Operator‘s manual

Translation of the original Operating Manual

Nr. **99+3751.EN.80X.0**

Chassis Nr.

Disc mower

NOVACAT 261 alpha motion master
(Type PSM 3750 : + . . 00001)

NOVACAT 261 alpha motion pro /ED /RC /RCB
(Type PSM 3753 : + . . 00001**)**

NOVACAT 301 alpha motion master
(Type PSM 3760 : + . . 00001)

NOVACAT 301 alpha motion pro /ED /RC/RCB
(Type PSM 3763 : + . . 00001**)**

NOVACAT 351 alpha motion master
(Type PSM 3810 : + . . 00001)

NOVACAT 351 alpha motion pro /ED /RC/RCB
(Type PSM 3813 : + . . 00001**)**

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]

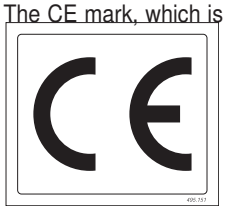
- ❑ Machine checked according to delivery note. All attached parts removed. All safety equipment, drive shaft and operating devices at hand.
- ❑ Operation, commissioning and maintenance of the machine or device discussed and explained to the customer on the basis of the operating instructions.
- ❑ Check 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

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 of fatal or life-threatening injury.

- 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.

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.

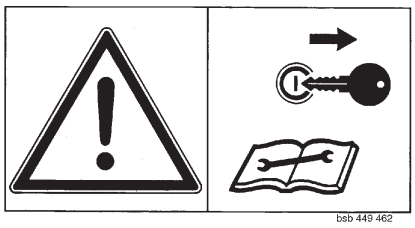
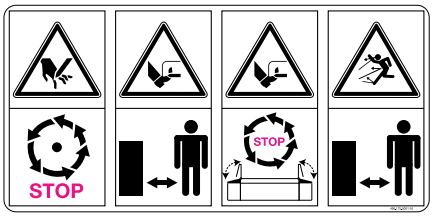
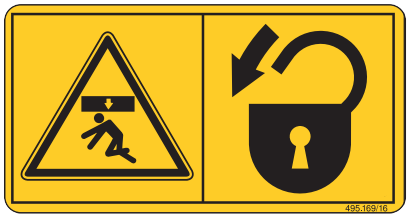
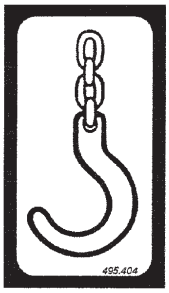
Product liability legislation obliges the manufacturer and the authorised dealer to issue Instructions when selling implements and to instruct customers in the use with reference to the safety, operating and maintenance regulations. Confirmation in the form of a declaration of transfer is required to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

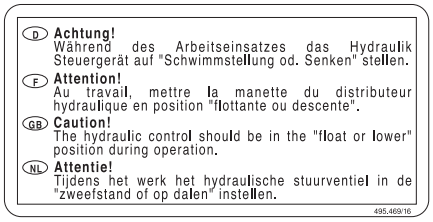
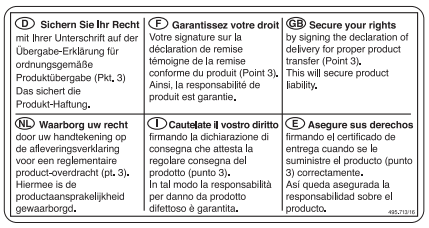
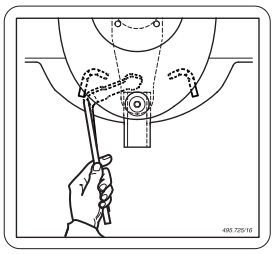
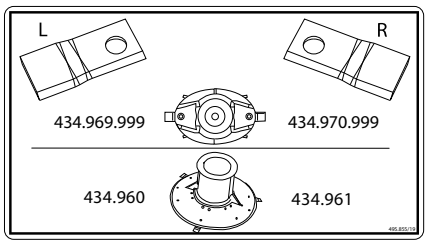
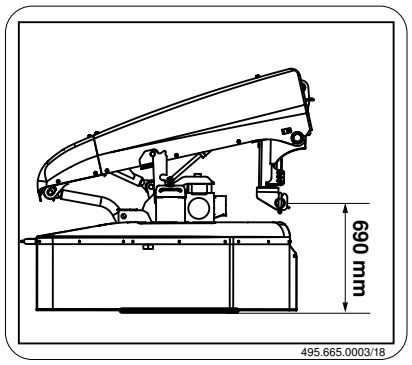
Every self-employed person and farmer is an entrepreneur within the meaning of the product liability legislation. In accordance with the laws of product liability, entrepreneurial property damages are excluded from the liability. All damage to property within the meaning of the product liability legislation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

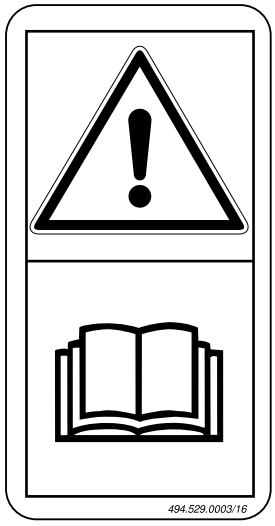
These Operating Instructions are integral part of the implement delivery scope. You should therefore hand them over to the new owner if ownership of the implement is transferred. Train and instruct the new owner in the regulations stated.

The Pöttinger Service-Team wishes you good luck.

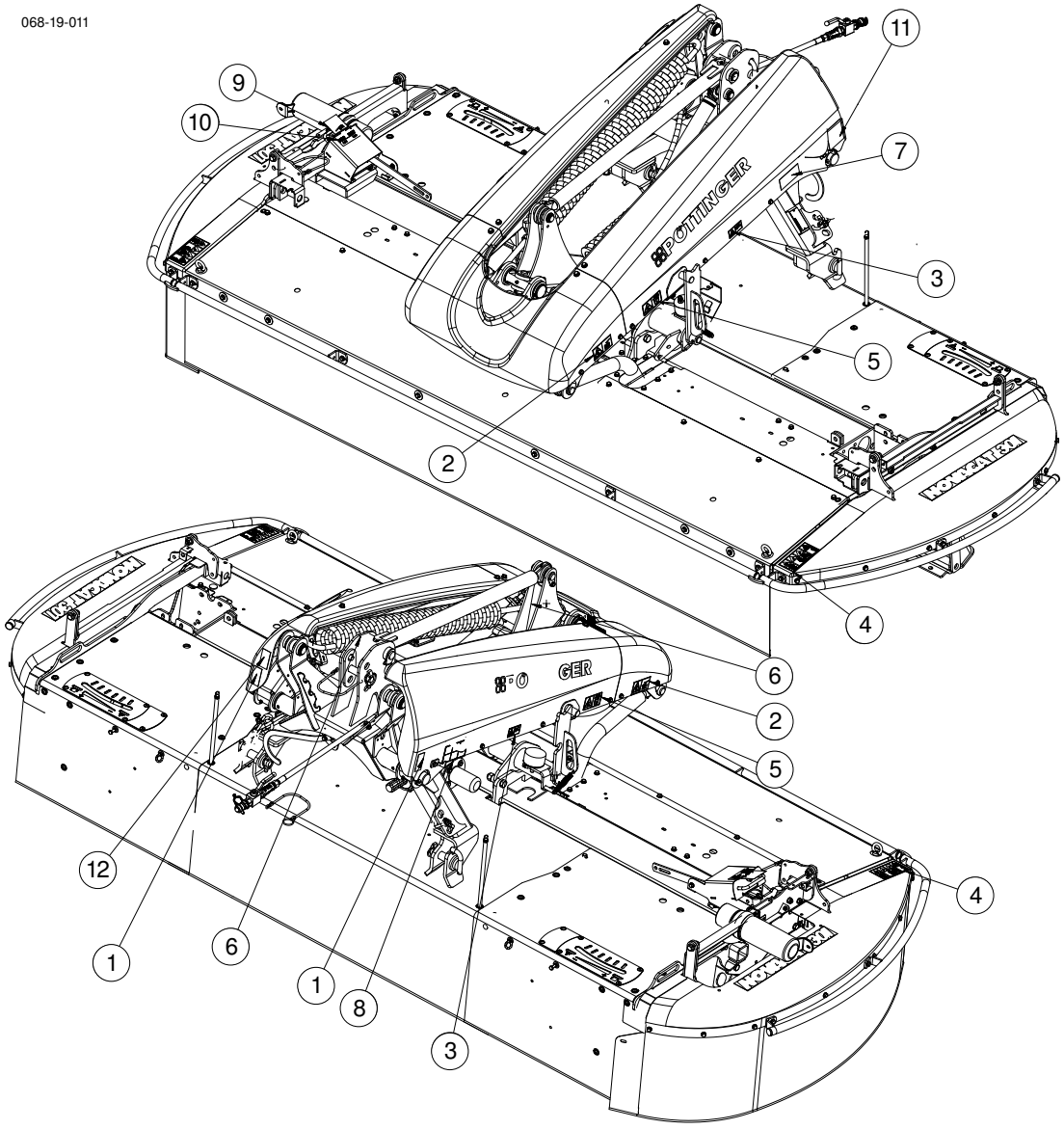
Meaning of warning signs

1 (2x)		Shut engine off and remove key before carrying out any maintenance or repair work. 495.165.0001
2 (2x)		Do not stand in the machine's swivel range. 495.166
3 (2x)		Never reach into the crushing danger area as long as parts can move there. 495.171
4 (2x)		Do not touch rotating machine parts. Wait until moving machine parts come to a standstill. Keep a safe distance from the mowing blades when the engine is running and the PTO shaft is connected. Close both side protective coverings before engaging p.t.o. Keep a safe distance as danger exists through parts being ejected while motor is running. 495.175.0001
5 (2x)		Before entering the danger area, put on a seat belt. 495.169
6 (2x)		Suspension point for unloading 495.404

7 (1x)		Set the hydraulic control unit to float position during operation. 495.469
8 (1x)		Product liability 495.713
9 (1x)		Blade changing 495.725
10 (1x)		Blade equipment 495.855
11 (1x)		Attachment height - Master 495.665.0003 Attachment height - Pro 495.XXX.xxxx

12 (1x)		Please read the operating instructions before initial operation! 494.529.0003

Position of the warning signs



Safety advice

CAUTION

Risk of slight or moderate injury through tractor's double-acting front lifting gear.

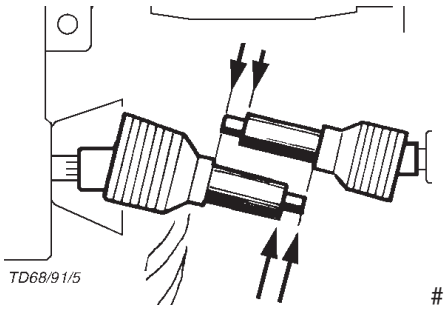
- Do not exceed the maximum lowering depth of the mower unit! This results in unacceptably high pressure on the limiting chains, which can break. In the most unpleasant case, this will result in injuries to persons in the danger area around the mower.

Attaching in general

1. Observe safety tips in supplement A.
2. Attach the machine to the tractor's front lifting gear.
3. Secure locking bolts with linch pins.

Cardan shaft

The cardan shaft is to be checked before first use and adapted if necessary (see Chapter "Adapting the Cardan Shaft" in Supplement B).



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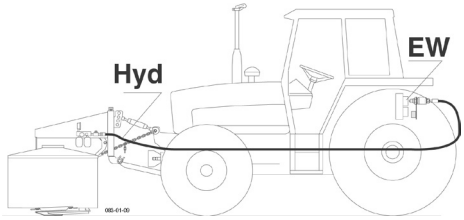
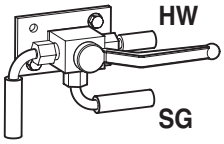
Attaching problems

1. No front hydraulic connection:

If the tractor has no hydraulic connection at the front, then a hydraulic hose must be run from the rear to the front.

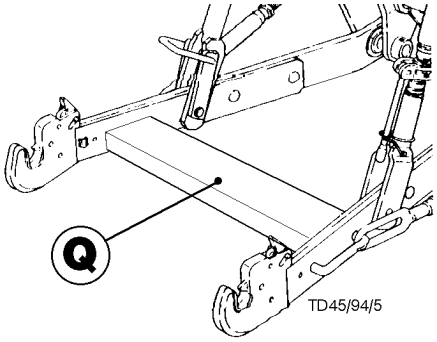


A three-way tap for switching between the front lifting gear (HW) and front control device (SG) may be necessary with some tractors.

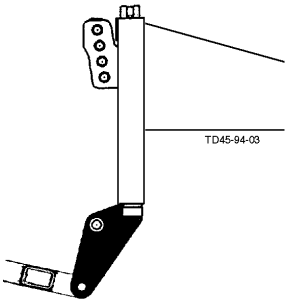


2. Lifting gear with cross piece

When using lifting gear with a crosspiece (Q) between the lower links, damage could occur to the cardan shaft when lowering the attached machine.



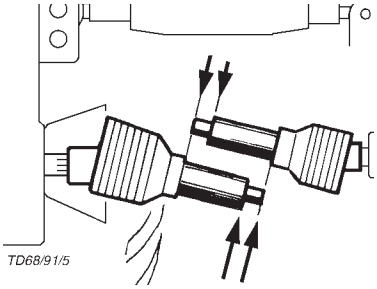
To avoid damage, an extension must be installed between the lifting gear and the attachment frame.



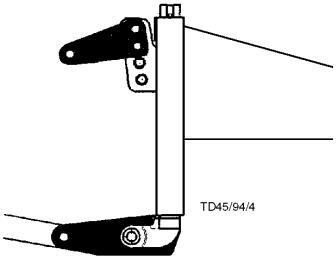
In such a case, please contact our Customer Service Dept.

3. PTO shafts are very far forward

On tractors where the PTO shaft stub is very far forward, the PTO shaft would have to be considerably shortened.



•When the machine is raised, there is insufficient casing to over the cardan shaft.



- The maximum universal-joint angle of deviation will possibly be exceeded (see Supplement B also).

  In this case, an accessory kit is necessary which positions the machine approx. 200 mm forward.

  In such a case, please contact our Customer Service Dept.

Mudguards and protective cloths

DANGER

Life-threatening danger through rotating or ejected components

- Before starting work, check the protective devices for function, correct position and condition.
- Fold the guards down before starting work.
- Replace defective protective devices immediately.
- The manufacturer takes no responsibility for any manipulation or improper use of the safety devices.
- Do not access the protective device as this will damage it.

DANGER

Life-threatening danger through rotating or ejected components

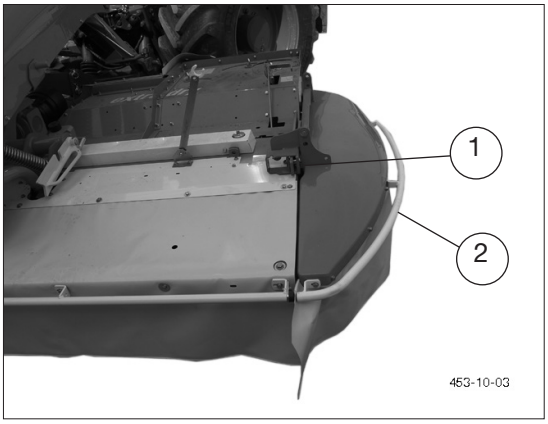
- Switch off the cutter bar drive.
- Wait for the cutter bars to come to a standstill before swivelling the mudguards and protective cloths up.

Mudguards and protective cloths must be folded down before switching on the machine (= brought into working position).

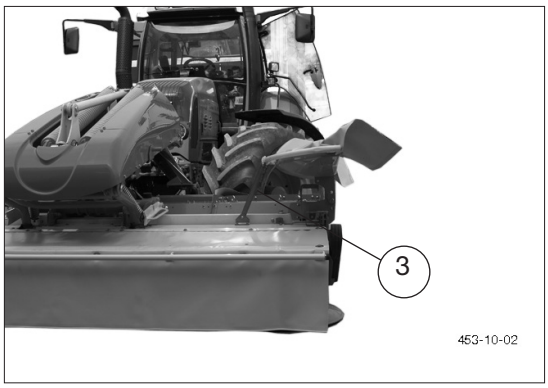
For maintenance work or when parking, the mudguards and protective cloths can be raised.

Lift-up

1. Loosen locking mechanism (1) and swivel protection (2) up.



2. Engage frame guard in holder (3)



Hydraulic side guards

CAUTION

Risk of slight or moderate injury through being crushed by the side guards.

- Pay special attention when swivelling the side guards.
- Do not reach into the danger area.
- Direct other persons away from the hazard area.

As an option, the side guards can be swivelled hydraulically with the control valve on the tractor.

This would eliminate the necessity of releasing or latching a locking device.

Transport position

When both side guard elements (2) are swivelled up and locked into the holder (3), the following transport width results:

Type	NC 261	NC 301	NC 351
Transport width (X)	< 2.58m	< 3.00m	< 3.42m

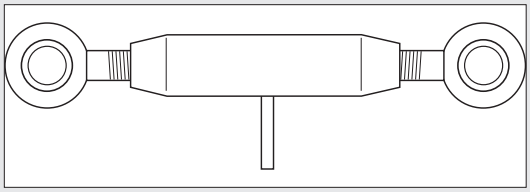
Road Transport

- Observe the statutory regulations for your country.
  Attachment C contains information on attaching lighting, valid for Germany.
- Travelling on public roads may only be carried out as described in the Chapter "Transport position".
- Secure the hydraulic lower link, so that machine cannot swing out sideways.

Top linkage

TIP

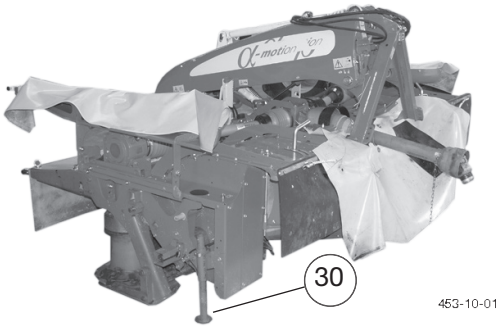
Use a rigid upper link.



Parking the machine

Always park mower units with conditioner on stand (30), otherwise danger of tipping over exists!

- Fix support leg using locking pin



TIP

A mowing unit with swath former does not require support stands for secure parking.

NOTE

Material damage may occur when parking the machine through the cardan shaft and attaching frame colliding.

- Pay attention to the attachment height indicator. The optimum attachment height must be observed. For this purpose, the display arrow must not move above the marking.
- 

General safety information

NOTE

Risk of material damage due to collisions between the mower and its surroundings.

- Lock the mower before transport.

WARNING

Risk of serious injury or injury resulting in death due to the machine tipping over.

- Park the implement on flat, solid ground.

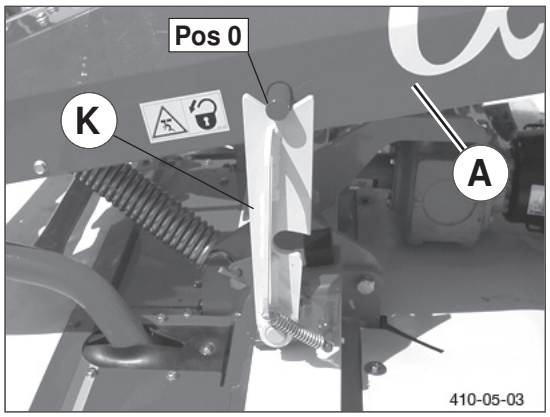
CAUTION

Risk of slight or moderate injury through tractor's double-acting front lifting gear.

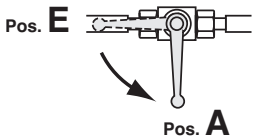
- Do not exceed the maximum lowering depth of the mower unit! This results in unacceptably high pressure on the limiting chains, which can break. In the most unpleasant case, this will result in injuries to persons in the danger area around the mower.

Parking position

- Swivel the flap (K) upwards to park the mower unit (Pos 0).



- Close stopcock (Pos. A)

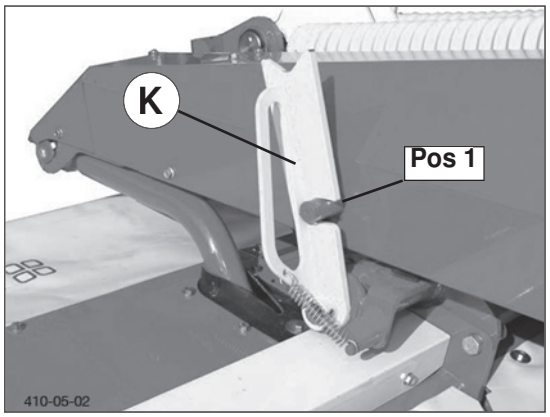


TIP

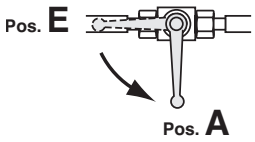
It is only possible to remove a Conditioner if flap (F) is in position 0.

Transport position

- The mower must always be locked during transportation.
  - Swivel flap (F) to "Pos. 1"



- Close stopcock (Pos. A)

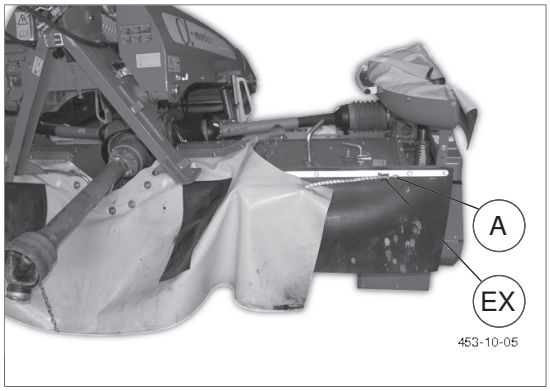


Mounting

-. Mount the Expander (EX) in the correct position.

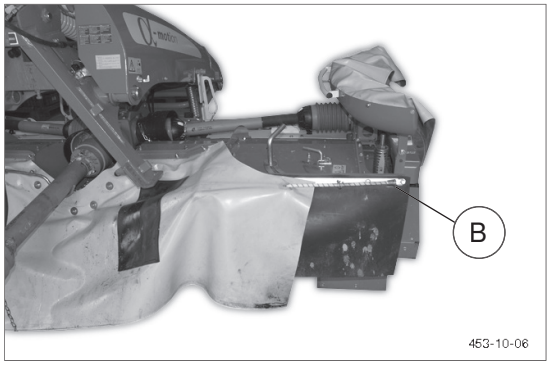
Position A

- before coupling to the tractor

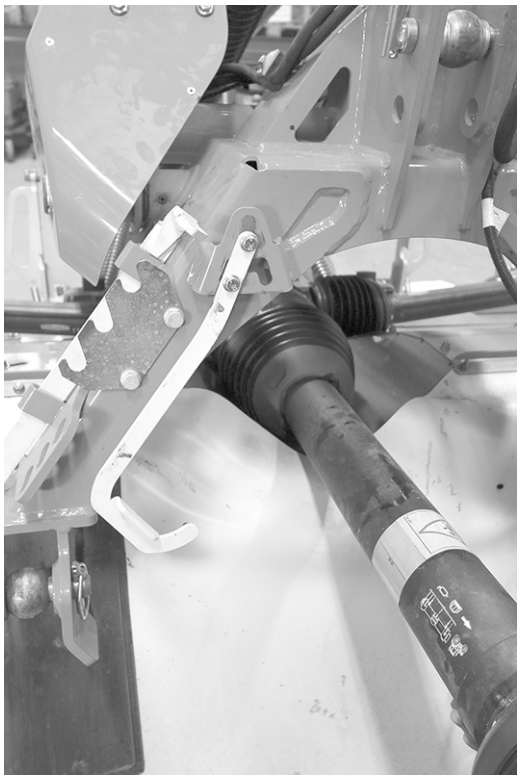


Position B

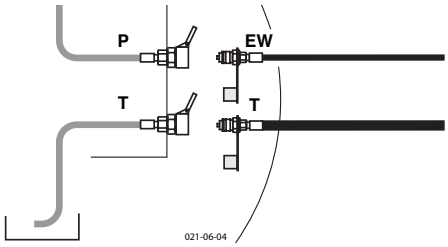
- after coupling to the tractor and during mowing



- Connect cardan shaft.
- Bring cardan shaft holder into park position

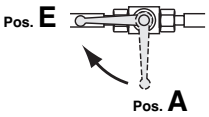


- Couple the hydraulic lines for lifting cylinder on the single-acting (SA) hydraulic circle of the tractor.

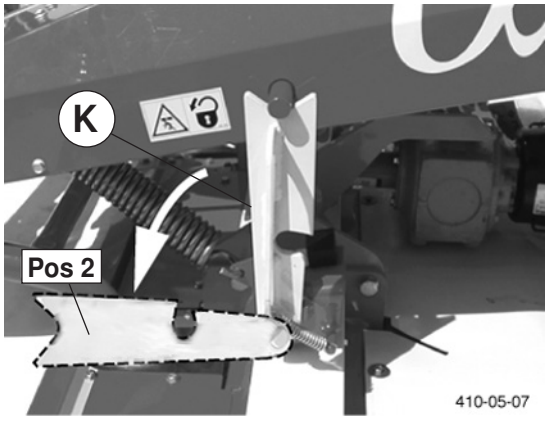


- Open shut-off valve (pos. E)

-Raise the mounting frame (MF) via the tractor's lifting gear

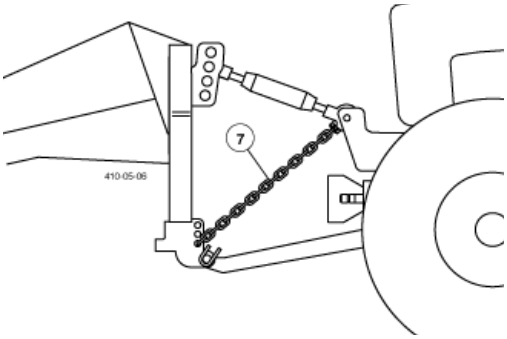


- Fold the flap (F) towards the front (Pos.2).

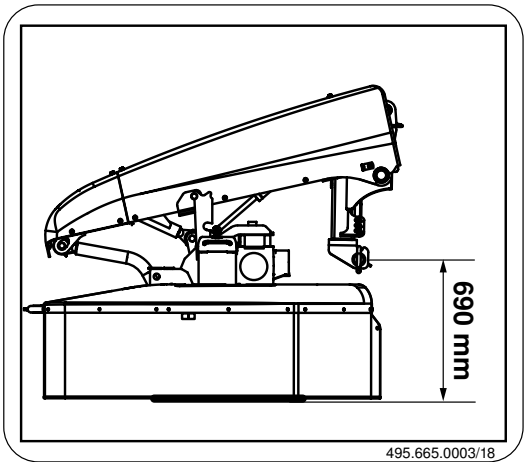


- Set working height at 1370 mm and secure with limiting chain (7). Only with Alphamotion.

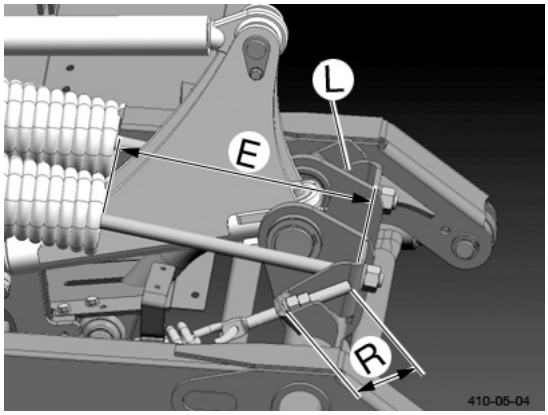
(The limiting chains (3) serve as setting aids!)



- Set lower link height at approx. 690 mm.



Set spring tension



E = Relieving spring

R = Weight counterbalance: right

L = Weight counterbalance: left

Cutter unit with swather(guide values)

Type	E (mm)	R (mm)	L (mm)
NOVACAT 261	**245**	**55**	**25**
NOVACAT 301	**270**	**25**	**60**
NOVACAT 351	**250**	**25**	**90**
NOVACAT 261 MASTER	215	40	85
NOVACAT 301 MASTER	180	70	85
NOVACAT 351 MASTER	**205**	**40**	**85**

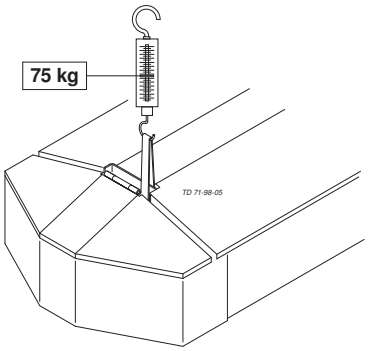
Cutter unit with Conditioner ED (guide values)

Type	E (mm)	R (mm)	L (mm)
NOVACAT 261	**180**	**45**	**45**
NOVACAT 301	**205**	**45**	**45**
NOVACAT 351	**185**	**25**	**25**

Cutter unit with Conditioner RC (guide values)

Type	E (mm)	R (mm)	L (mm)
NOVACAT 301	**160**	**45**	**45**
NOVACAT 351	**210**	**25**	**25**

- The ground bearing load of the cutter bar is more important than the standard length values for the springs. It should be approx. 150 kg (approx. 75 kg left and right).



TIP

- Lock the hydraulic valve of the front lifting gear during operation and transport.

Safety advice

DANGER

Life-threatening- by blades thrown away

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

DANGER

Life-threatening danger exists through ejected parts when removing clogging, changing blades or adjusting the machine.

- Stop tractor/trailer unit on level ground and apply tractor's brakes.
- Park the mower in working position.
- Before going back to the machine, make sure that the pto has stopped and the hydraulic hoses are depressurised.
- Remove the tractor key!

DANGER

Life-threatening danger exists through falling off the machine.

- Do not climb onto the machine, or play on or around it.
- Do let anybody to climb onto the machine, or play on or around it.
- Before starting, make sure that no one is standing on the machine or inits danger area!

TIP

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

Important notes prior to starting work

1. Check

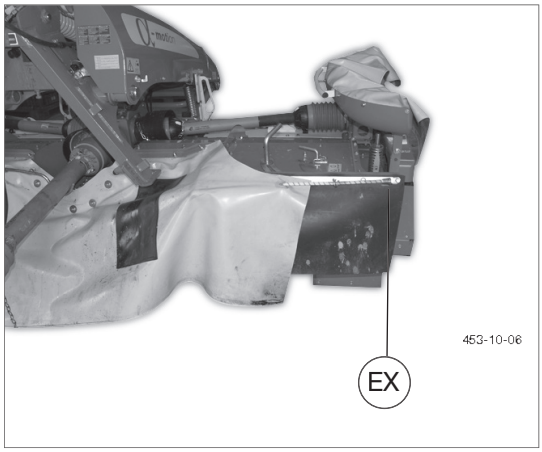
- Check condition of blades and blade holder.
- Check mowing discs for damage (see chapter "Maintenance and Service")

2. Switch machine on only when in working position and do not exceed the specified p.t.o. speed (e.g. max. 540 rpm)!

540 Upm	750 Upm	1000 Upm

A transfer, located near the gearing, 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 clothes, casings) are in proper condition and are attached to the implement in their safety positions.
  - Hook up expander (EX)



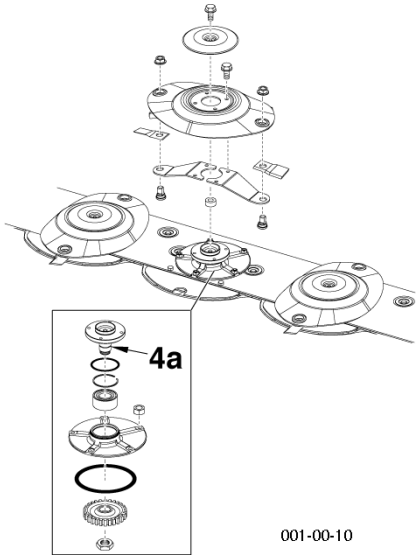
3. Pay attention to correct p.t.o. direction of rotation!

4. Prevent any damage!

The area to be mowed must be free of obstacles or foreign objects. Such objects (e.g. large stones, pieces of wood, boundary stones, etc.) can damage the mower unit.

If, nevertheless, a collision occurs,

- Stop immediately and switch off the drive.
- Check the implement 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 as well.



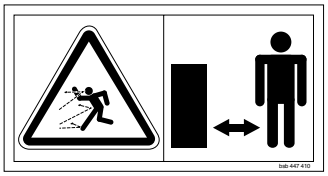
After contact with a foreign object

- Check the condition of knives and the knife fixings.
- Retighten all knife screw fittings.
- Check the implement carefully for any damage. The mowing discs and their drive shaft must be checked in particular.
- If necessary have it checked over in the work shop as well.

5. Keep away from the engine when it's running.

- Guide people out of the danger area as they may receive injuries from foreign objects being ejected by the mower.

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



6. Wear hearing protection

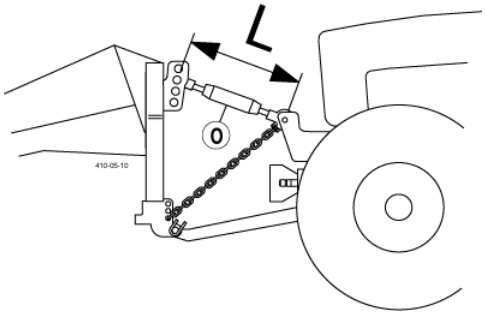
The noise level in the workplace can deviate from the measured value (see Technical Data) partly because of the differing cabin types of various tractors.

- If a noise level of 85 dB (A) is reached or exceeded, the farmer must have suitable hearing protection in readiness (UVV 1.1 §2).
- If a noise level of 90 dB (A) is reached or exceeded, the hearing protection must be worn (UVV 1.1 § 16).

Set cutting height[1)]

With upper link (O):

Altering the upper link length (L +/-) enables a cutting height difference of between 3 to 6 cm.

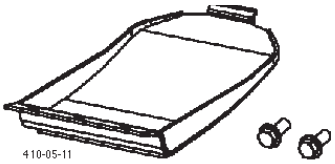


TIP

When parking the mower, return the attached triangle to the vertical position to ensure easy removal from the quick coupler.

With high-cut skids:

Use when cutting height exceeds 6 cm.



Mowing

DANGER

Danger to life due to parts being thrown off.

- Before starting to work, check all guards to ensure that they are in the correct position and secured. Also check whether the protective devices have defects which impair their function.
- Stones and other objects can be picked up and ejected when mowing. Direct all persons out of the danger area.

1. Set cutting height by turning upper link spindle (max. 5° incline for mower discs)

2. For mowing, slowly engage the p.t.o. shaft away from the crop and bring the mower rotor up to full speed.

Smoothly increasing the p.t.o. speed will avoid system-related noises from the p.t.o. freewheel.

- The driving speed depends on the ground conditions and the crop to be mown.

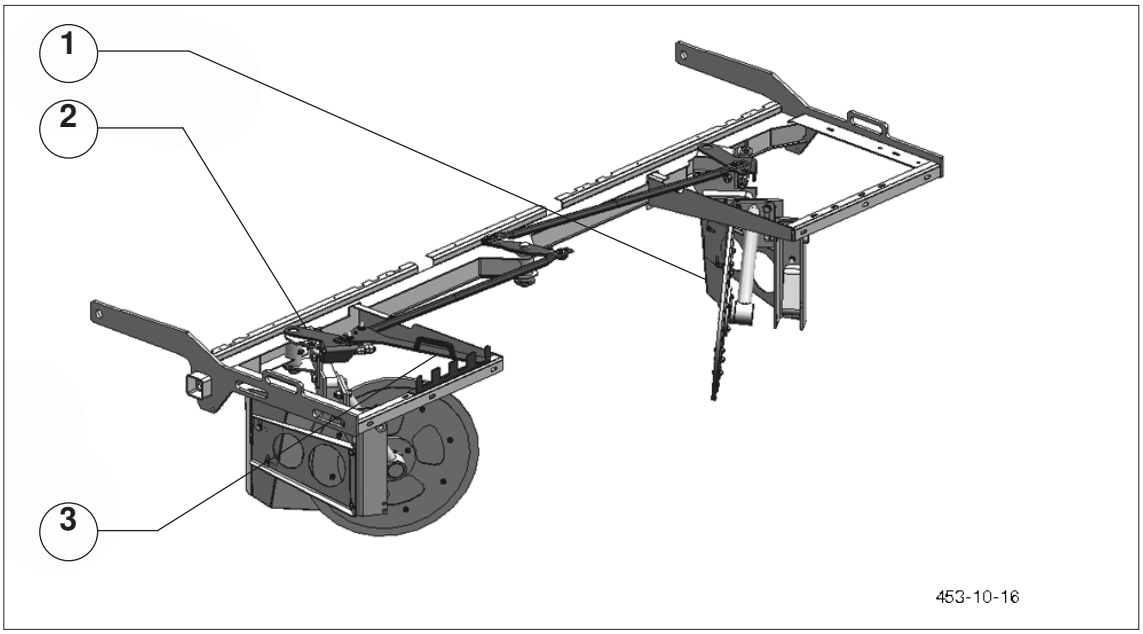
only for disc mowing

Reversing

Raise the mower when reversing!

Overview and Function

A narrow swath is formed when using the swath plates while mowing. This avoids driving over the crop with wide tractor tyres.



Designations:

(1) Swath disc
(2) Swath disc holder
(3) Adjusting mechanism

Possible settings

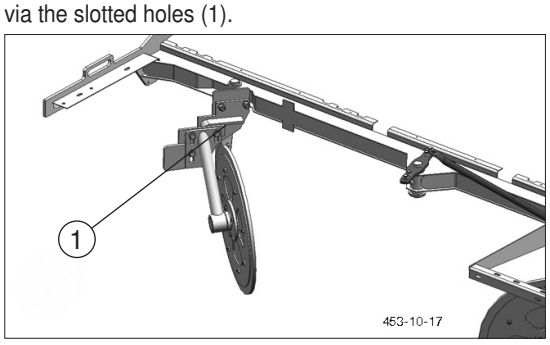
DANGER

Danger to life - long hair or wide robes drawn in by rotating components

- Shut engine off and remove key before carrying out maintenance or repair work.
- Switch off the motor before opening or removing guards.
- Long hair should be tied together
- Wear gloves and tight work clothes.

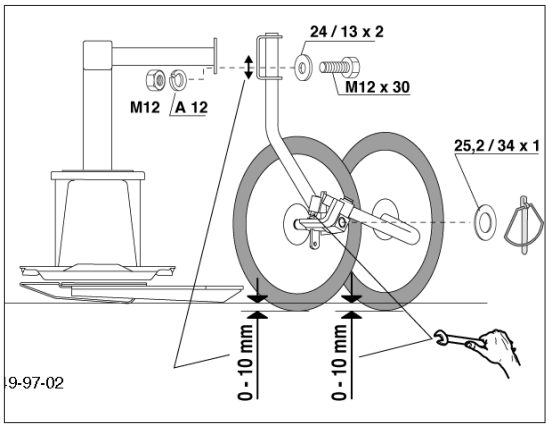
Working area:

The working range of the swath former can be adjusted via the slotted holes (1).



Optimal setting

The discs are mounted 0-10 mm lower than the bottom edge of the cutter bar.



Maintenance

DANGER

Danger to life - long hair or wide robes drawn in by rotating components

- Shut engine off and remove key before carrying out maintenance or repair work.
- Switch off the motor before opening or removing guards.
- Long hair should be tied together
- Wear gloves and tight work clothes.

The swath former is maintenance-free with the exception of cleaning activities.

Removal and installation of the swath former

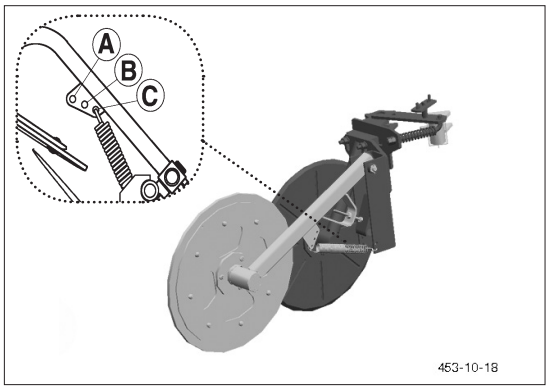
A tine conditioner, roller conditioner or swath former can be mounted on the mower unit. Depending on which unit is built, special work steps are necessary during the change.

For details see the Section “REPLACE CONDITIONER”

Optional Equipment

Additional swath disc

Setting both tension springs:



A = for high, dense feed quantities.

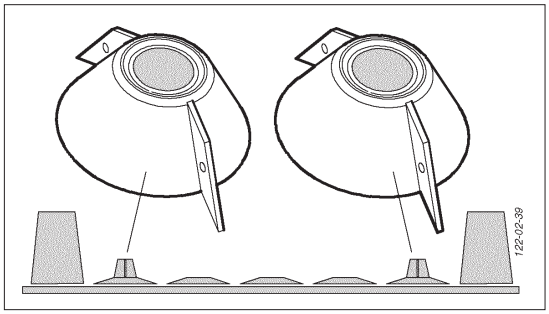
B = basic setting.

C = for short forage.

Conveying cone

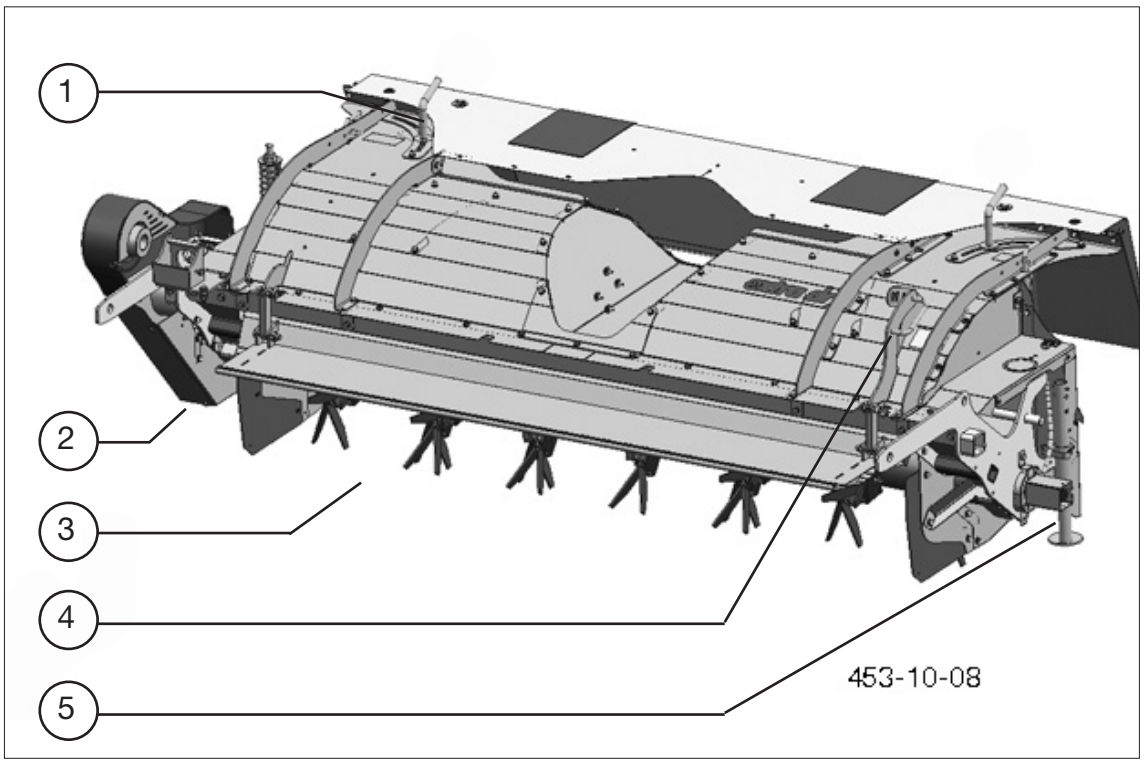
Conveying cones are recommended:

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



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) Intensity adjustment unit
(3) Tine rotor
(4) Propeller unit
(5) Support leg

General safety information

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.

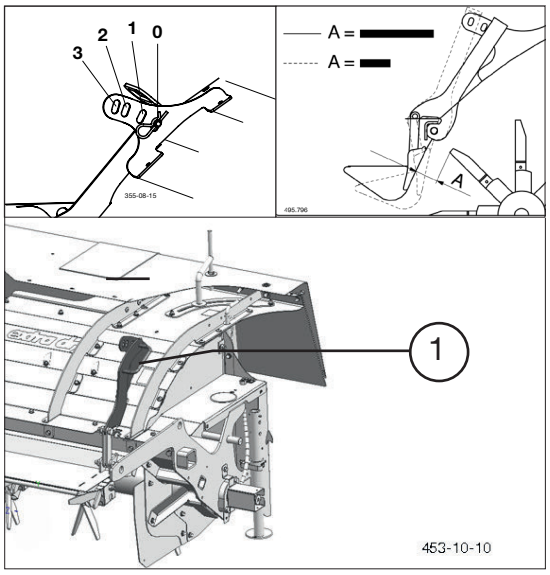
Possible settings

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).

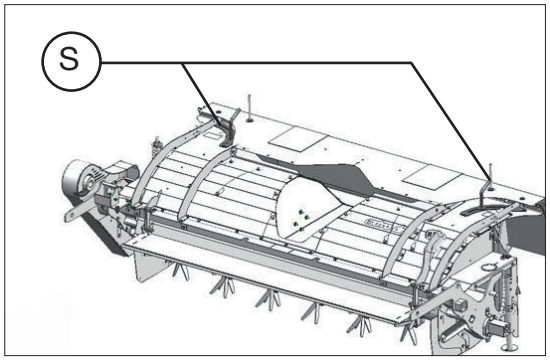
- Position (3): the most effective conditioning. The fodder surface is strongly reamed. However, the fodder must not be beaten.
- Position (0): the fodder surface is only lightly reamed.



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.

Set swath width:

The swath boards deposit the cut and conditioned fodder in the desired swath width. You adjust the swath plates left and right by opening and setting the adjustment screw in an identical way (S)



Setting the position of swath and guide plates

NOTE

Property damage through the swath and guiding plates being too narrowly set. This can lead to:

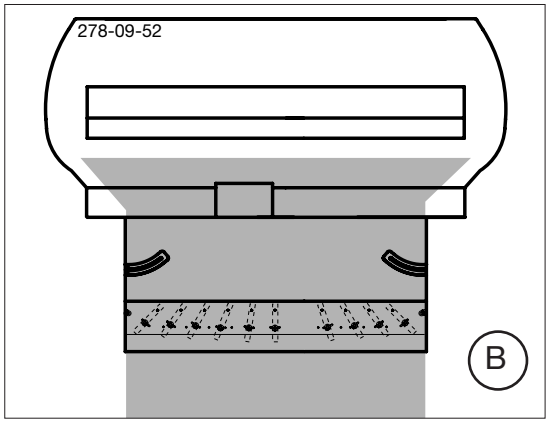
- **increase in power required**
- **machine clogging**
- **V-belt damages**

• Check the setting and if necessary set the swath and guiding plates to be wider

The settings listed below should be taken as basic settings. Due to the different types of forage, an optimum setting of the guide plates can possibly only be determined during practical application.

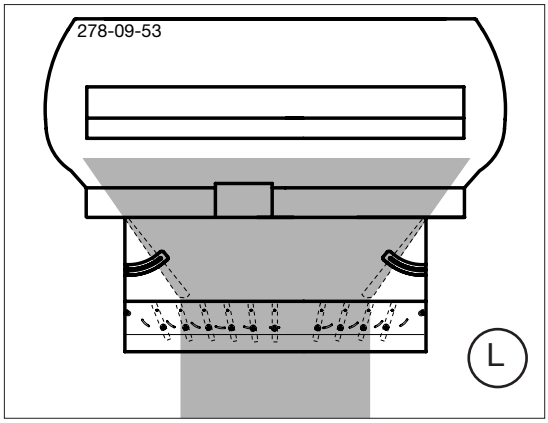
Wide spreading

- Swivel the swath plates (S) completely out
- Position (B)



Swathes

- Swivel the swath plates (S) in
- Position (L)



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.

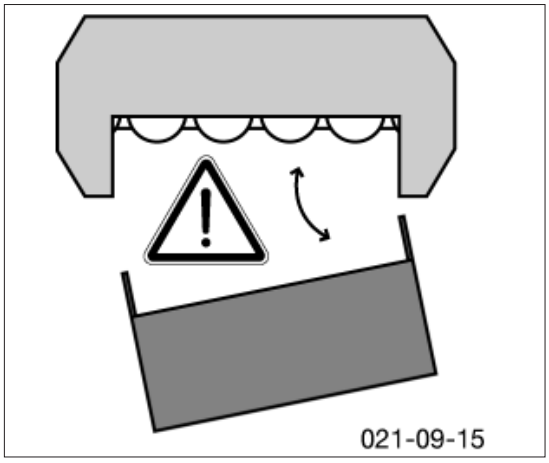
Driving speed:

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

Working without a conditioner:

If necessary, the tine conditioner can also be detached and replaced with a roller conditioner, or swath former. (Contact your sales partner 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“).

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.

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

DANGER

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

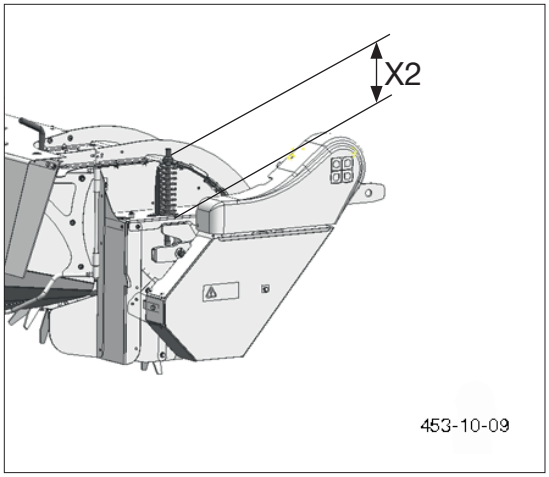
- Never open or remove the safety devices as long as the engine is running or parts are moving.
- Wait until the rotating machine parts are at a complete standstill before starting any repair work.
- Wear close-fitting clothes and tie back long hair when carrying out repairs.

Correct belt tension:

Control size X2

NOVACAT 261, NOVACAT 301 and NOVACAT 351:

X2 = 173 mm (lateral mowers)



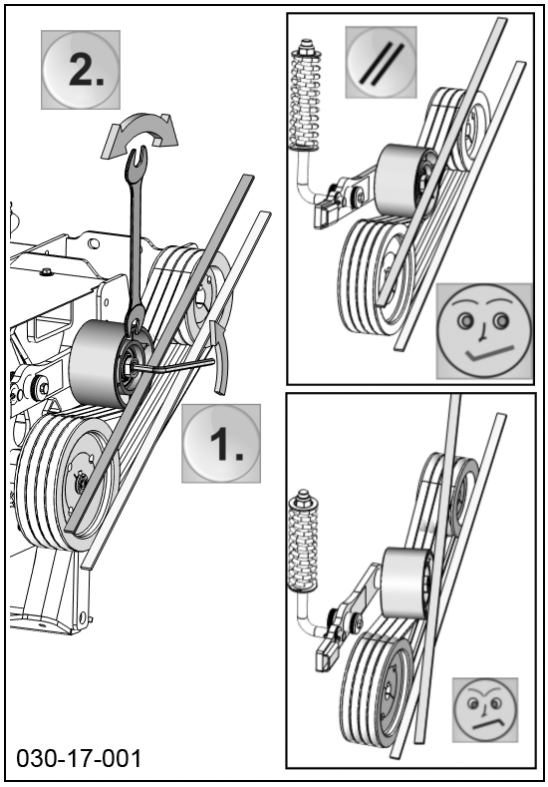
CAUTION

Risk of minor or moderate injury from squeezing the belt tensioner.

- Handle the belt tensioner with care and sufficient caution.

Check tensioner pulley run

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).



Detaching and attaching the conditioner

The mower unit is designed for the attachment of either a tine conditioner, a roller conditioner or a swath former. Special work steps are necessary when changing from one machine to another.

For details see the Section “REPLACE CONDITIONER”

Rotor tines:

1. Replacing tine fixings

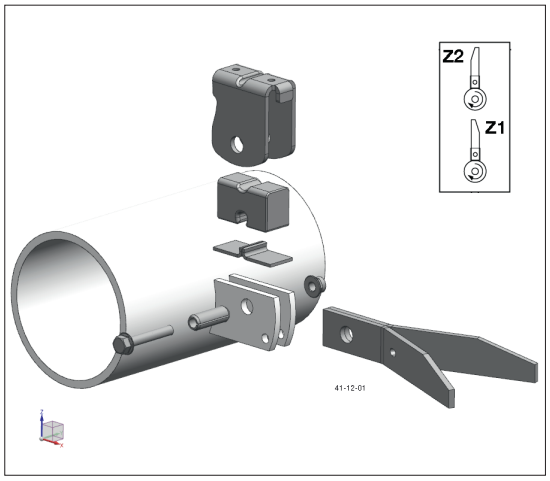
If signs of strong wear are found on the tine fixings, then the affected component(s) must be replaced. (tines, screw, clamping sleeve, ...)

2. 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.



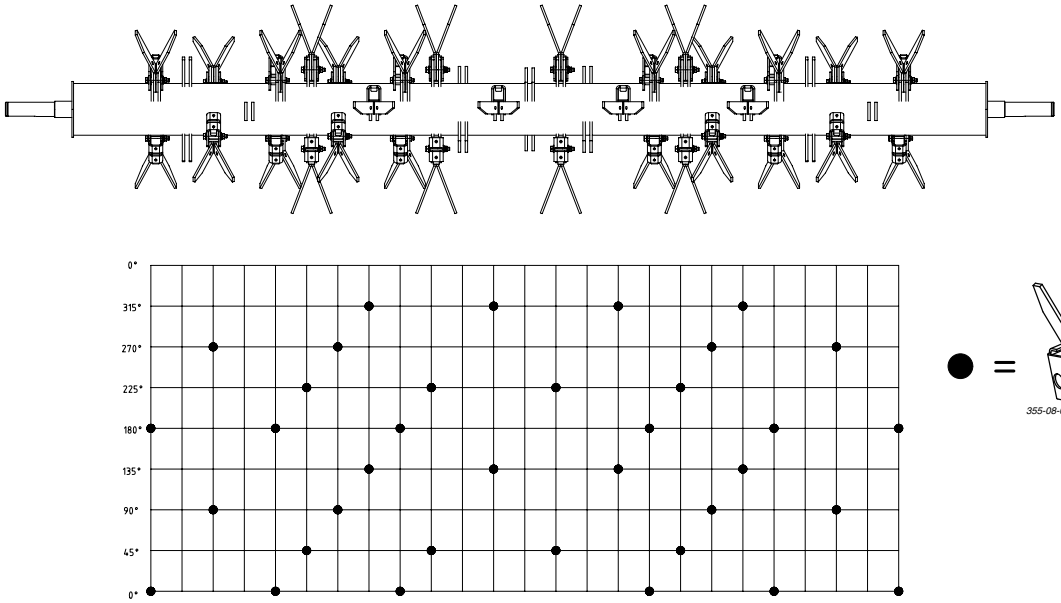
Position of the rotor tines on the conditioner

NOTE

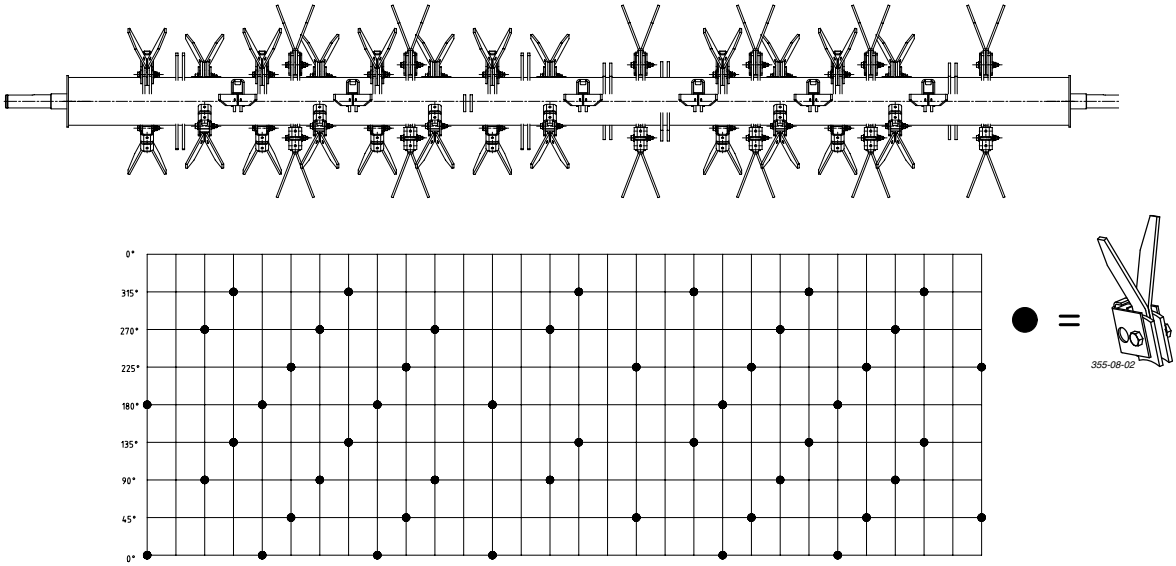
Risk of material damage during operation with unbalance.

- 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.

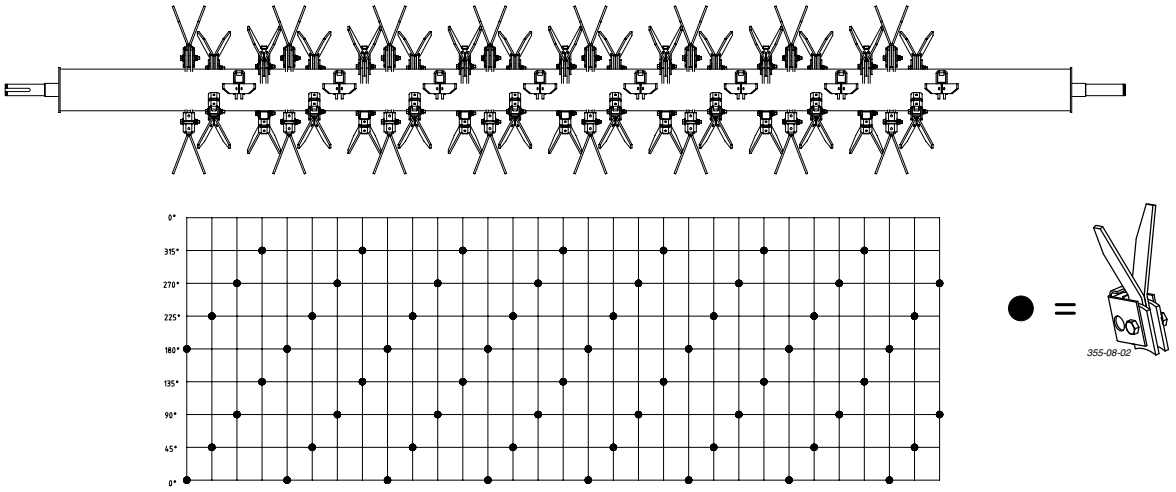
NOVACAT 261 F



NOVACAT 301 F



NOVACAT 351 F



Safety advice

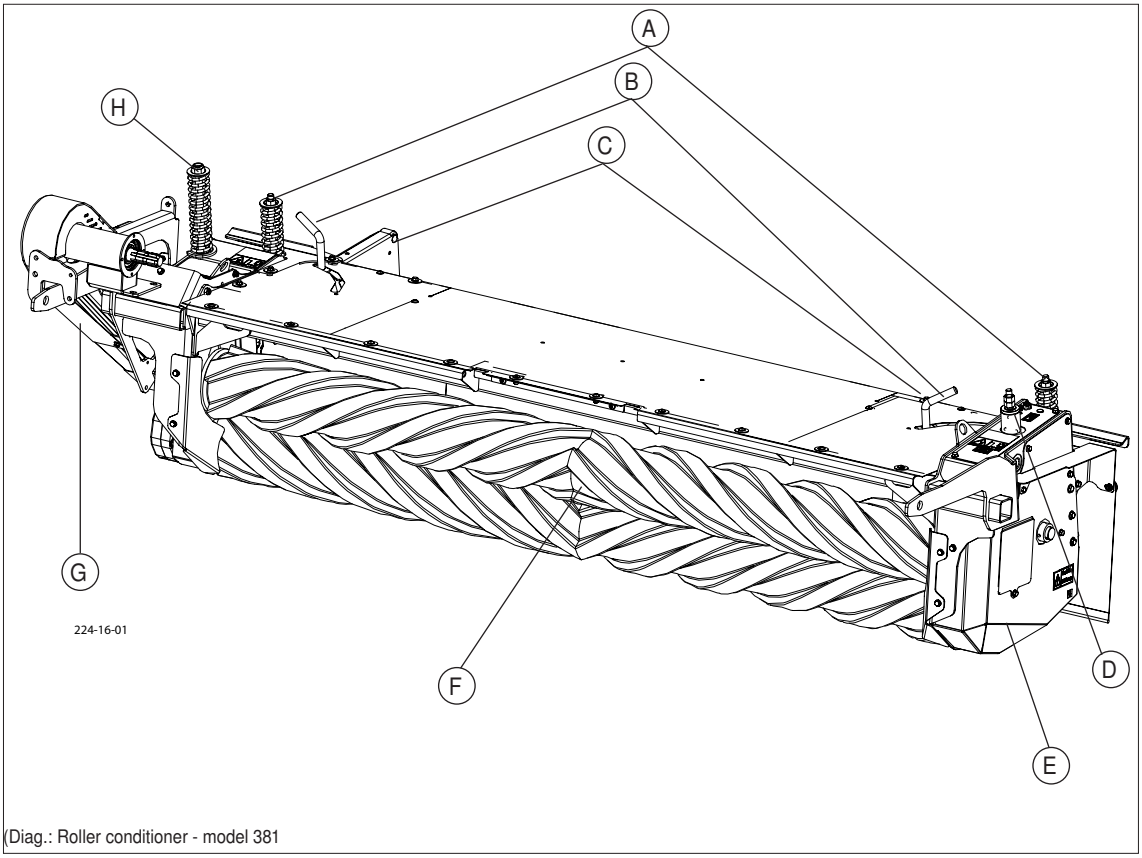
DANGER

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.

Overview and Function

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



(Diag.: Roller conditioner - model 381

Designations:

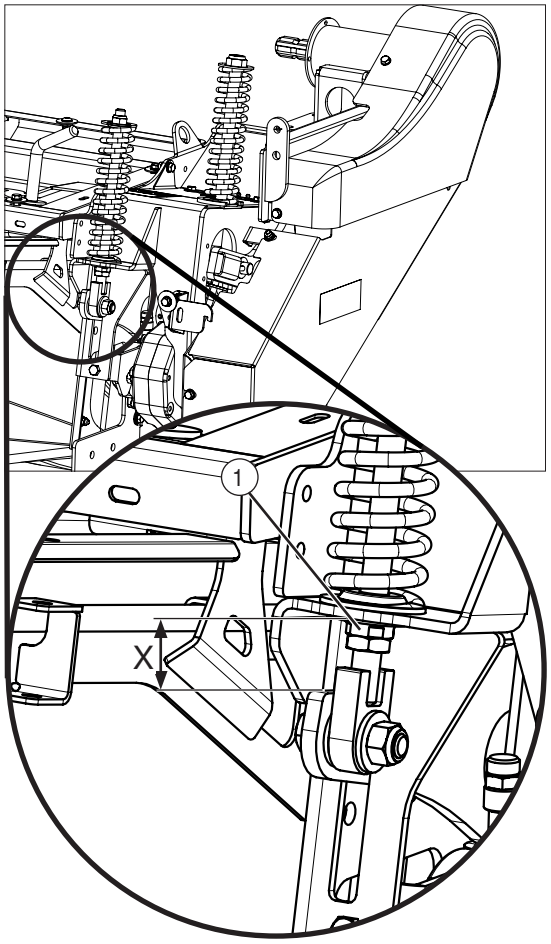
(A) Adjusting screw for conditioning intensity
(B) Swath width adjusting lever
(C) Swath plate
(D) Auxiliary drive (top roller) adjusting screw
(E) Auxiliary drive unit (top roller)
(F) Rubber rollers
(G) Main drive unit
(H) Main drive adjusting screw

Possible settings

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

Distance between rollers: (A)

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



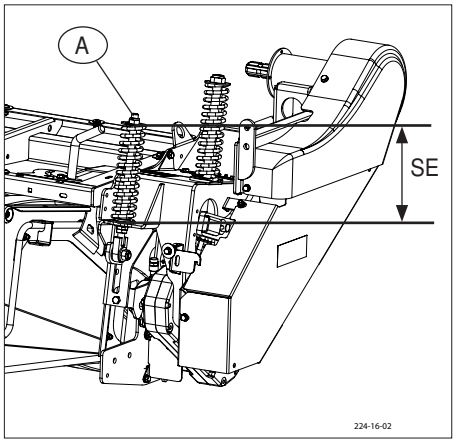
TIP

Due to component tolerances, an irregular roller gap can occur in the factory despite the standard setting. Check the evenness of the gap and restore it if necessary. This ensures a uniform fodder quality.

A minimum gap must be present over the entire roll area.

Conditioning intensity: (A)

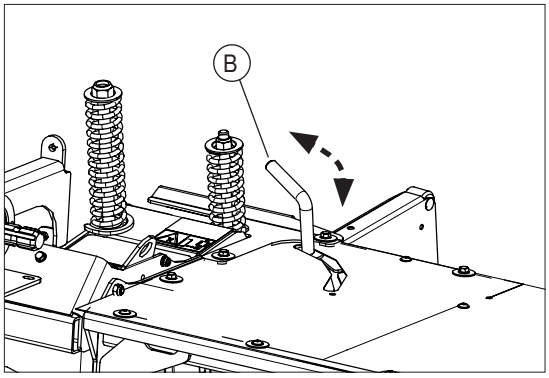
The upper roller is moveable and is tensioned left and right with a spring. The spring tension intensity is always adjusted using nut (A).



Standard setting (SE): 210 mm

Set swath width: (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)

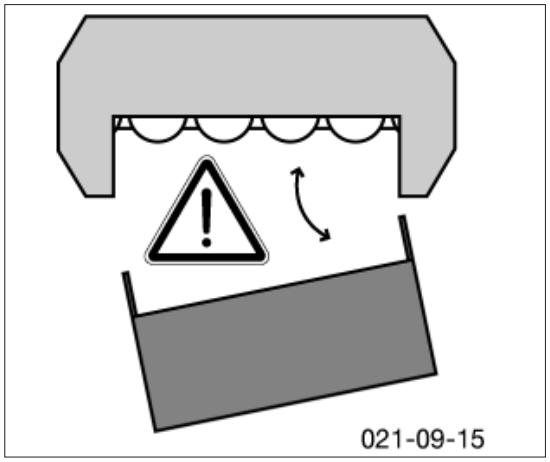


Operation

Driving speed:

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

Working without roller conditioning:



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“).

⚠ 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.

Maintenance

DANGER

Danger to life - long hair or wide robes drawn in by rotating components

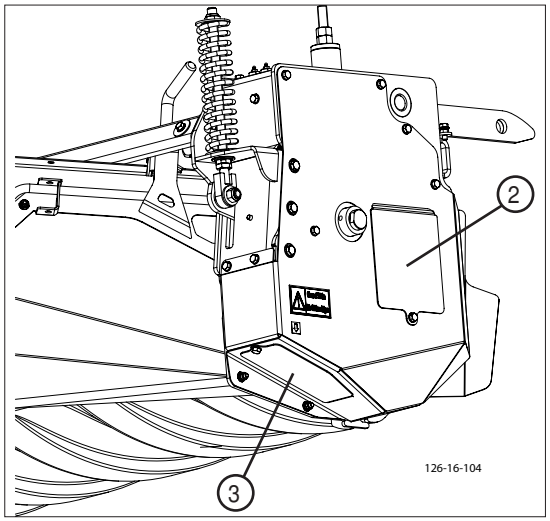
- Shut engine off and remove key before carrying out maintenance or repair work.
- Wait until the rotating machine parts are at a complete standstill before starting any repair work. Open or remove protective devices)
- Long hair should be tied together
- Wear gloves and tight work clothes.

Cleaning the auxiliary drive: (E) every 50 operating hours

NOTE

Risk of material damage to the timing belt due to accumulation of dirt and associated overloading.

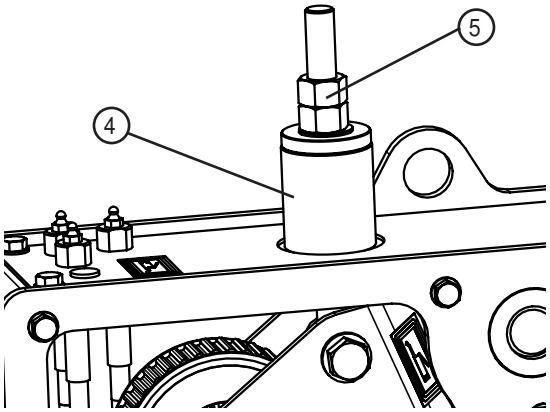
- Clean your timing belt every 50h.



- Unscrew the coverings (2,3) on the auxiliary drive maintenance accesses.
- Remove dirt deposits
- Clean rubber rollers

Check belt tension on the longer belts: (D)

- Basic setting: The sleeve (4) is easily turned and has no free-play.

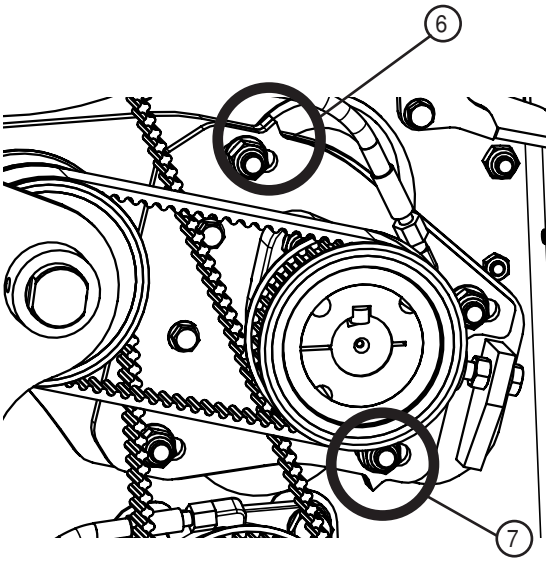


Change belt tension for longer belts.

- Adjust using nut (5)

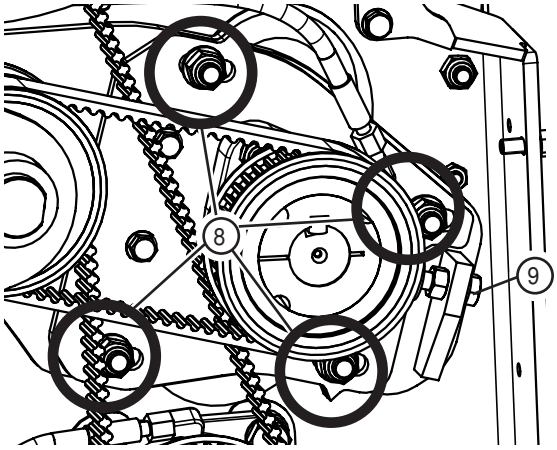
Check belt tension on the shorter belts: (E)

- Basic setting: Both arrow pairs (6, 7) are aligned.

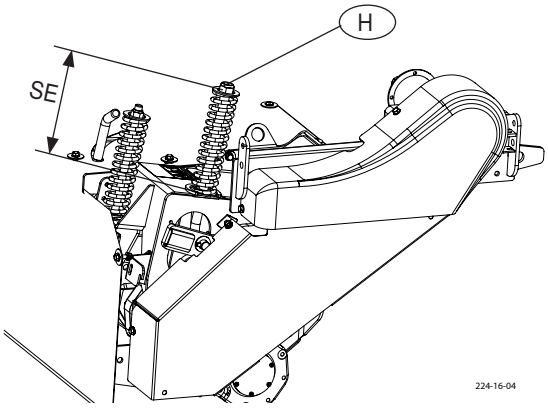


Change belt tension for shorter belts

- Loosen screws (8)
- Adjust using screw (9)
- When assembling, tighten screws (8) with 85 Nm.



Main drive belt tension: (G,H)



Check belt tension:

- Basic setting (SE): 183mm

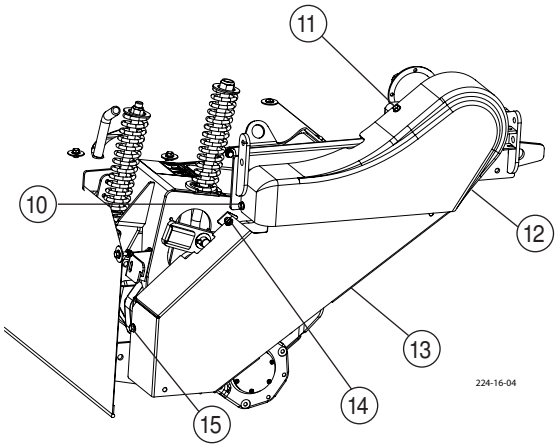
Changing belt tension:

- Adjust screw (H)

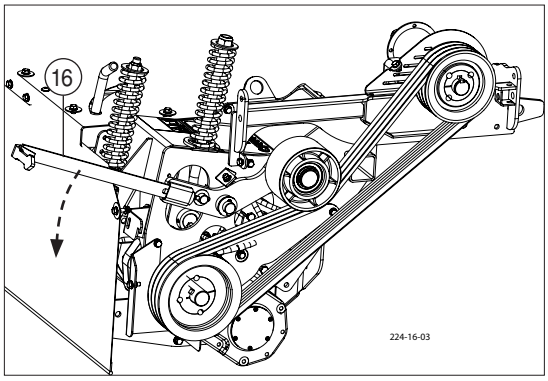
Replacing belts at the main drive:

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

- Remove upper and lower cover. To do this, remove the screws 10-15, see illustration.



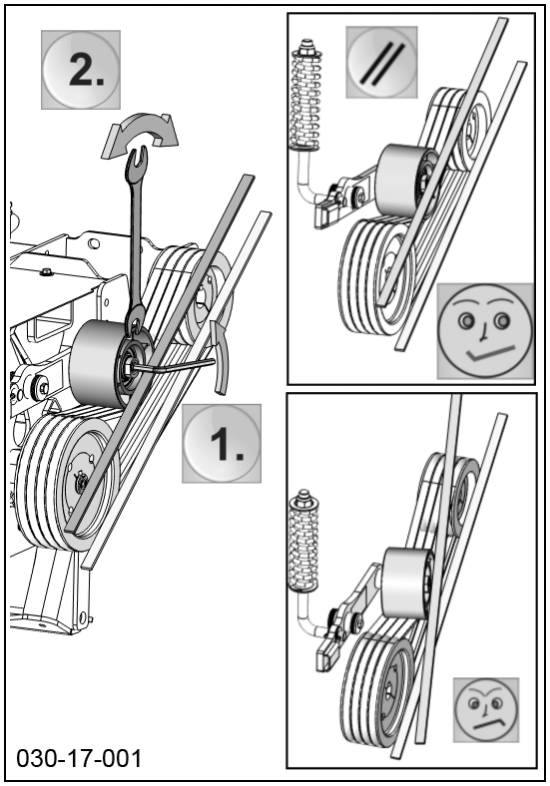
- Loosen belt tension. To assist in this, the belt tensioner can be deactivated using the blade quick-change wrench (16).



- Replace belt
- Restore belt tension
- Re-tighten upper and lower cover (6x screws see illustration)

Check tensioner pulley run

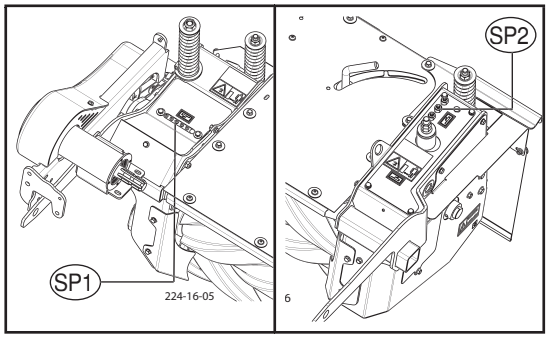
Check the tensioner pulley running after the initial operation and after every change to the drive. The tensioner pulley must run parallel to the drive belt (see illustration).



Lubricating the drive:

After every 50 operating hours: with grease

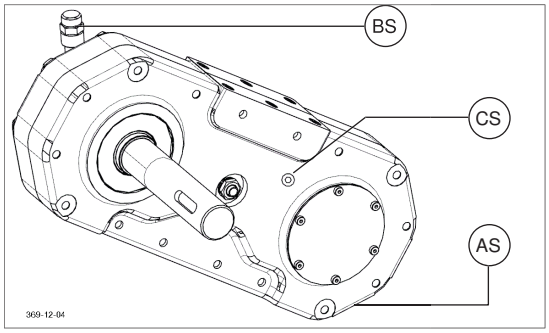
- SP1
- SP 2



Gear oil:

(After every 100 operating hours)

The gearing is located on the right side of the conditioner.



- Open drain plug (AS) and drain oil
- Pour gear oil (700ml) in filling screws (BS)
- (CS) = Filling level screw

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

Overview

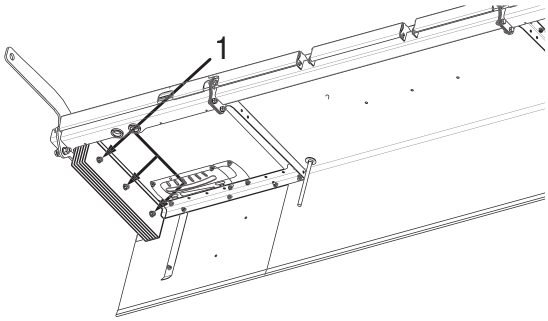
The mower unit is designed for the optional mounting of a tine conditioner, roller conditioner or swath former. The conditioners or swath formers are additionally designed as a safety device and are imperative for use.

Left-Right-Balance

The left-right balance is basically factory set and as a rule you do not have to concern yourself with it.

However, when switching between swath former and conditioner operation, it is important to note that a swath former requires counterweights.

- If the mower is operated with conditioner, no balance weights are needed to keep the left-right balance.
- If the mower is operated with a swath former, mount all balance weights supplied and check the balance.
- Remove these 3 screws (1) to change the number of counterweights.



Remove 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 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“).

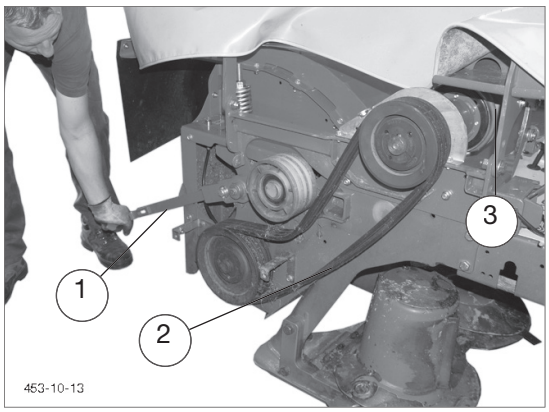
1. Switch off mower unit

WARNING

Risk of serious injury or injury resulting in death due to the machine tipping over.

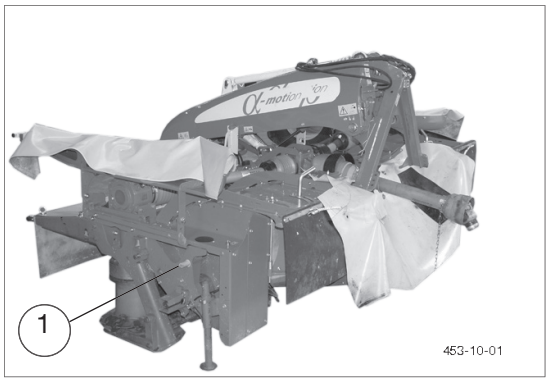
- Only park the machine on flat, firm ground.
- If necessary, secure against tipping over.

2. Remove protective cover and belt



- Loosen the belt tension using the blade wrench (1) and remove the belt (2) on the conditioner side.
- Then remove blade wrench.
- The belts must be removed completely if a swath former is attached. Uncouple cardan drive shaft (3) and remove belt.

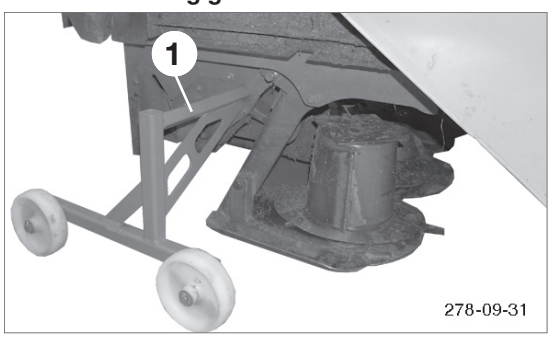
3. Loosen conditioner fixing



The conditioner fixing (1) to be loosened is located under the conditioner's outer side guard.

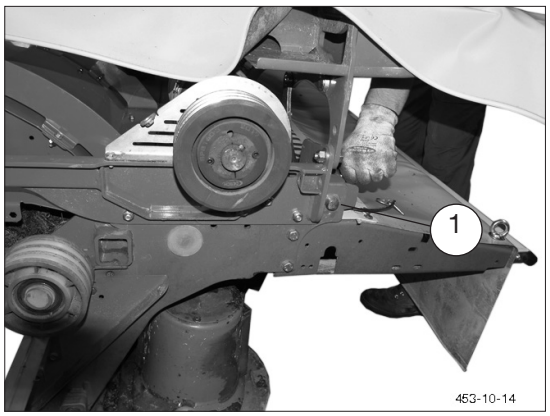
The optimum alignment between mower unit and conditioner is adjusted using the conditioner fixing (1). The belt pulleys on the inside of the conditioner must be aligned flush with the belt pulleys of the mower unit.

4. Attach running gear



To transport the dismantled conditioner, insert the trolley (1) supplied into the holder on both sides until it stops.

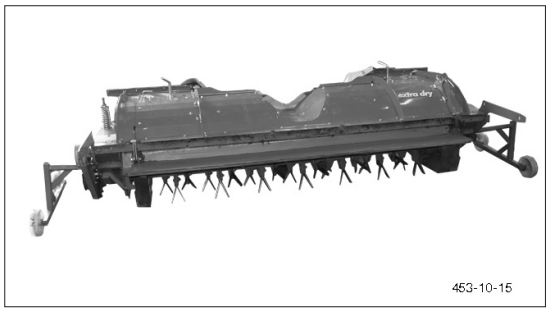
5. Open retaining bolt



The conditioners are each attached to the mower unit with 2 retaining bolts (1).

- Standard (A): Screw + sleeve
- Optional equipment (B): Quick-release fastener with spring support.

6. Remove conditioner



- Move the conditioner parked on the trolley away and store it on the trolley.

Attach conditioner

1. Cleaning

Clean the conditioner/swath former and the mower unit thoroughly, especially the connecting points.

2. Push conditioner or swath former into mower unit mounting.

3. Close retaining bolt

Standard (A): Screw + sleeve

Option (B): Quick-release fastener with spring support.

4. Detaching thetrolley

5. Adjust and secure conditioner fixing

The optimum alignment between mower unit and conditioner is adjusted using the conditioner fixing (1).

The belt pulleys on the inside of the conditioner must be aligned flush with the belt pulleys of the mower unit. Secure conditioner fixing!

6. Install belt, tension and attach protective cover.

For details see the Section “Dismount conditioner”

7. On Alpha-Motion mowers: Check left-right balance. If necessary, correct with the aid of the balance weights

(see Conversion Instructions).

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.

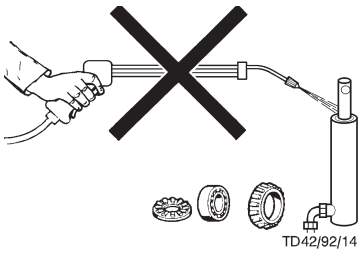
c. Under certain circumstances, the installation and/or use of such products may negatively modify or impair the specified structural properties of the machine. The manufacturer accepts no liability for any damage caused through the use of non-genuine parts and accessories.

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

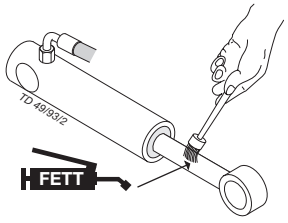
Be advised! Do not use high-pressure cleaners for the cleaning of bearing and hydraulic parts.

- 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!

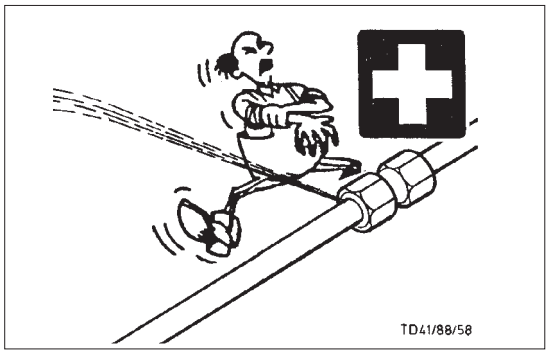
The directions in these Operating Instructions apply.

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

- Under normal operating conditions, oil is to be replenished annually.

DANGER

Life-threatening danger exists through another person starting the tractor 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 if the machine starts to roll or tilt.

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

TIP

- Carry out oil change at operating temperature
- The oil is too thick when cold. Too much old oil remains stuck to the gearwheels and prevents the removal of any suspended matter present in the gearbox.
- It can take some time until the oil has completely drained.

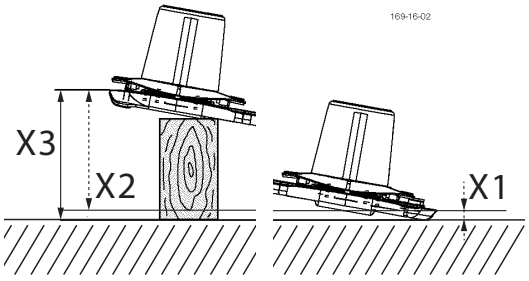
1. Lift one side of the mower bar X3 and support it.

Lift the cutter bar on the opposite side of the filling plug (63).

X3 = X2 + X1

X1 = Distance from ground to upper skid edge.

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



NOVACAT 261: X2 = 175 mm
NOVACAT 301: X2 = 300 mm
NOVACAT 351: X2 = 300 mm

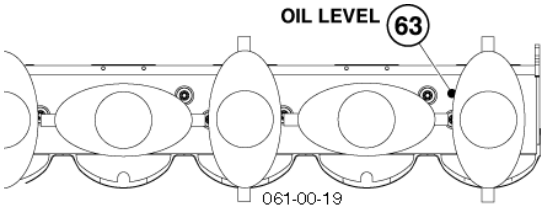
- The side where the oil refill screw is located remains on the ground.
- Lift the other side of the mower bar **X3** and support with a suitable prop.
- The full width of the cutter bar must be positioned horizontally.

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).

Measure oil level through the opening (63).

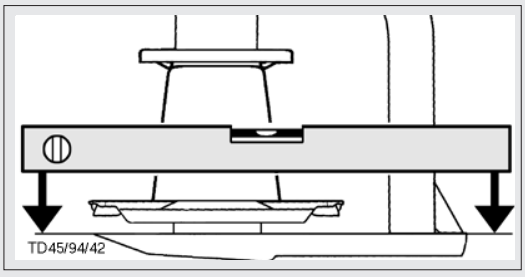


4. Oil level check

NOTE

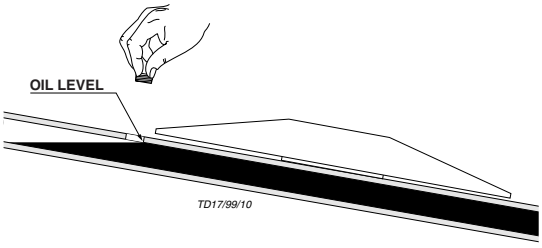
Property damage due to too much or too little oil.

- The full length of the cutter bar is propped up. The full width of the cutter bar must be positioned precisely horizontal (see image).



4.1 Oil level check for NOVACAT 261 and NOVACAT 351

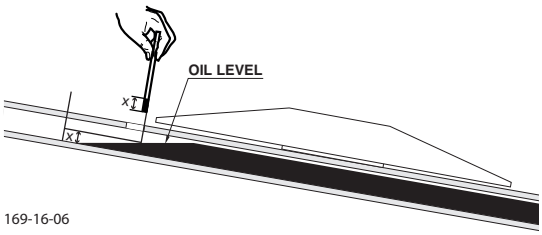
The oil level is correct if the gear oil reaches the lower edge of the level opening (63).



4.2. Oil level check for NOVACAT 301

The oil level is correct if x= 16 mm.

X is the oil level at the lower edge of the level opening (63)



5. Topping up oil

Add the amount of oil lacking.

NOTE

Property damage due to 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!

6. Oil level check

Check the new oil level

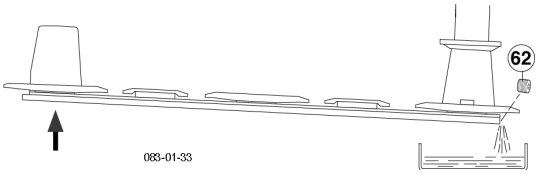
Oil change on cutter bar

TIP

- Carry out oil change at operating temperature
- The oil is thick when cold. Too much old oil remains stuck to the gearwheels and prevents the removal of any suspended matter present in the gearbox.
- It can take some time until the old oil has completely drained.

Oil change

- Change oil after the first 50 operating hours or after 100 ha at the latest.
- Lift the right side of the cutter bar.
- Take out oil drain plug (62), let oil run out and dispose of waste oil correctly.



Oil quantity:

NOVACAT 261: 2.6 litre SAE 90

NOVACAT 301: 3.0 litre SAE 90

NOVACAT 351: 3.5 litre SAE 90

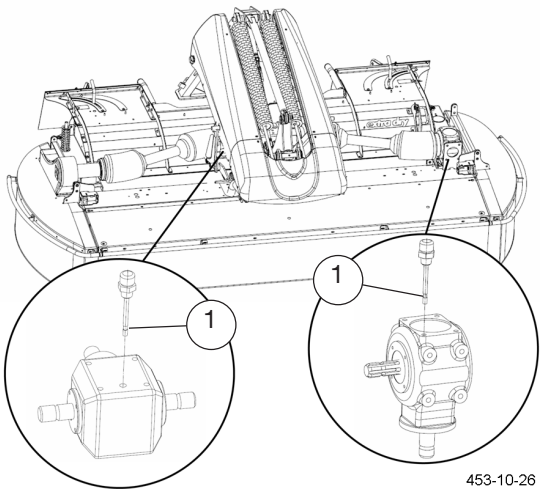
Angular gear

- Change oil after the first 50 operating hours.

  Under normal operating conditions, oil is to be replenished annually (1 = OIL LEVEL).
- Change oil after 100 hrs. at the latest.

Check the oil level:

- The filling level is checked with the marking (1) on the oil measuring rod.



Oil quantity:

0.85 litre SAE 90

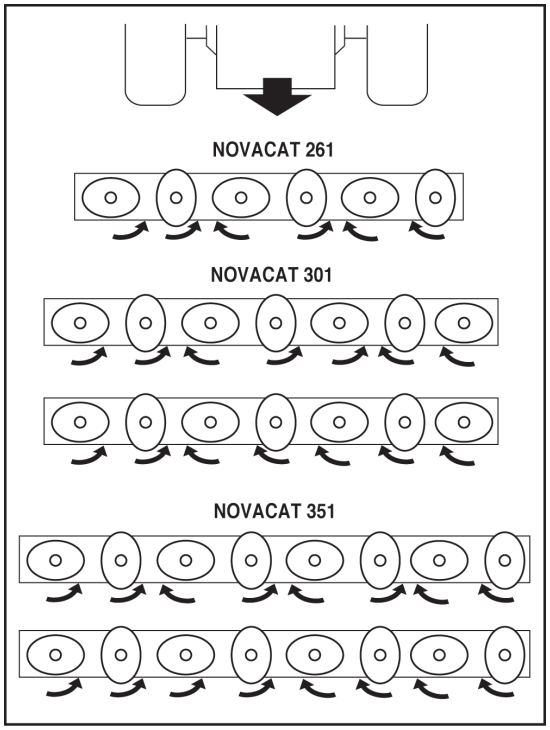
Oil quantity:

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.



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

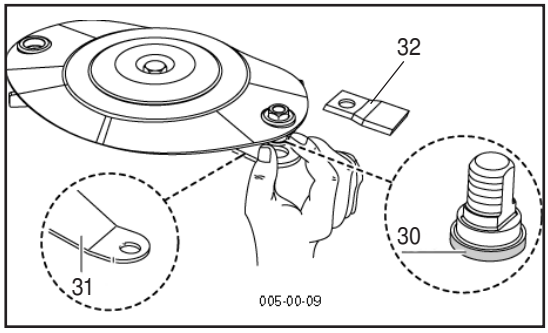
Use original Pöttinger spare parts! As these are optimally matched to the forces to be expected.

Parts to be checked:

Blade bolt (30)

Blade holder (31)

Mowing blades (32)



Control intervals:

Before each start-up

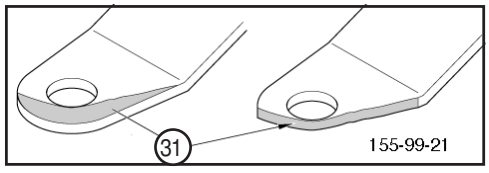
When mowing on stony terrain, carry out further checks during work.

Immediately after hitting an obstacle

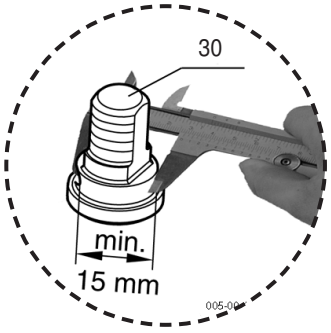
Immediately in case of abrasive noises in the area of the cutter bar

Control criteria:

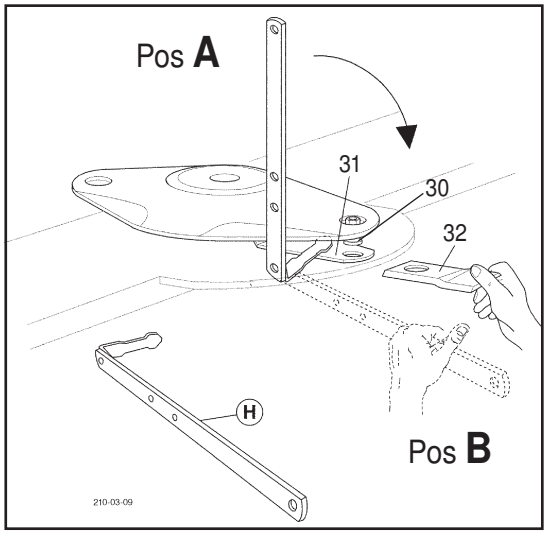
- Uneven wear of mowing blades (32) (danger of unbalance)
- Bent or damaged mowing blades (32)
- Bent, damaged or worn blade holder (the wear area of the blade holder has reached the edge of the hole) (31)



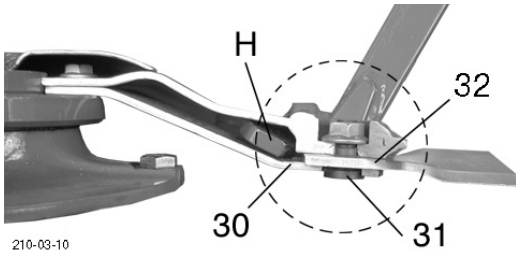
- Bent, damaged or worn blade bolts (middle area of the bolt: Diameter < 15 mm>; wear in the lower area of the bolt) (30)



Carrying out the check (with blade change):



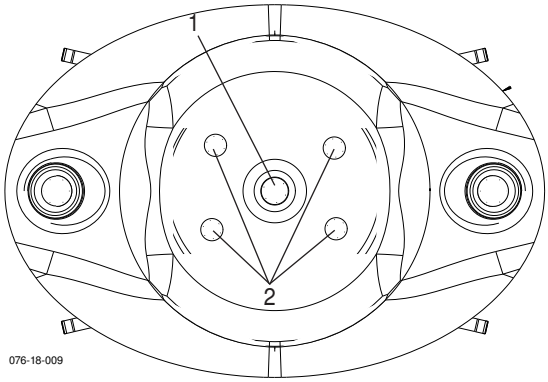
1. Insert lever (H) at a right angle to the ground (Pos A) between mower disc and blade holder.
2. Turn the lever (H) until it appears in line with the mower disc (Pos B). This will push the blade holder (31) downwards.
3. Remove the mowing blade (32).
4. Cleaning: Remove chuck residues and dirt from 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.



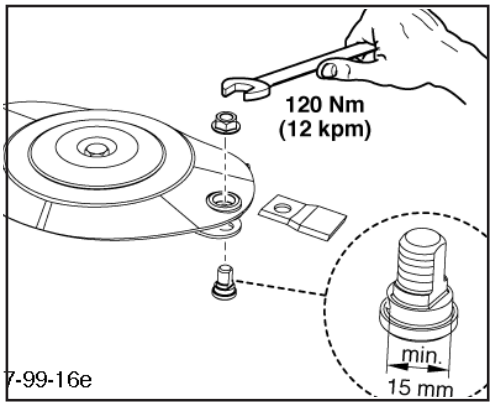
8. Raise lever H 90° to floor again (Pos A) and pull out sideways.

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.



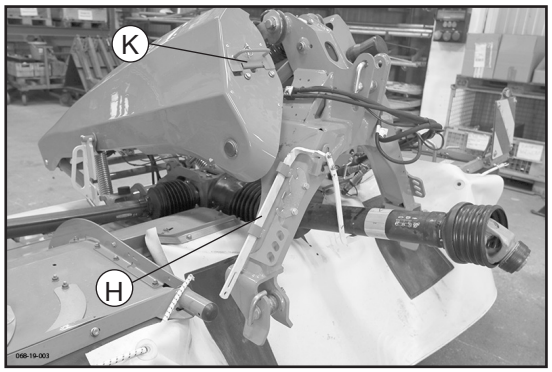
5. Replace mowing blade
6. Mounting the mower disc
   a. Reassemble the mower disc in the reverse order.

Storing of the lever

- Place lever in the respective retaining tab after use.

Storing of the lever

- After use, insert lever (H) into the corresponding retaining straps and secure.
- After use, insert the blade box (K) into the holder and secure it.



Technical data

Description	NOVACAT 261 Type 3750 / 3753	NOVACAT 301 Type 3760 / 3763	NOVACAT 351 Type 3810 / 3813
Coupling	3-point coupling Kat. II	3-point coupling Kat. II	3-point coupling Cat. II
Working width	2.62 m	3.04 m	3.46 m
Transport width	2.57 m	2.98 m	3.42 m
Conditioner width	1.99 m	2.41 m	2.68 m
Swath width (machines without a conditioner) without swath discs with 2 swath discs with 4 swath discs	 1.7 m 1.3 m 0.9 m	 2.1 m 1.7 m 1.3 m	 2.5 m 2.1 m 1.7 m
No. of mowing discs	6	7	8
No. of cutter blades	12	14	16
Area output	2.6 ha/hr	3.0 ha/hr	3.4 ha/hr
Drive speed (r.p.m.)	540 / 750 / 1000	540 / 750 / 1000	540 / 750 / 1000
Cardan shaft overload safeguard	1500 Nm	1500 Nm	1500 Nm
Power requirement without a conditioner with conditioner	30 kW (40 hp) 45 kW (61 hp)	35 kW (47 hp) 52 kW (70 hp)	45 kW (61 hp) 60 kW (80 hp)
Weight ALPHAMOTION-withoutconditioner ALPHAMOTION - ED ALPHAMOTION - RC ALPHAMOTION MASTER	865 kg 1065 kg 1115 kg 810 kg	905 kg 1145 kg 1215 kg 850 kg	985 kg 1265 kg 1315 kg 930 kg
Continuous sound emission level	82.2 dB(A)	84.3 dB(A)	84.3 dB(A)

All data subject to change without notice

Optional equipment:

- Conditioner
- Lighting equipment
- Warning signs
- Manual gearbox (Conditioner)
- Bar bracing for heavy soil for NOVACAT 301 and NOVACAT 351

Necessary connections

- 1 single-action hydraulic plug connection
  (min. tractor requirements)
  Min. operating pressure: 140 bar
  Max. operating pressure: 200 bar
- 7-pin connection for the lighting (12 volt)

[1] Weight: Variations are possible depending on machine features.

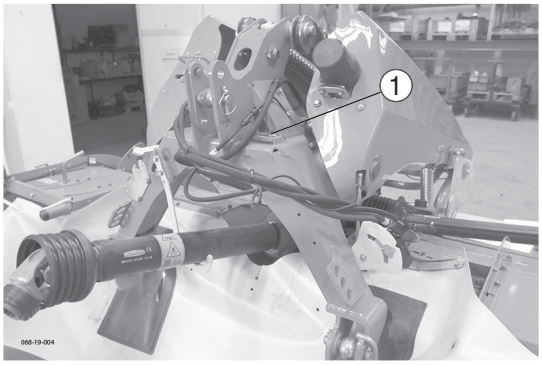
Type plate

The chassis number is engraved in the identification plate as shown opposite. Guarantee claims, inquiries and spare parts orders cannot be processed without the chassis number.

Please enter the chassis number on to the operating instructions' title page immediately upon taking delivery of the vehicle / implement.

Type plate position

The type plate (1) is located on the right-hand side of the attaching frame, at the tractor end.



The designated use of the mower unit

The **"NOVACAT 261 alpha motion master (Type PSM 3750)", "NOVACAT 261 alpha motion pro (Type PSM 3753)", "NOVACAT 301 alpha motion master (Type PSM 3760)", "NOVACAT 301 alpha motion pro (Type PSM 3763)", "NOVACAT 351 alpha motion master (Type PSM 3810)", "NOVACAT 351 alpha motion pro (Type PSM 3813)"** mowers are designated 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

The original cannot be copied ...

EN

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.

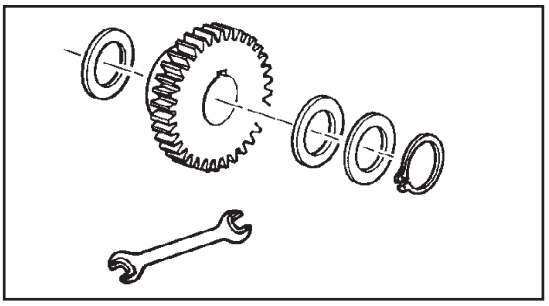
5.) Modification work

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.

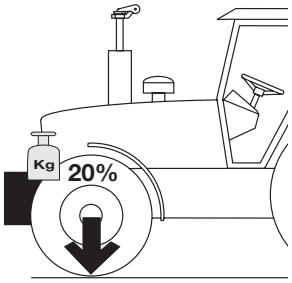
10.) Transport of people prohibited

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.

11.) 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!

12.) 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.

13.) Cleaning the implement

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

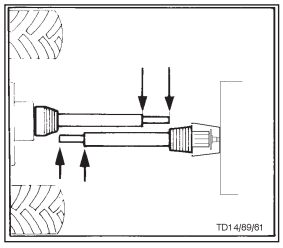
Adapting cardan shaft

NOTE

Material damage - due to inferior spare parts

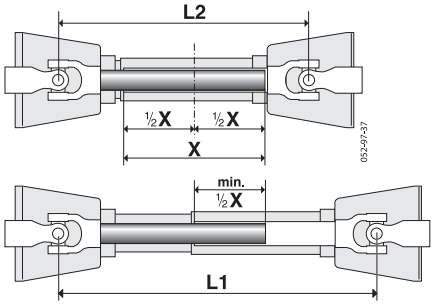
- Only use the cardan shaft supplied or stated; otherwise the warranty claims for any damage are not valid.

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



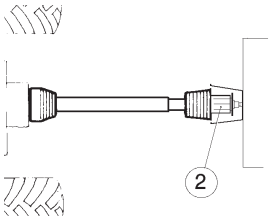
Cutting to length procedure

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



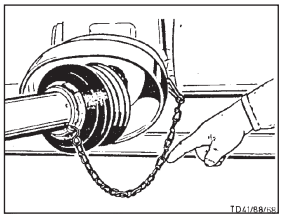
Caution!

- 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

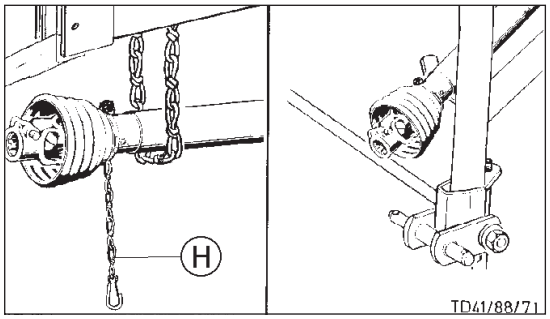
- Use chain to prevent tube guard from rotating.
  Ensure sufficient swivel space for the cardan shaft!
- Trim the safety chain so that it cannot wind around the cardan shaft.



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.



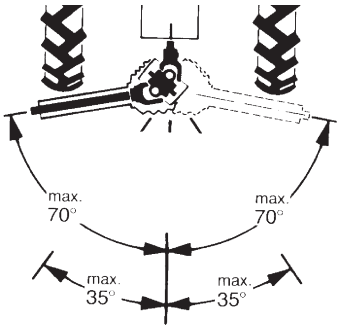
Wide-angle joint:

Maximum angle for operation and at standstill 70˚.

Standard joint :

Maximum angle at standstill 90˚.

Maximum angle for operation 35˚.



Maintenance

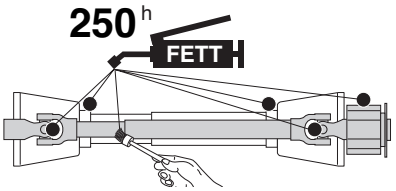
DANGER

Mortal danger - due to worn covers

- Replace the worn covers immediately

- Lubricate with a brand-name grease before starting work and every 250 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..

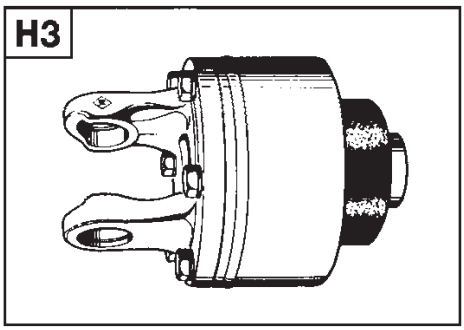
TIP

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.

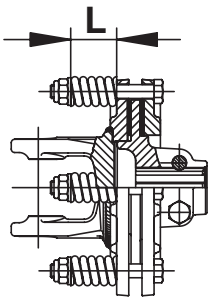
b.) Loosen screws to release the pressure on the friction disc.

Slip the clutch.

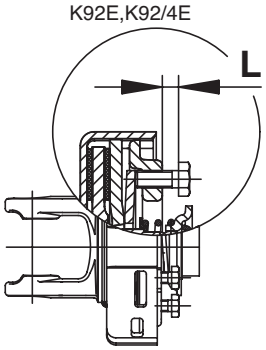
c.) Set screws to dimension "L".

Clutch is ready for use again.

K90,K90/4,K94/1



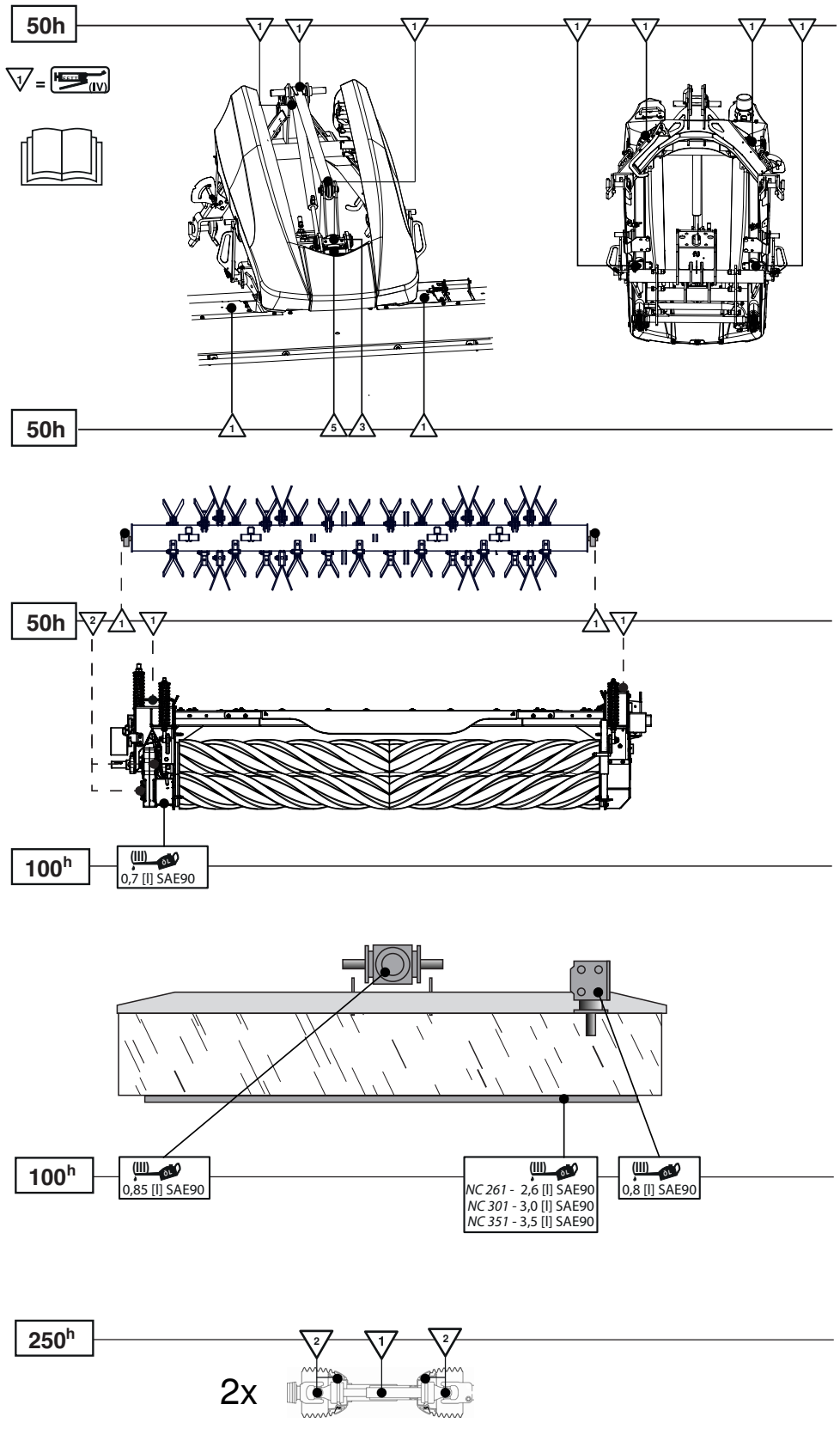
K92E,K92/4E



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.

NOVACAT 261 alpha motion pro /ED /RC /RCB
NOVACAT 301 alpha motion pro /ED /RC /RCB
NOVACAT 351 alpha motion pro /ED /RC /RCB



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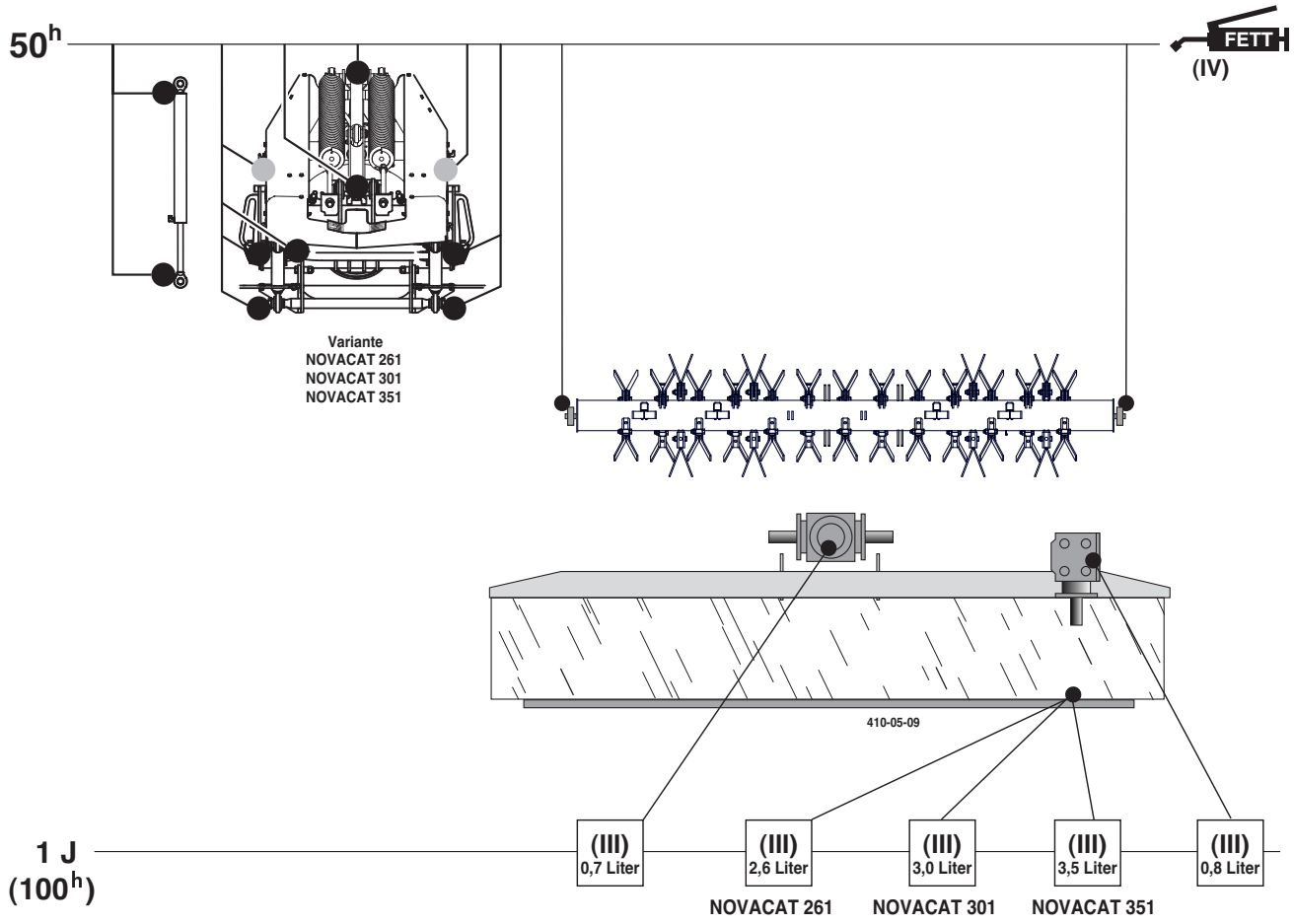
NOVACAT 261 alpha motion master
NOVACAT 301 alpha motion master
NOVACAT 351 alpha motion master



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	AVIAMEHRZWECKFETT 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

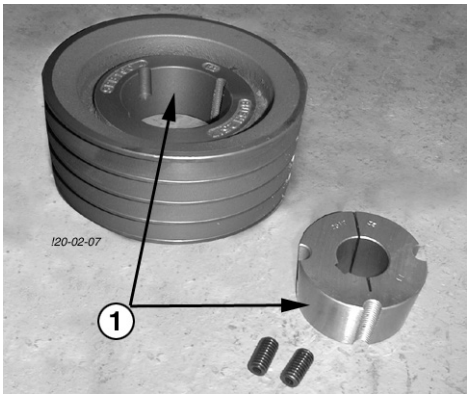
Bush identifier	Torque [Nm]
2017	30
2517	49

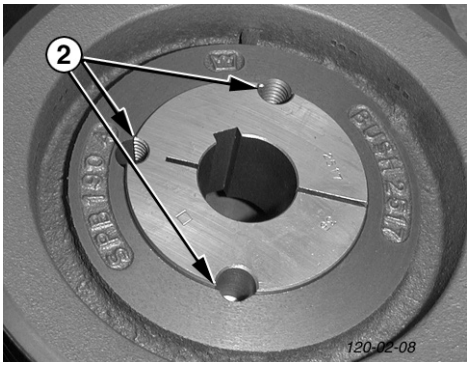
   - When the drive has been operating under load for a short period (half to on hour) check and ensure that the screws remain at the appropriate tightening torque.
   - In order to eliminate the ingress of dirt fill all empty holes with grease.

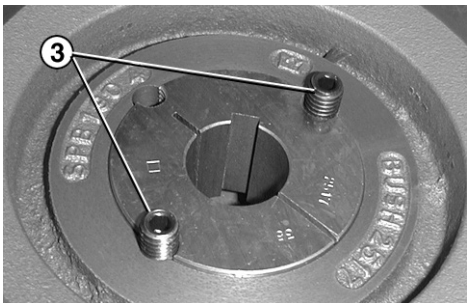
Removal

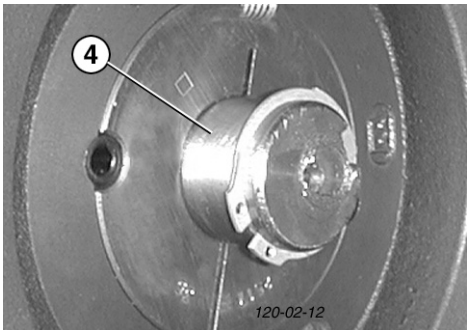
1. Slacken all screws. Depending on the size of the bush remove one or two.

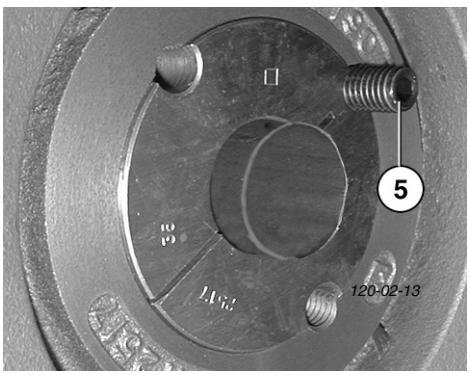
   After oiling point and thread of grub screws or under head and thread of cap screws insert them into the jacking off holie(s) in bush (Pos. 5).
2. Tighten screw(s) unitormly and alternately until the bush is loose in the hub and pulley is free on the shaft.
3. Remove pulley bush assembly from shaft.











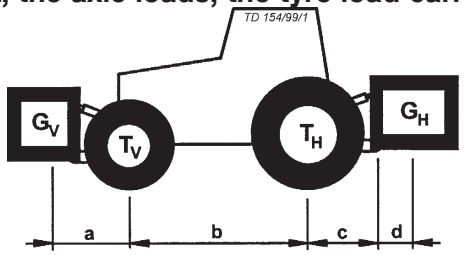
Combination of tractor and mounted implement

DANGER

Life hazard or material hazard - due to overload on tractor or wrong tractor ballast distribution.

- Make sure that hitching the implement (in the front and rear three-point linkage) does not lead to exceeding the maximum total admissible weight of the tractor, the axle loads or the load capacity of the tyres. 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

Rear hitched implement resp. front-rear combinations

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

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

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

Front mounted implement

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

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

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

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

(If the front hitched implement (G_V) does not reach the minimum required ballasting Front ($G_{V\ min}$), the weight of the front hitched implement must be increased to the minimum ballasting 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 the rear hitched implement (G_H) does not reach the minimum required ballasting Rear ($G_{H\ min}$), the weight of the rear hitched implement must be increased to the minimum ballasting 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.

6. TYRE LOAD CAPACITY

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

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 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.

Declaration of conformity

Name and address of the manufacturer:

PÖTTINGER Landtechnik GmbH
Industriegelände 1
AT - 4710 Grieskirchen

Machine (interchangeable equipment):

mower NOVACAT 281 /301 /351
3750 3753 /3760 3763 /3810 3813
Type **NOVACAT 351 Alpha-motion**
Serial no. **3751**

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The object described above complies with the following statutory requirements :

Supply of Machinery (Safety) Regulations 2008, 2008 NO. 1597
Electromagnetic Compatibility Regulations 2016, 2016 NO. 1091

The following designated standards were applied:

EN ISO 12100:2010
EN ISO 4254-12:2012
EN ISO 14982:2009
EN ISO 4254-1:2015
EN ISO 4254-12:2012/A1:2017

The following standards and technical specifications were applied:

Person authorised to compile the technical documentation

Melanie Jane Gardner
St. Marks Road 15
GB - NN188AN Corby

Markus Baldinger
CTO R&D

Jörg Lechner
CTO Production

Grieskirchen, 04.07.2023

The EC norm is not valid in the United States and Canada.

EU declaration of conformity

Name and address of the manufacturer:

PÖTTINGER Landtechnik GmbH
Industriegelände 1
AT - 4710 Grieskirchen

Machine (interchangeable equipment):

mower	**NOVACAT 351 Alpha-motion**
Type	**3751**
Serial no.	

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

machinery 2006/42/EG
Electromagnetic compatibility 2014/30/EU

Source of applied, harmonised norms:

EN ISO 12100:2010
EN ISO 4254-12:2012
EN ISO 14982:2009
EN ISO 4254-1:2015
EN ISO 4254-12:2012/A1:2017

Source of applied miscellaneous technical norms and / or specifications:

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