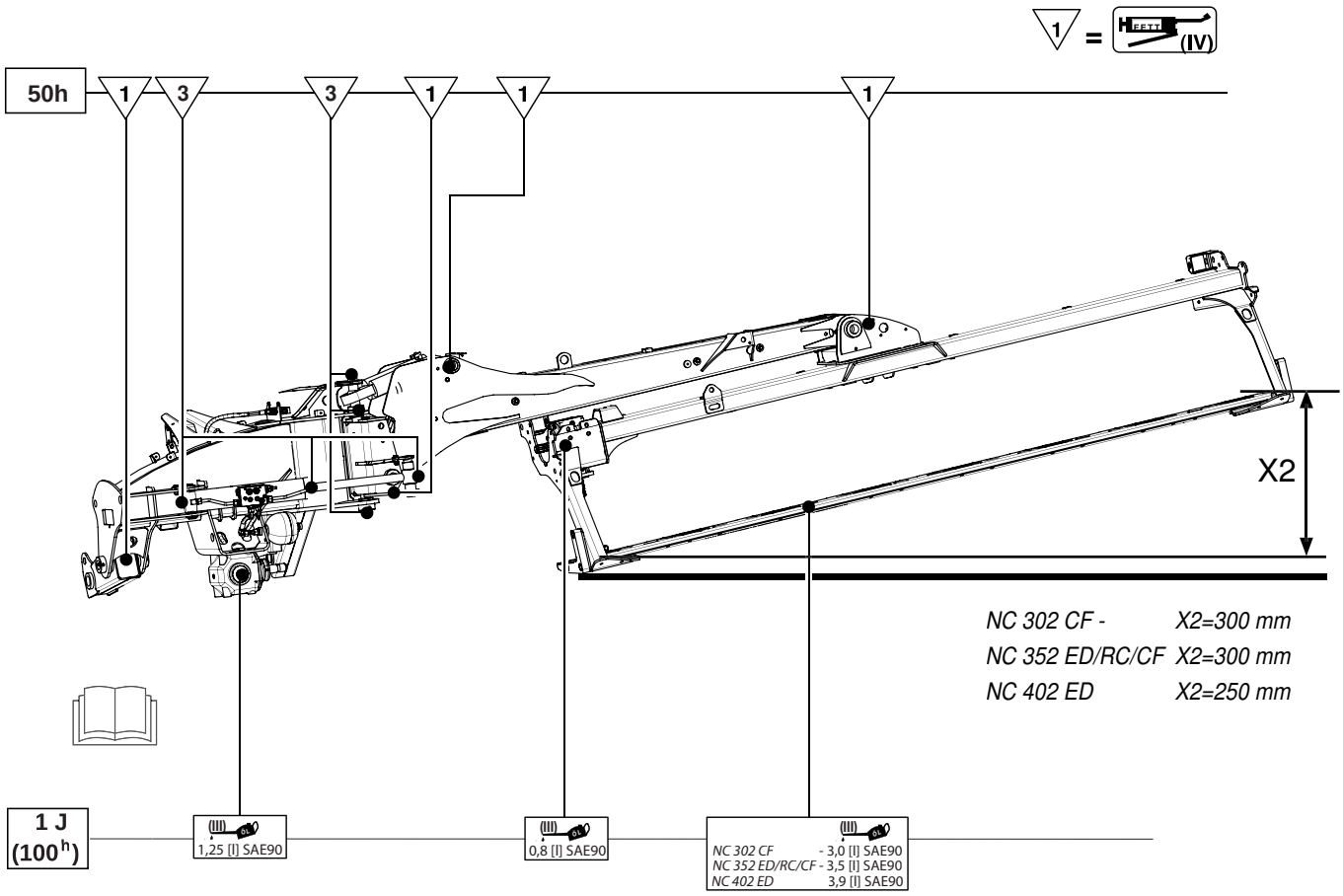


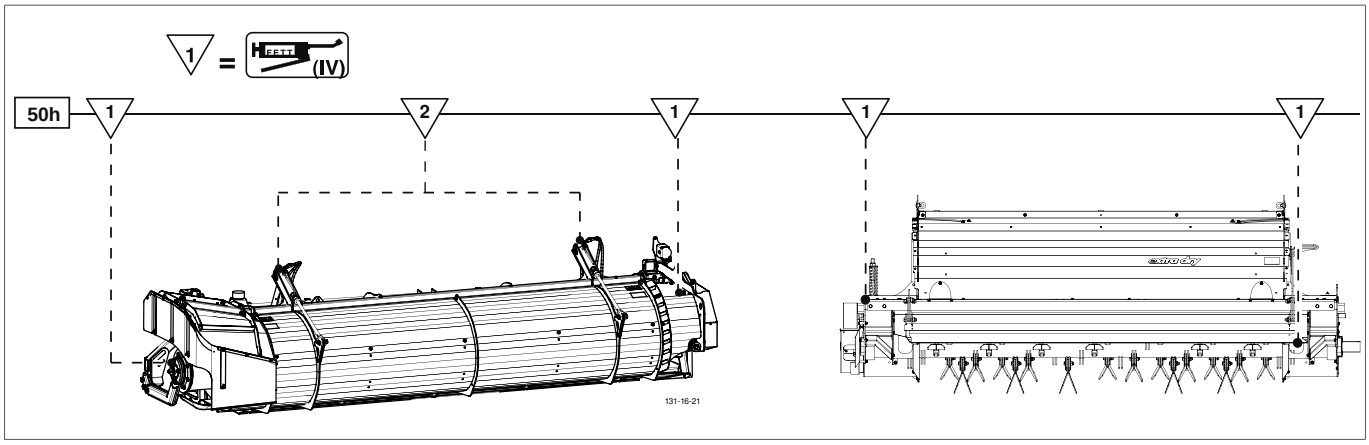
K92E,K92/4E

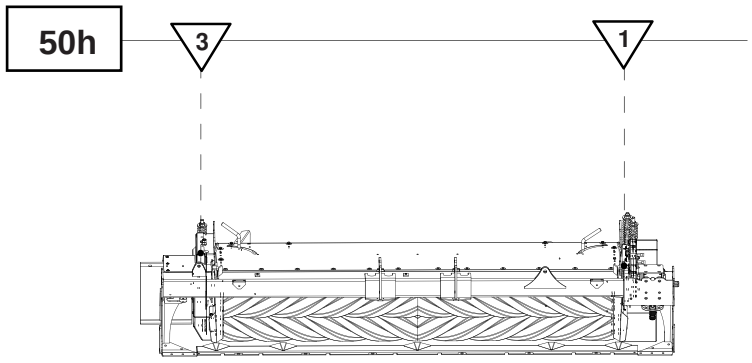


Lubrication chart

X^{h}	after every X hours operation
40 F	all 40 loads
80 F	all 80 loads
1 J	once a year
100 ha	every 100 hectares
BB	if necessary
	GREASE
	Oil
 =	Number of grease nipples
 =	Number of grease nipples
(III), (IV)	see supplement „Lubrificants“
[l]	Litre
– – – –	Variation
	See manufacturer’s instructions
↺	Rotations per minute
	Always screw in measuring stick up to stop.


1 = (IV)
50h
1
3
3
1
1
1
X2
NC 302 CF - X2=300 mm
NC 352 ED/RC/CF X2=300 mm
NC 402 ED X2=250 mm
1 J
(100h)
(III)
1,25 [l] SAE90
(III)
0,8 [l] SAE90
(III)
NC 302 CF - 3,0 [l] SAE90
NC 352 ED/RC/CF - 3,5 [l] SAE90
NC 402 ED 3,9 [l] SAE90


1 = (IV)
50h
1
2
1
1
1
131-16-21


50h
3
1

131-16-24

EN

Lubricants

Edition 2013

The performance and the lifetime of the farm machines are highly depending on a careful maintenance and application of correct lubricants. our schedule enables an easy selection of selected products.

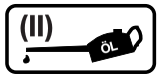
The applicable lubricants are symbolized (eg. “III”). According to this lubricant product code number the specification, quality and brandname of oil companies may easily be determined. The listing of the oil companies is not said to be complete.

Gear oils according to operating instructions - however at least once a year.

- Take out oil drain plug, let run out and duly dispose waste oil.

Before garaging (winter season) an oil change and greasing of all lubricating points has to be done. Unprotected, blanc metal parts outside (joints, etc.) have to be protected against corrosion with a group "Iv" product as indicated on the reverse of this page.

Corrosion protection: Fluid 466

Lubricant indicator	**I**		III		**V**	**VI**	**VII**
required quality level niveau	HYDRAULIKöL HLP DIN 51524 Teil 2 See notes: * ** ***	motor oil SAE 30 according to API CD/SF	gear oil, SAE 90 resp. SAE 85 W-140 according to API-GL 4 or API-GL 5	lithium grease	transmission grease	complex grease	gear oil SAE 90 resp. SAE 85 W-140 according to API-GL 5

Company	I	(II)	III	(IV)	V	VI	VIII	NOTATIONS
AGIP	OSO 32/46/68 ARNICA 22/46	MOTOROIL HD 30 SIGMA MULTI 15W-40 SUPER TRACTOROIL UNIVERS. 15W-30	ROTRA HY 80W-90/85W-140 ROTRA MP 80W-90/85W-140	GR MU 2	GR SLL GR LFO	-	ROTRA MP 80W-90 ROTRA MP 85W-140	* The international specification J 20 A is necessary for compound operation with wet brake tractors. ** HLP-(D) + HV hydraulic oils *** HLP + HV hydraulic oils with a vegetable oil basis, biodegradable and therefore environmentally friendly.
ARAL	VITAM GF 32/46/68 VITAM HF 32/46	SUPER KOWAL 30 MULTI TURBORAL SUPER TRAKTORAL 15W-30	GETRIEBEÖL EP 90 GETRIEBEÖL HYP 85W-90	ARALUB HL 2	ARALUB FDP 00	ARALUB FK 2	GETRIEBEÖL HYP 90	
AVIA	AVILUB RL 32/46 AVILUB VG 32/46	MOTOROIL HD 30 MULTIGRADE HDC 15W-40 TRACTAVIA HF SUPER 10 W-30	GETRIEBEÖL MZ 90 M MULTIHYP 85W-140	AVIA MEHRZWECKFETT AVIA ABSCHMIERFETT	AVIA GETRIEBEFLIESSFETT	AVIALUB SPEZIALFETT LD	GETRIEBEÖL HYP 90 EP MULTIHYP 85W-140 EP	
BAYWA	HYDRAULIKÖL HLP 32/46/68 SUPER 2000 CD-MC * HYDRA HYDR. FLUID * HYDRAULIKÖL MC 530 ** PLANTOHYD 40N ***	SUPER 2000 CD-MC SUPER 2000 CD HD SUPERIOR 20 W-30 HD SUPERIOR SAE 30	SUPER 8090 MC HYPOID 80W-90 HYPOID 85W-140	MULTI FETT 2 SPEZIALFETT FLM PLANTOGEL 2 N	GETRIEBEFLIESSFETT NLGI 0 RENOLIT DURAPLEX EP 00 PLANTOGEL 00N	RENOPLEX EP 1	HYPOID 85W-140	
BP	ENERGOL SHF 32/46/68	VISCO 2000 ENERGOL HD 30 VANELLUS M 30	GEAR OIL 90 EP HYPOGEAR 90 EP	ENERGREASE LS-EP 2	FLIESSFETT NO ENERGREASE HTO	OLEX PR 9142	HYPOGEAR 90 EP HYPOGEAR 85W-140 EP	
CASTROL	HYSPIN AWS 32/46/68 HYSPIN AWH 32/46	RX SUPER DIESEL 15W-40 POWERTRANS	EPX 80W-90 HYPOY C 80W-140	CASTROLGREASE LM	IMPERVIA MMO	CASTROLGREASE LMX	EPX 80W-90 HYPOY C 80W-140	
ELAN	HLP 32/46/68 HLP-M M32/M46	MOTORÖL 100 MS SAE 30 MOTORÖL 104 CM 15W-40 AUSTROTRAC 15W-30	GETRIEBEÖL MP 85W-90 GETRIEBEÖL B 85W-90 GETRIEBEÖL C 85W-90	LORENA 46 LITORA 27	RHENOX 34	-	GETRIEBEÖL B 85W-90 GETRIEBEÖL C 85W-140	
ELF	OLNA 32/46/68 HYDRELF 46/68	PERFORMANCE 2 B SAE 30 8000 TOURS 20W-30 TRACTORELF ST 15W-30	TRANSELF TYP B 90 85W-140 TRANSELF EP 90 85W-140	EPEXA 2 ROLEXA 2 MULTI 2	GA O EP POLY G O	MULTIMOTIVE 1	TRANSELF TYP B 90 85W-140 TRANSELF TYP BLS 80 W-90	
ESSO	NUTO H 32/46/68 NUTO HP 32/46/68	PLUS MOTORÖL 20W-30 UNIFARM 15W-30	GEAROIL GP 80W-90 GEAROIL GP 85W-140	MULTI PURPOSE GREASE H	FIBRAX EP 370	NEBULA EP 1 GP GREASE	GEAR OIL GX 80W-90 GEAROIL GX 85W-140	
EVVA	ENAK HLP 32/46/68 ENAK MULTI 46/68	SUPER EVVAROL HD/B SAE 30 UNIVERSAL TRACTOROIL SUPER	HYPOID GA 90 HYPOID GB 90	HOCHDRUCKFETT LT/SC 280	GETRIEBEFETT MO 370	EVVA CA 300	HYPOID GB 90	
FINA	HYDRAN 32/46/68	DELTA PLUS SAE 30 SUPER UNIVERSAL OIL	PONTONIC N 85W-90 PONTONIC MP 85W-90 85W-140 SUPER UNIVERSAL OIL	MARSON EP L 2	NATRAN 00	MARSON AX 2	PONTONIC MP 85W-140	
FUCHS	• TITAN HYD 1030 • AGRIFARM STOU MC 10W-30 • AGRIFARM UTTO MP • PLANTOHYD 40N ***	• AGRIFARM STOU MC 10W-30 • TITAN UNIVERSAL HD	• AGRIFARM GEAR 80W90 • AGRIAFRM GEAR 85W-140 • AGRIFARM GEAR LS 90	• AGRIFARM HITEC 2 • AGRIFARM PROTEC 2 • RENOLIT MP • RENOLIT FLM 2 • PLANTOGEL 2-N	• AGRIFARM FLOWTEC 000 • RENOLIT SO-GFO 35 • RENOLIT DURAPLEX EP 00 • PLANTOGEL 00N	• RENOLIT DURAPLEX EP 1	• AGRIFARM GEAR 8090 • AGRIFARM GEAR 85W-140 • AGRIFARM GEAR LS90	
GENOL	HYDRAULIKÖL HLP/32/46/68 HYDRAMOT 1030 MC * HYDRAULIKÖL 520 ** PLANTOHYD 40N ***	MULTI 2030 2000 TC HYDRAMOT 15W-30 HYDRAMOT 1030 MC	GETRIEBEÖL MP 90 HYPOID EW 90 HYPOID 85W-140	MEHRZWECKFETT SPEZIALFETT GLM PLANTOGEL 2 N	GETRIEBEFLIESSFETT PLANTOGEL 00N	RENOPLEX EP 1	HYPOID EW 90 HYPOID 85W-140	
MOBIL	DTE 22/24/25 DTE 13/15	HD 20W-20 DELVAC 1230 SUPER UNIVERSAL 15W-30	MOBILUBE GX 90 MOBILUBE HD 90 MOBILUBE HD 85W-140	MOBILGREASE MP	MOBILUX EP 004	MOBILPLEX 47	MOBILUBE HD 90 MOBILUBE HD 85W-140	
RHG	RENOLIN B 10/15/20 RENOLIN B 32 HVI/46HVI	EXTRA HD 30 SUPER HD 20 W-30	MEHRZWECKGETRIEBEÖISAE90 HYPOID EW 90	MEHRZWECKFETT RENOLIT MP DURAPLEX EP	RENOSOD GFO 35	RENOPLEX EP 1	HYPOID EW 90	

Company	I	(II)	III	(IV)	V	VI	VIII	NOTATIONS
SHELL	TELLUS S32/S46/S68 TELLUS T 32/T46	AGROMA 15W-30 ROTELLA X 30 RIMULA X 15W-40	SPIRAX 90 EP SPIRAX HD 90 SPIRAX HD 85/140	RETINAX A ALVANIA EP 2	SPEZ. GETRIEBEFETT H SIMMNIA GREASE O	AEROSHELL GREASE 22 DOLIUM GREASE R	SPIRAX HD 90 SPIRAX HD 85W-140	* The international specification J 20 A is necessary for compound operation with wet brake tractors. ** HLP-(D) + HV hydraulic oils *** HLP + HV hydraulic oils with a vegetable oil basis, biodegradable and therefore environmentally friendly.
TOTAL	AZOLLA ZS 32, 46, 68 EQUIVIS ZS 32, 46, 68	RUBIA H 30 MULTAGRI TM 15W-20	TOTAL EP 85W-90 TOTAL EP B 85W-90	MULTIS EP 2	MULTIS EP 200	MULTIS HT 1	TOTAL EP B 85W-90	
VALVOLINE	ULTRAMAX HLP 32/46/68 SUPER TRAC FE 10W-30* ULTRAMAX HVLP 32 ** ULTRAPLANT 40 ***	SUPER HPO 30 STOU 15W-30 SUPER TRAC FE 10W-30 ALL FLEET PLUS 15W-40	HP GEAR OIL 90 oder 85W-140 TRANS GEAR OIL 80W-90	MULTILUBE EP 2 VAL-PLEX EP 2 PLANTOGEL 2 N	RENOLIT LZR 000 DEGRALUB ZSA 000	DURAPLEX EP 1	HP GEAR OIL 90 oder 85W-140	
VEEDOL	ANDARIN 32/46/68	HD PLUS SAE 30	MULTIGRADE SAE 80/90 MULTIGEAR B 90 MULTIGEAR C SAE 85W-140	MULTIPURPOSE	-	-	MULTIGEAR B 90 MULTI C SAE 85W-140	
WINTERSHALL	WIOLAN HS (HG) 32/46/68 WIOLAN HVG 46 ** WIOLAN HR 32/46 *** HYDROLFLUID *	MULTI-REKORD 15W-40 PRIMANOL REKORD 30	HYPOID-GETRIEBEÖL 80W-90, 85W-140 MEHRZWECKGETRIEBEÖL 80W-90	WIOLUB LFP 2	WIOLUB GFW	WIOLUB AFK 2	HYPOID-GETRIEBEÖL 80W-90, 85W-140	
MOTOREX	COREX HLP 32 46 68** COREX HLPD 32 46 68** COREX HV 32 46 68** OEKOSYNT 32 46 68***	EXTRA SAE 30 FARMER TRAC 10W/30	GEAR OIL UNIVERSAL 80W/90 GEAR OIL UNIVERSAL 85W/140	FETT 176 GP FETT 190 EP FETT 3000	FETT 174	FETT 189 EP FETT 190 EP FETT 3000	GEAR OIL UNIVERSAL 80W/90 GEAR OIL UNIVERSAL 85W/140	

Taper bushes installation instructions

To assemble

1. Clean and degrease the bore and taper surfaces of the bush and the tapered bore of the pulley.
2. Insert the bush in the pulley hub and line up the holes (half thread holes must line up with half straight holes).
3. Lightly oil the grub screws (bush size 1008 to 3030) or the cap screws (bush size 3535 to 5050) and screw them in, do not tighten yet.
4. Clean and degrease the shaft. Fit pulley with taper bush on shaft and locate in desired position.
   - When using a key it should first be fitted in the shaft Keyway. There should be a top clearance between the key and the keyway in the bore.
   - Using a hexagon socket wrench (DIN 911) gradually tighten the grub/cap screws in accordance with the torques as listed in the schedule of screw tightening torques

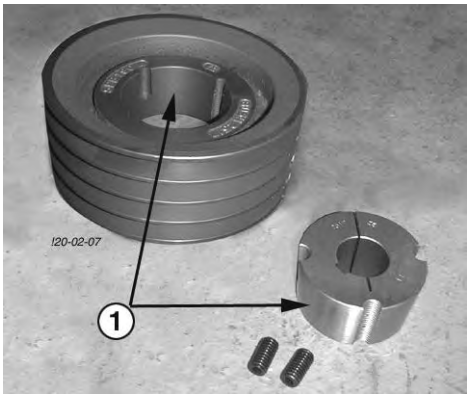
Bush identifier	Torque [Nm]
2017	30
2517	49

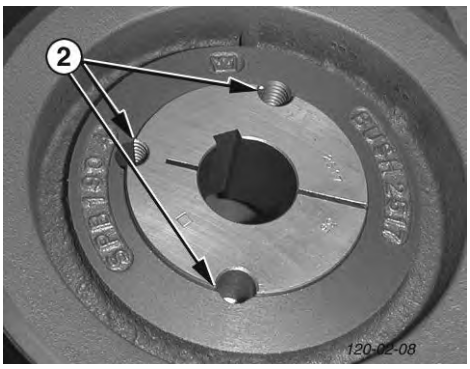
   - When the drive has been operating under load for a short period (half to on hour) check and ensure that the screws remain at the appropriate tightening torque.
   - In order to eliminate the ingress of dirt fill all empty holes with grease.

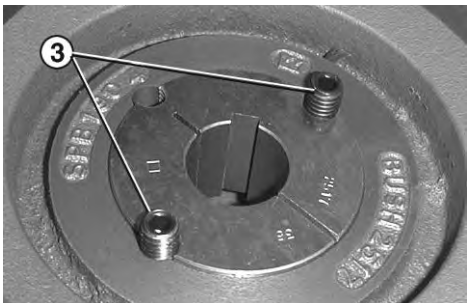
Removal

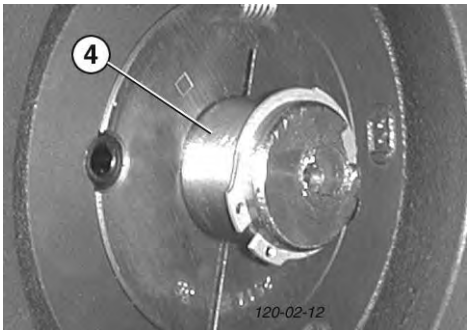
1. Slacken all screws. Depending on the size of the bush remove one or two.

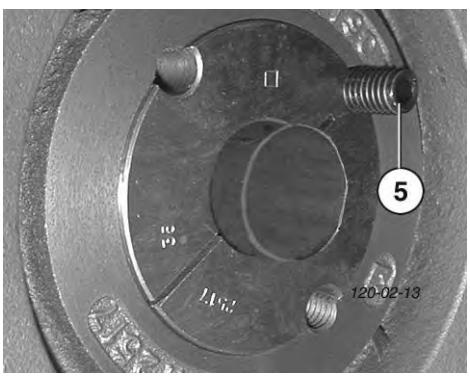
   After oiling point and thread of grub screws or under head and thread of cap screws insert them into the jacking off holie(s) in bush (Pos. 5).
2. Tighten screw(s) unitormly and alternately until the bush is loose in the hub and pulley is free on the shaft.
3. Remove pulley bush assembly from shaft.



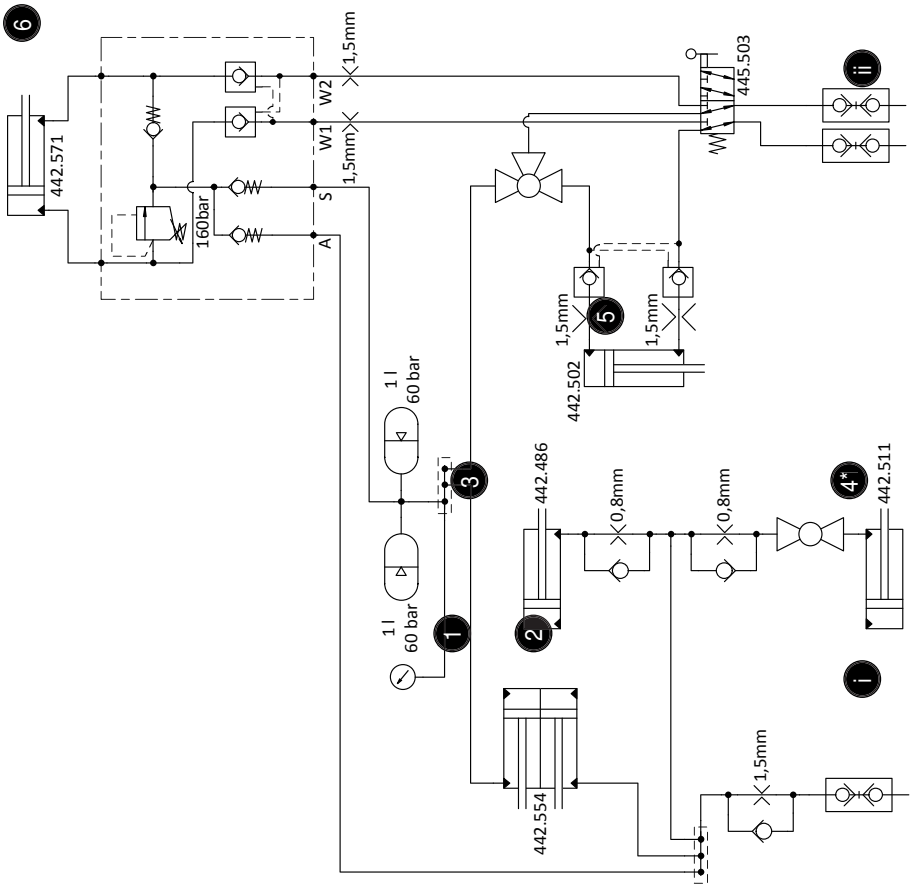








Hydraulic plan



1. Unloading
2. Lifting
3. Swing limiter
4. Swatch transmission Option for NOVACAT 302 CF and NOVACAT 352 CF
5. Lower link arm
6. Return swivelling system
7. Rear wall locking device (NOVACAT 302 CF and NOVACAT 352 CF)

i Tractor servo, single-action

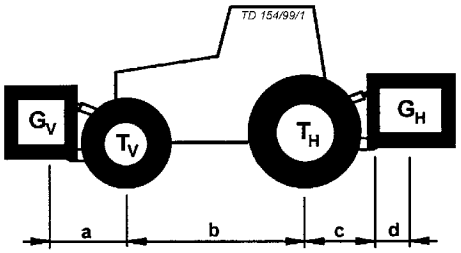
ii Tractor servo, double-action

Combination of tractor and mounted implement

The mounting of implements on the front or rear three point linkage shall not result in exceeding the maximum permissible weight, the permissible axle loads and the tyre load carrying capacities ot the tractor. The front axle of the tractor must always to be loaded with at least 20 % of the unladen weight of the tractor.

Make sure before buying an implement that these conditions are fulfilled by carrying out the following calculations or by weighing the tractor/implement combination.

Determination of the total weight, the axle loads, the tyre load carrying capacity and the necessary minimum ballasting



For the calculation you need the following data:

T_L [kg]	unladen weight of tractor	1	**a** [m]	distance from centre of gravity for combined front mounted implement/front ballast to front axle centre	2 3
T_V [kg]	front axle load of unladen tractor	1			
T_H [kg]	rear axle load of unladen tractor	1	**b** [m]	Tractor wheelbase	1 3
G_H [kg]	combined weight of rear mounted implement/rear ballast	2	**c** [m]	distance from rear axle centre to centre of lower link balls	1 3
G_V [kg]	combined weight of front mounted implement/front ballast	2	**d** [m]	distance from centre of lower link balls to centre of gravity for combined rear mounted implement/rear ballast	2

1 see instruction handbook of the tractor
2 see price list and/or instruction handbook of the implement
3 to be measured

Consideration of rear mounted implement and front/rear combinations

1. CALCULATION OF MINIMUM BALLASTING AT THE FRONT $G_{V\ min}$

Record the calculated minimum ballasting which is needed at the front of the tractor into the table.

$$G_{V\ min} = \frac{G_H \bullet (c+d) - T_V \bullet b + 0{,}2 \bullet T_L \bullet b}{a+b}$$

Front mounted implement

2. CALCULATION OF THE MINIMUM $G_{H\ min}$

$$G_{H\ min} = \frac{G_V \bullet a - T_H \bullet b + 0{,}45 \bullet T_L \bullet b}{b+c+d}$$

Record the calculated minimum ballasting which is needed at the rear of the tractor into the table.

3. CALCULATION OF THE REAL FRONT AXLE LOAD $T_{V\ tat}$

(If with the front mounted implement (G_V) the required minimum front ballasting ($G_{V\ min}$) cannot be reached, the weight of the front mounted implement has to be increased to the weight of the minimum ballasting at the front!)

$$T_{V\ tat} = \frac{G_V \bullet (a+b) + T_V \bullet b - G_H \bullet (c+d)}{b}$$

Record the calculated real front axle load and the permissible front axle load of the tractor into the table.

4. CALCULATION OF THE REAL TOTAL WEIGHT G_{tat}

(If with the rear mounted implement (G_H) the required minimum rear ballasting ($G_{H\ min}$) cannot be reached, the weight of the rear mounted implements has to be increased to at least the weight of the minimum ballasting at the rear!)

$$G_{tat} = G_V + T_L + G_H$$

Record the calculated real and the permissible total weight given in the instruction handbook for the tractor into the table.

5. CALCULATION OF THE REAL REAR AXLE LOAD $T_{H\ tat}$

Record the calculated real and the permissible rear axle load given in the instruction handbook for the tractor into the table.

$$T_{H\ tat} = G_{tat} - T_{V\ tat}$$

6. TYRE LOAD CARRYING CAPACITY

Record double the value (two tyres) of the permissible load carrying capacity into the table (see for instance documentation provided by the tyre manufacturer).

Table

	Real value according to calculation		Permissible value according to instruction handbook		**Double** permissible tyre load carrying capacity (two tyres)
Minimum ballasting front/rear	/ kg		---		---
Total weight	kg	≤	kg		---
Front axle load	kg	≤	kg	≤	kg
Rear axle load	kg	≤	kg	≤	kg

The minimum ballasting has to be attached to the tractor either in form of a mounted implement or ballasting weight!

The calculated values must be less or equal (<) the permissible values!

The CE norm is not valid in the United States of America and Canada.

EC Conformity Declaration

Original Conformity Declaration

Name and address of the manufacturer:

PÖTTINGER Landtechnik GmbH
Industriegelände 1
AT - 4710 Grieskirchen

Machine (interchangeable equipment):

	NOVACAT	302 CF	352 ED / RC / CF	402 ED
mower		3786	3784	3785
Type				
Serial no.				

The manufacturer declares that the machines adhere to all relevant provisions in the following directive:

machinery 2006/42/EG

In addition to this, the manufacturer also declares adherence to the other following directives and/or relevant provisions

Source of applied, harmonised norms:

EN ISO 12100 EN ISO 4254-1 EN ISO 4254-12

Source of applied miscellaneous technical norms and / or specifications:

Person responsible for documentation:
Martin Baumgartner
Industriegelände 1
A-4710 Grieskirchen

Markus Baldinger,
CTO R&D

Jörg Lechner,
CTO Production

Grieskirchen,
02.04.2020

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