Operator‘s manual

Translation of the original Operating Manual

Nr. **99+3776.EN.80V.0**

Chassis Nr.

Disc mower

NOVACAT 352

(Type PSM 3774 : Chassis-Nr: + . .00770 / MaschNr: + . .01770)

NOVACAT 402

(Type PSM 3775 : Chassis-Nr: + . .01554 / MaschNr: + . .02554)

NOVACAT 442

(Type PSM 3776 : Chassis-Nr: + . .01352 / MaschNr: + . .02352)

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.

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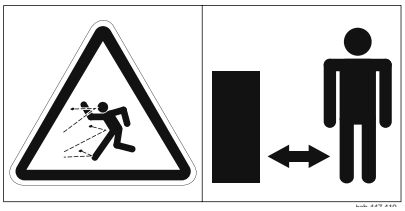
Table of contents

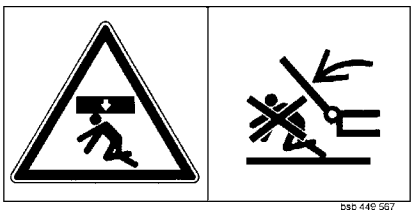
Attention!

Safety hints to observe in supplement!

Meaning of warning signs

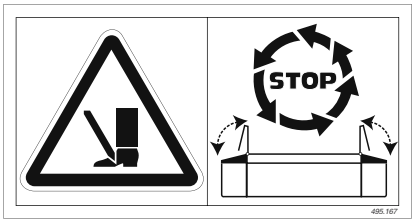


Danger - flying objects; keep safe distance from the machine as long as the engine is running.



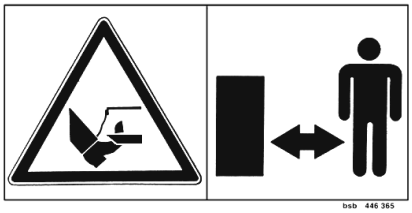
Do not stand in the implement's swivel range.

Do not touch rotating machine components.
Wait until they have stopped completely.

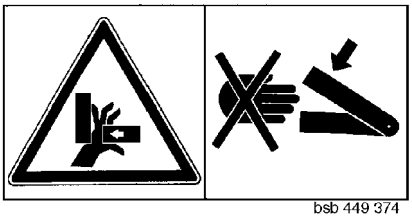


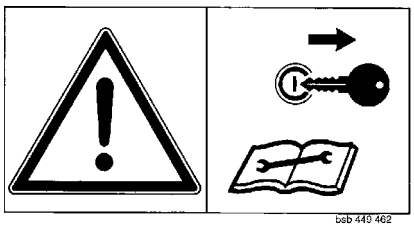
Close both side protective coverings before engaging p.t.o..

Never reach into the crushing danger area as long as parts may move.



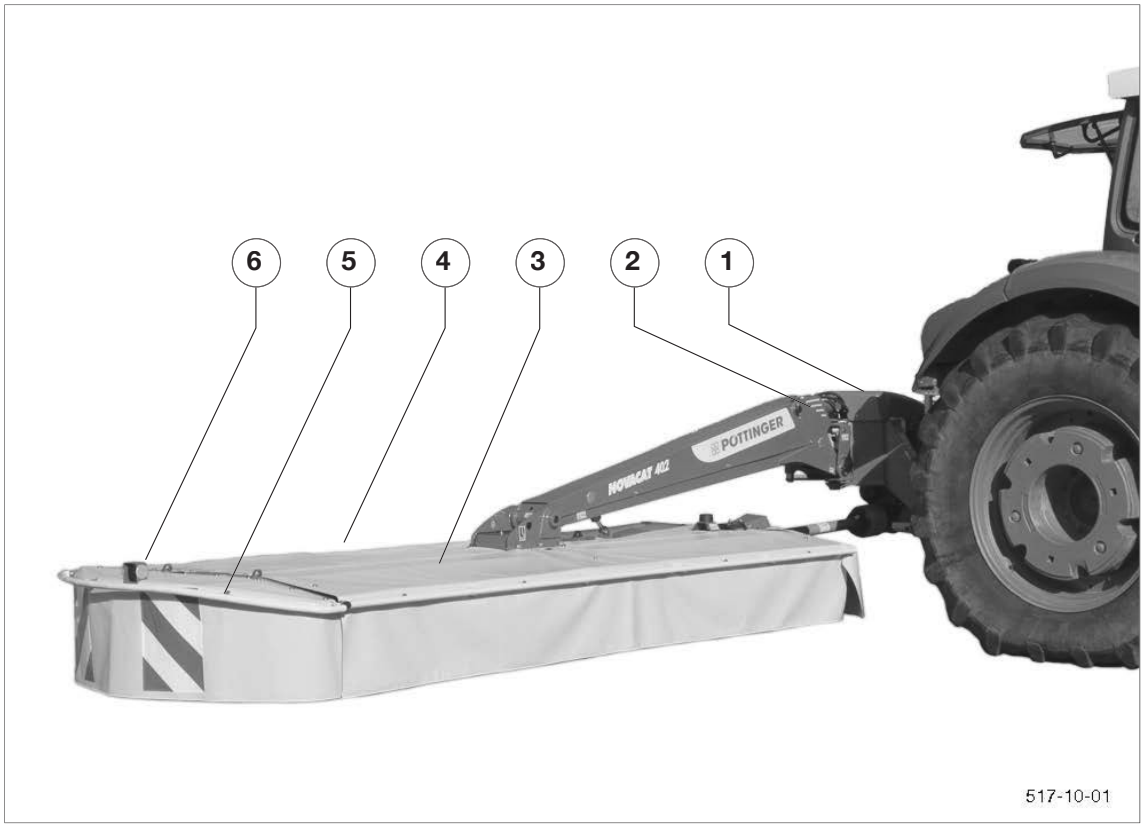
Stay clear of mower knife area as long as tractor engine is running with PTO connected.





Shut off engine and remove key before performing maintenance or repair work.

Overview



Designations:

(1) Mounting frame
(2) Hydraulic relief
(3) Mower bar
(4) Swath former
(5) Collapsible side protection
(6) Lighting

Versions

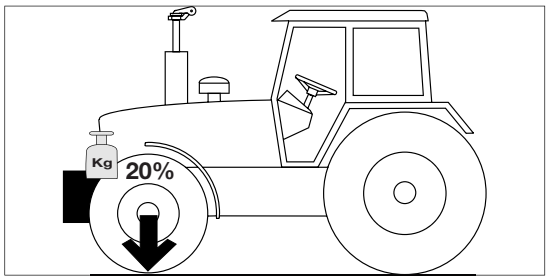
Designation	Description
NOVACAT 352	Working width: 3,46 m
NOVACAT 402	Working width: 3,88 m
NOVACAT 442	Working width: 4,30 m

Tractor

To operate this machine the following tractor requirements are necessary:

- **Tractor power:**
  Novacat 352 - from 59kW/80PS
  Novacat 402 - from 67KW / 90PS
  Novacat 442 - from 82KW / 110PS,
- **Hitching:**
  Lower link Cat. III / width 3
- **Connections:**
  See table "Necessary hydraulic and power connections"

Ballast weights



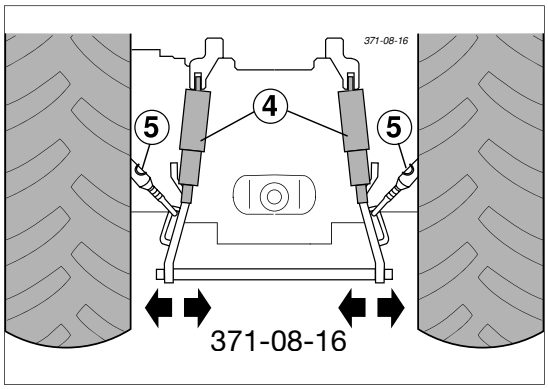
The front of the tractor must have sufficient ballast to guarantee braking and steering capabilities.

DANGER

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

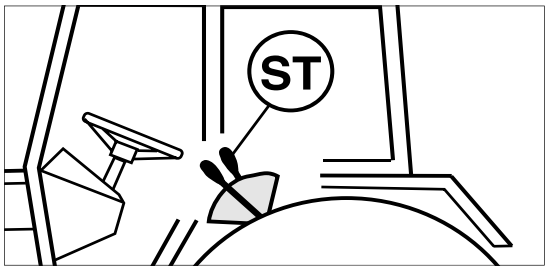
- Make sure that when the implement is hitched, at least 20% of the tractor weight is placed on the front axle.

Lifting unit (three-point linkage)



- The tractor's lifting unit (three-point linkage) must be designed for the applicable load. (See technical data)
- The lifting struts are to be set at the same length (4) using the appropriate adjusting device
  (See the tractor manufacturer's operating manual)
- If the lifting struts on the lower links can be fixed in different positions, then the rear position must be selected. This relieves the pressure on the tractor's hydraulic system.
- The limiting chain or lower link stabilisers (5) are to be set so that the attached machine CANNOT move sideways. (Safety measure for transportation)

Hydraulic control on the lifting gear



The lifting hydraulics shall be switched on position control:

Hydraulic connections required

Design	Consumer	Single-acting hydraulic connection	Double-acting hydraulic connection	Identification (on the implement)
Standard	Lift-out cylinder	X		
	Hydraulic lower link rocker or swivel cylinder (with active control line)		X	
	Hydraulic ground pressure system	X		
	Hydraulic upper link (variant)		X	

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

NOTE

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

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

Power connections required

Design	Consumer	Pin	Volt	Powerconnection
Standard	Lighting	7-pin	12 V DC	According to DIN-ISO 1724

Safety advice

DANGER

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

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

DANGER

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

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

CAUTION

Risk of crushing injury caused by machines being parked on feet.

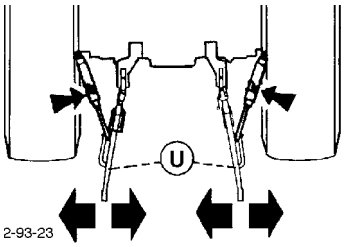
- Use tractor's hydraulic lift only when no one is standing in the danger area.

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

Attaching implement to tractor

Set lower link on tractor

- Fix the hydraulic lower link so that the implement cannot swing out to the side and the headstock is positioned in the centre.



1. Attaching machine to tractor

WARNING

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

- Only connect on fixed, even ground.
- Secure the tractor against rolling before anyone is allowed to enter the space between the implement and the tractor.

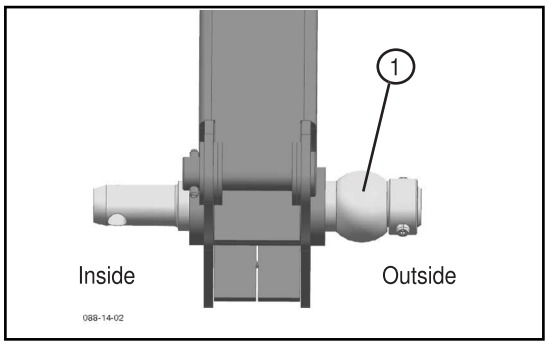
CAUTION

Risk of crushing when bringing the tractor up to the implement.

- Direct everyone out of the danger area between the tractor and the machine.

- Connect and secure tractor lower link with the implement lower link pins.

-Adjust the lower link bolt (1) at the support frame with the locating screw to category 3 / width 3. The mower must not touch the rear tractor tyres. The bolts are to be fitted with the balls (1) on both lower links outside. (Exception: if your tractor has the "Quick Hitch" system then the bolts with the balls have to be fitted on the inside.)



NOTE

Risk of damage to property due to an implement coming loose from the tractor. If the screw is only fixed in the bracket and does not reach the hole in the bolt, the lateral movement of the bolt is still possible and the mower can come loose from the coupling.

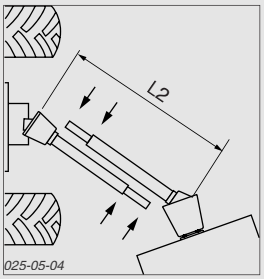
- Check the tight connection between screw (2) and coupling pin.

- Connect upper link and secure.

DANGER

Life-threatening danger exists when cardan shaft length is unadapted

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

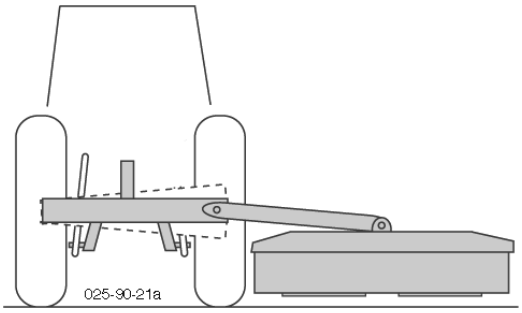


- Connect cardan shaft.
- Connect the 7-pin plug of the lighting to the tractor.
- Connect hydraulic hoses depending on equipment.
- Lay control line in tractor cabin.
- Raise support stand and secure!

2. Set mounting frame to horizontal

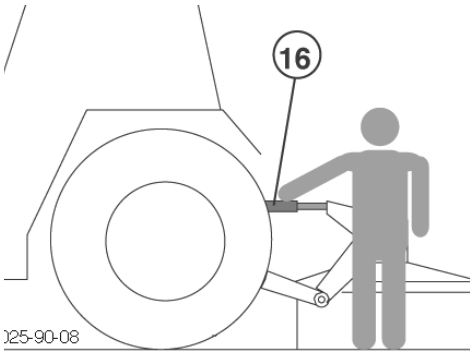
Bring mounting frame into horizontal position by adjusting hydraulic lower link rocker

- Swing the mower into the off-road transport position
-Actuate servo-valve in tractor until mounting frame is horizontal.



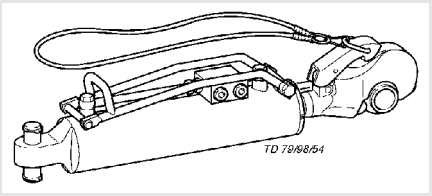
3. Adjust upper link

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



TIP

A hydraulic upper link is recommended (A double acting control unit is required for this purpose)



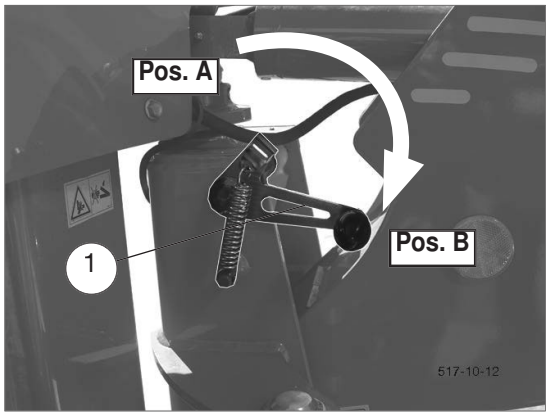
4. Swivel safety lever out

after assembly and before lifting in field transport position, you must swivel out the safety flap (1)

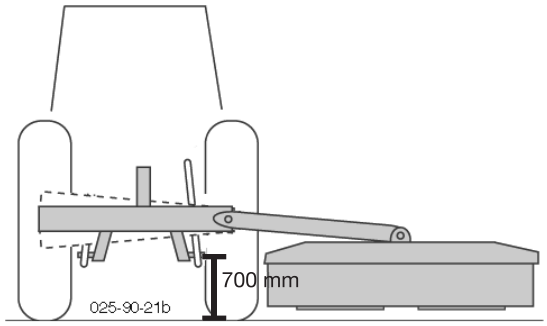
Requirements:

- The disc mower is mounted correctly on the tractor.
- The single acting hydraulic implement is in floating position.

1. Lift the tractor hoist so far that the safety flap becomes mobile.
2. Swivel the safety flap from position A to position B.



3. Set lifting height to 700 mm under the right lower link.



Carry out trial run

Set lifting height

- Lift disk mower high enough so that the cardan shaft is horizontal.

Set power take-off r.p.m.

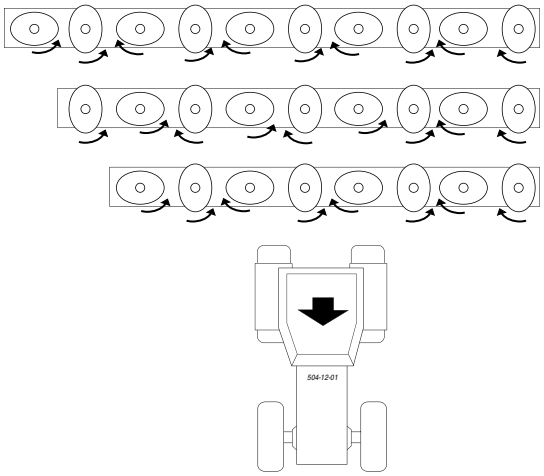
- Set appropriate power take-off r.p.m. on tractor

TIP

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

Check rotation direction

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



Set hydraulic relief

CAUTION

Risk of crushing injury. The mowing unit may tip forwards during the adjustment procedure.

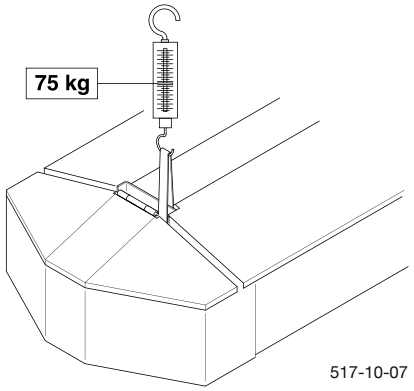
- Remove anyone who is not involved from the danger area.

Relief system control

The set mower bar hydraulic relief can be checked as follows

- Mechanically

  by lifting the cutter bar on one side. The weight should be approx. 75 kg.



- Pressure gauge

  By reading the displayed value on the pressure gauge

  (A display value of 100 bar is recommended)

Setting the relief

Hydraulic prestress pressure is set using a single-action control unit. The prestress pressure can be read at the pressure gauge

TIP

The hydraulic connection for the hydraulic relief on the mower is fitted with a stop valve. Open this tap prior to changing the preload pressure and close it again after changing the pressure.

Recommended values for prestress pressure ex-works:

Manometer display

	3.0m FM	3.5m FM
Novacat 352	80 bar	90 bar
Novacat 402	90 bar	100 bar
Novacat 442	105 bar	115 bar

FM = front mower

Safety advice

DANGER

Life-threatening danger through the mower tipping over

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

DANGER

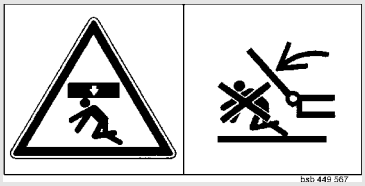
Life-threatening danger through rotating or ejected components

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

DANGER

Life-threatening danger through moving parts

- Make sure that the swivel range is clear and that no-one is standing in the danger area.



Changing from working position to field transport position

Procedure:

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

Changing from field transport to transport position

NOTE

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

The cardan shaft may break if under brakes when changing to the transport position.

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

Procedure:

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

2) Pull control line

3)Simultaneously, use servo-valve to swivel mower to transport position

TIP

- If you activate the dual-action control unit without pulling the control line, only the horizontal position of the hitch changes.

DANGER

Danger to life due to lack of visible lighting.

- Make sure that the side protection is folded down so that the reflective strips and lighting are visible from behind the device.

Changing from transport to working position

Procedure:

1) Pull control line

2)Simultaneously, use servo-valve to swivel mower to field transport position until the swivel cylinder is completely extended

TIP

- If you activate the dual-action control unit without pulling the control line, only the horizontal position of the hitch changes.

3) Use control unit to lower the mower to working position.

General tips

DANGER

Life-threatening danger through tipping.

- Make sure the machine is standing securely.
- Park the implement only on flat, firm ground.
- Use the support stands on the machine.

DANGER

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

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

DANGER

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

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

CAUTION

Risk of minor or moderate injury from crushing and shearing sections of the hitching frame.

- Do not stand between the tractor and the device if the tractor has not been stopped and the PTO is moving.

Unhitching implement from tractor

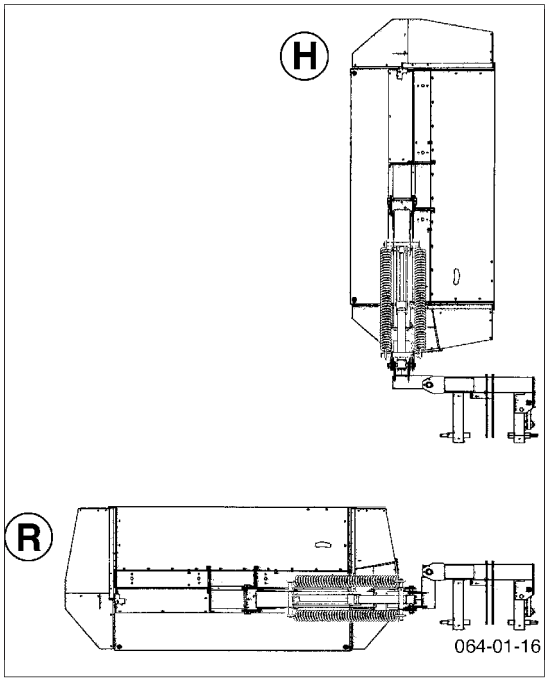
WARNING

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

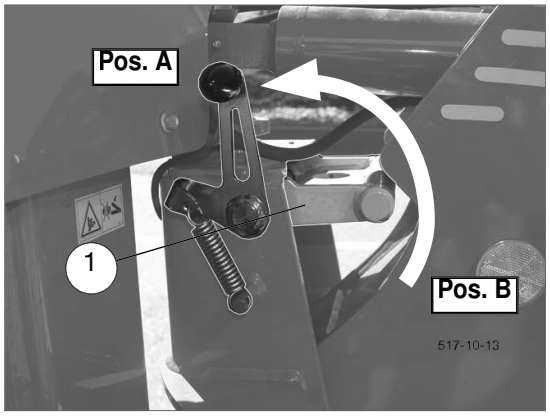
- The safety lever (1) is a safety fixture. It should not be changed in its form and functions.
- The safety flap is designed in such a way that it does not jump out of the locking position when the cutter bar is folded up hydraulically, therefore do not actuate the hydraulic cylinder for folding up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

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

The following procedure applies to both situations:



1) Swivel safety guard (1) into (Pos. A)

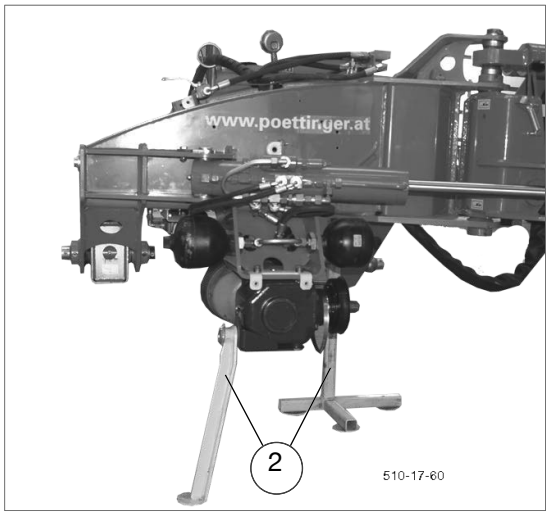


⚠ CAUTION

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

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

2)Extend or fold down support stands (2) and secure



3)Take control line from tractor cabin and place, rolled up, on mower's hose storage.

4)Close off hydraulic hoses and place on mower's hose storage.

5)Unplug tractor 7-pin lighting plug

6)Uncouple cardan shaft and lay on cardan shaft holder.

7)Uncouple upper link

8)Separate the tractor lower link arm from the machine's lower link pin

9) Carefully drive the tractor away from the implement.

Safety advice

DANGER

Life-threatening danger exists through blades being ejected.

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

DANGER

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

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

DANGER

Life-threatening danger exists through falling off the machine.

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

TIP

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

Important notes prior to starting work

1. Check

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

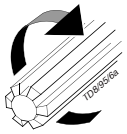
2. Only switch the machine on when in the working position and do not exceed the stipulated p.t.o. speed!

1000 Upm

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

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

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



4. Prevent any damage!

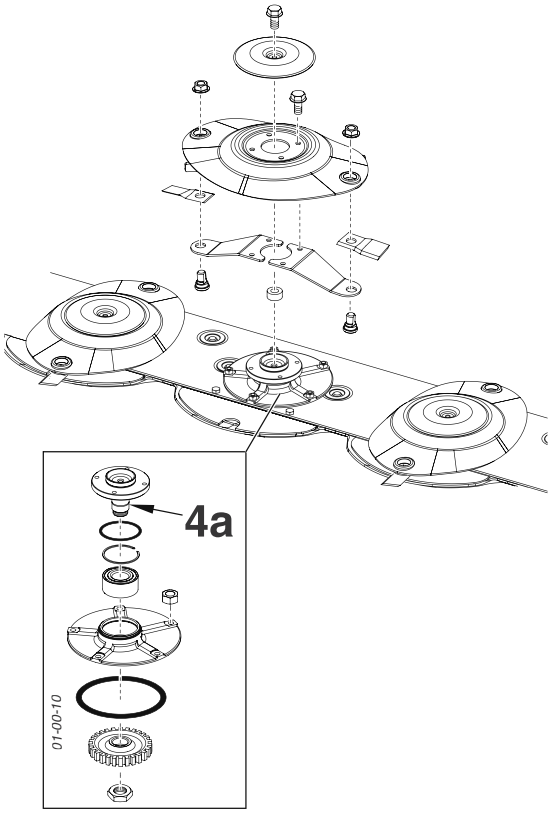
NOTE

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

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

If a collision occurs anyway,

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

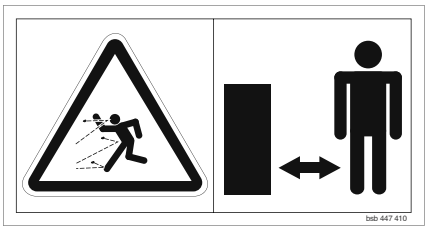


- If necessary have it checked over in a specialist work shop also.

After contact with a foreign object

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

5. Keep a safe distance while engine is running.



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

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

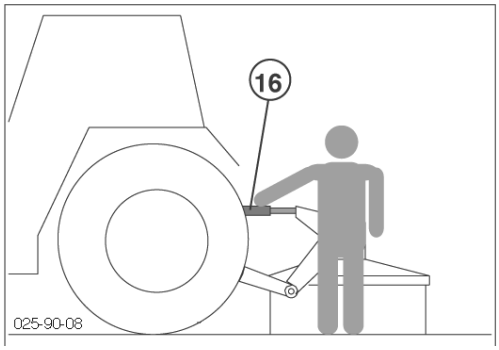
6. Wear hearing protection

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

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

Mowing

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



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

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

- Adjust travel speed to terrain and crop.

Reversing

Raise the mower when reversing!

Protective covers

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

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

⚠ DANGER

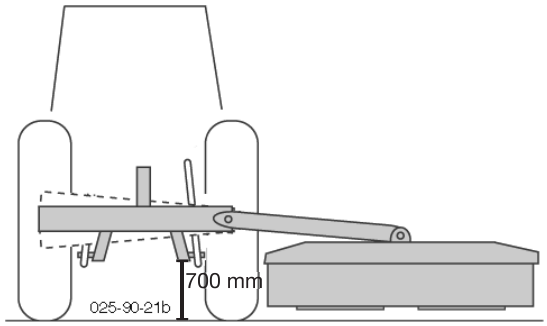
Danger to life due to parts being thrown off.

- Move all the protective devices to their intended positions before use.
- Check whether the protective devices have defects which impair their function. Replace damaged covers before use.
- Stones and other objects can be picked up and ejected when mowing. Direct all persons out of the danger area.

Settings for operation

Tractor hydraulic system

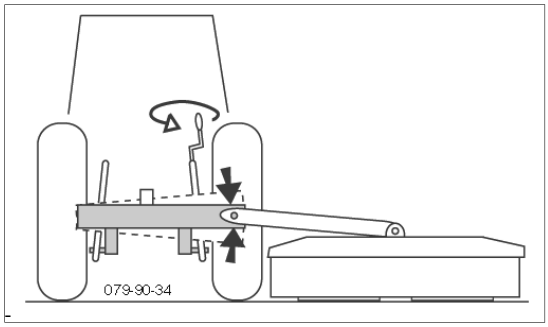
- The right lower link is to be set to H1 ≈ 700 mm ground distance.
- Fix the tractor hydraulic system in this position



Headstock

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

1. Set 3-way cock at headstock downwards to select the function "Hydraulic lower link".
2. Activate dual-action control unit at tractor until the hitching frame is horizontal.



Lift-out cylinder

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

Protective covers

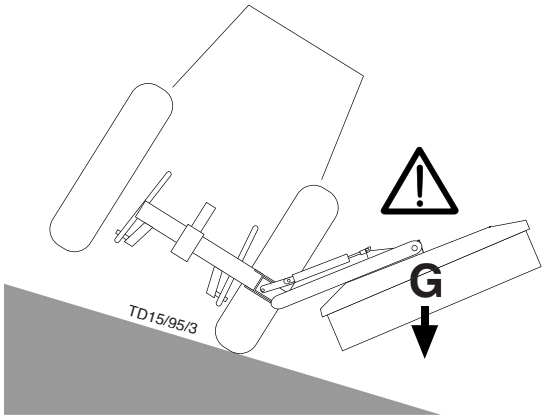
- All protective covers are closed and in proper condition

Take care when turning on slopes!

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

Danger of tipping occurs

- when the mower unit is facing downhill and in a raised position,
- when travelling in a left-hand curve with the mower unit raised,
- when travelling in a left-hand curve in the transport position (mower unit completely raised).

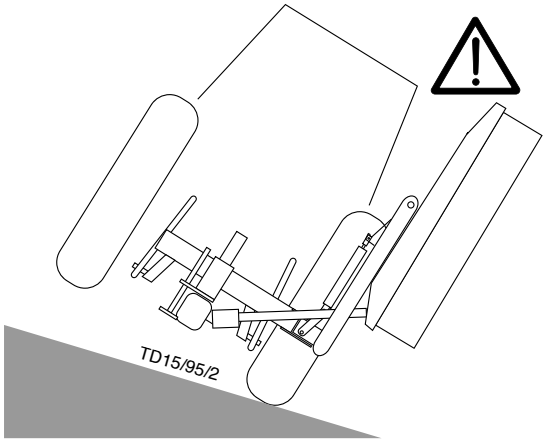


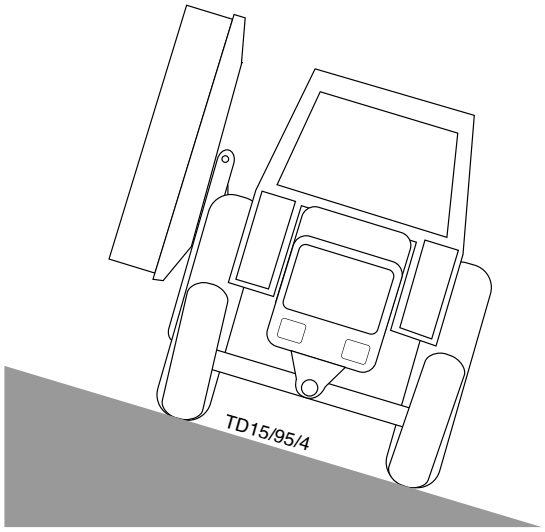
Note:

Raise the mower when reversing!

Safety information

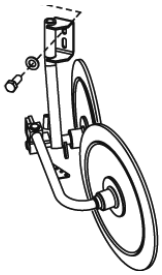
- Reduce speed in left-hand curves accordingly.
- Travel so that the raised mower unit is facing uphill.
- It is better to travel in reverse on a slope than to carry out a risky turning manoeuvre.

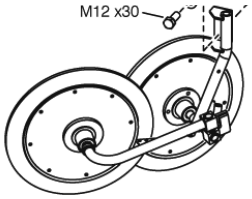




Swath Discs

With the swath discs a narrower swath is formed when mowing. This prevents them from being run over by the tractor's wide tyres.





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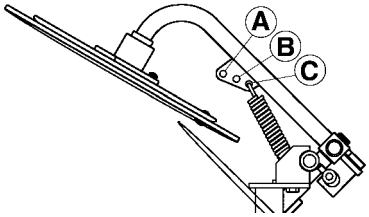
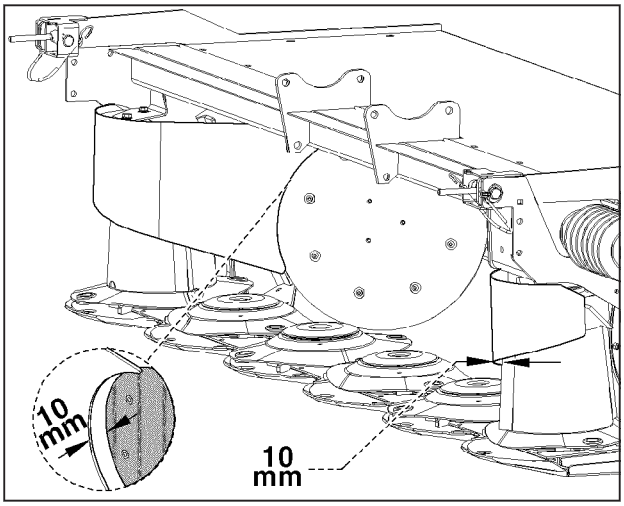
Setting both tension springs

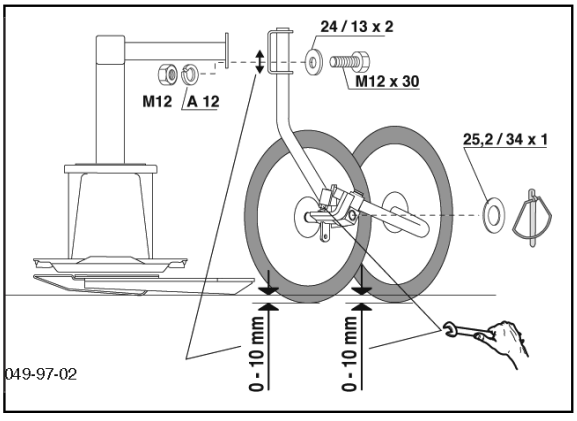
A = for high dense forage

B = basic setting

C = for short forage

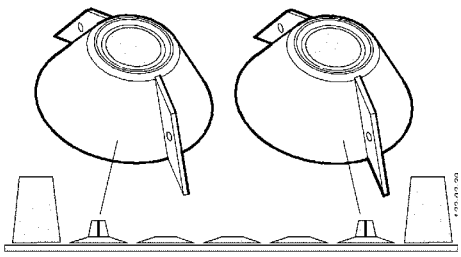






Flat cone conveyor

- Flat cone conveyor are recommended
  to improve the conveyance rate of swath deposits, particularly with heavy, thick fodder components
- For individual parts see Spare Parts List



Collision Avoidance

When mowing around trees, fences, boundary stones etc., collisions between the cutter bar and obstacles can occur despite careful and slow driving. In order to avoid damage, a collision safety device is provided on the mower.

NOTE

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

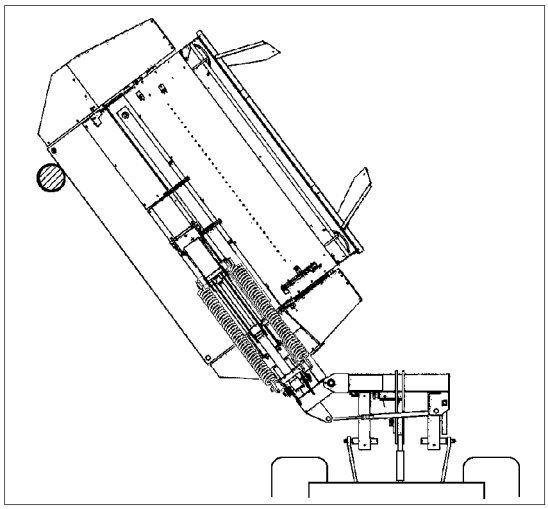
- Drive at an appropriate speed.
- Drive within the line of vision.

TIP

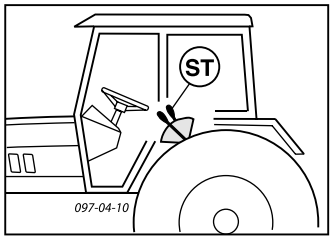
Always set the single-acting control unit to the float position when working to ensure optimum collision avoidance.

Mode of operation

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



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



TIP

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

Working width

The working width can be altered between two positions, e.g. in order to adapt the rear mower to the front mower.

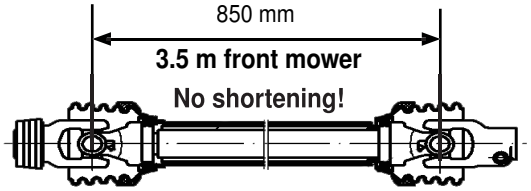
Position: for a front mower of 3.50m width

The mower bar is mounted outward on the swing arm.

-Working width for 3.5m wide front mower:

Cardan shaft length: 850mm

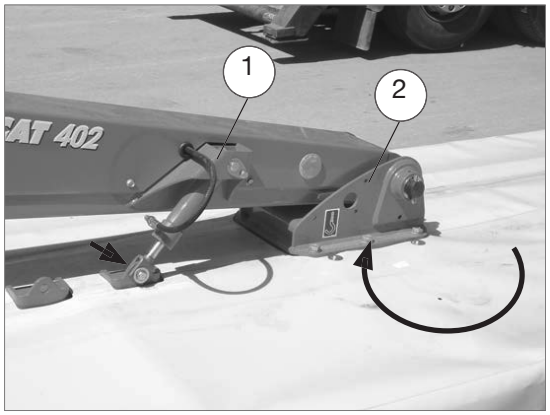
Measure from intersection to intersection when completely retracted.



Position: for a front mower of 3m width

The mower bar is mounted inward on the swing arm.

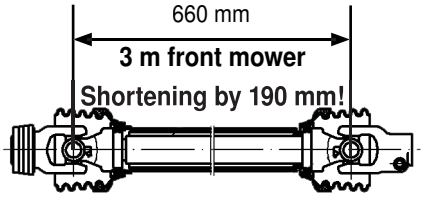
Compared to 3.50m front mower: The bracket (2) is rotated 180° and the cylinder (1) is fitted to the right holder.



- Working width for 3m wide front mower:

  Cardan shaft length: 660 mm

  Measure from intersection to intersection when completely retracted.



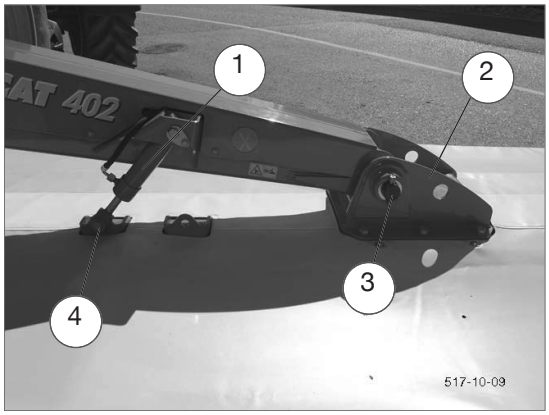
Adjusting working width

CAUTION

Risk of injury when dismantling the cutter bar due to sudden raising of the side arm.

- Minimize the hydraulic ground pressure system fully before adjusting the working width. The displayed value on the pressure gauge must be at zero.

1) Minimize hydraulic relief prestress pressure
2) Remove connecting bolts (3)
3) Remove connecting bolts (4)
4) Unbolt the bracket (2) to turn by 180° and attach using connecting bolts (3)



5) Fit the cylinder (1) at the respective other holder using connecting bolts (4)
6) Adapt cardan shaft to the set working width:

NOTE

Life-threatening danger exists when cardan shaft length is unadapted

- Before initial operation or when changing the tractor, check the length of the cardan shaft and adapt if necessary.
- See chapter "Adapting the Cardan shaft" in Appendix B.

7) Reset the hydraulic relief prestress pressure

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 discs) have come to a complete standstill. (Hearing test!)
- The tractor's ignition key has been removed.
- If necessary, remove the cardan shaft.

Life-threatening danger exists when under the machine

- Adequately support the sections you will be under.

WARNING

Risk of serious injury or injury resulting in death due to oil leak

- 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.

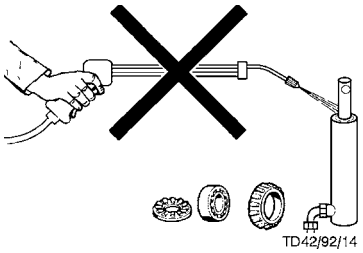
c. Under certain circumstances, the installation and/or use of such products may negatively modify or impair the specified structural properties of the machine. The manufacturer accepts no liability for any damage caused through the use of non-genuine parts and accessories.

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

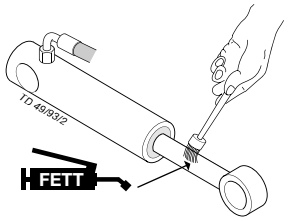
Beware! Do not use high-pressure cleaners for the cleaning of bearing and hydraulic parts.

- Danger of rust!
- After cleaning, lubricate the machine according to the lubrication chart 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 according to lubrication chart.
- Disconnect terminal, store dry and protected from frost.

Articulated shafts

- See information in the supplement

Please observe the following for maintenance!

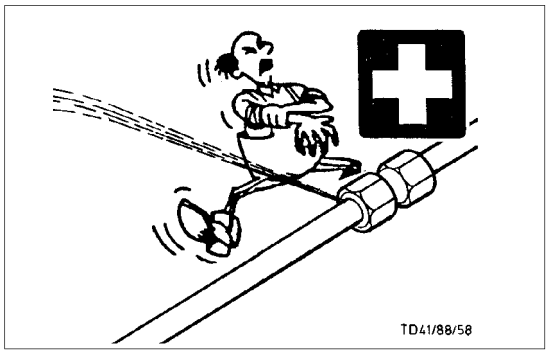
The directions in these Operating Instructions apply.

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 lines 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 and need to be replaced after a maximum of 6 years.

General safety information

DANGER

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

- Lower mower unit
- Turn 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.
- Braking the machine

Cutter bar oil level check

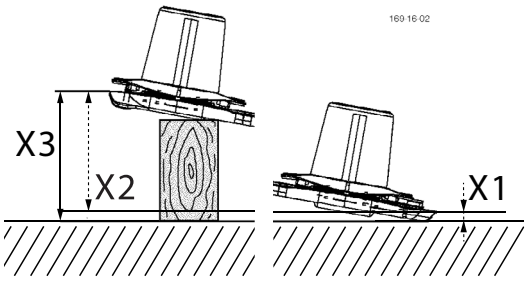
- Under normal operating conditions, oil is to be replenished annually.

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

X3 = X2 + X1

X1 = Distance from ground to upper skid edge.

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



NOVACAT 352: X2 = 300 mm

NOVACAT 402: X2 = 250 mm

NOVACAT 442: X2 = 210 mm

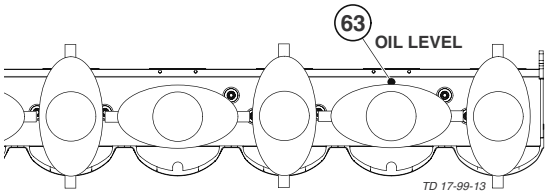
- The side where the oil refill screw is located remains on the ground.
- Lift the other side of the mower bar by X3 and support with a suitable prop.
- The full width of the cutter bar must be positioned horizontally.

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

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

3. Remove oil fill screw (63).

Measure oil level through the opening (63).

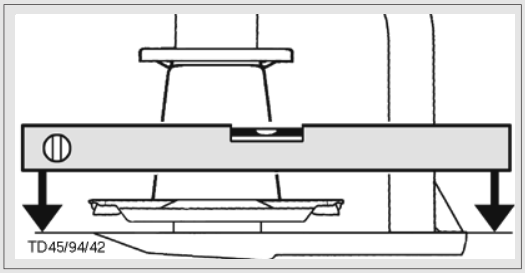


4. Oil level check

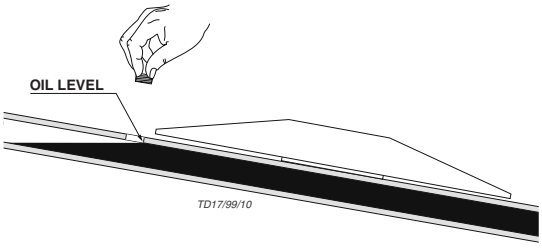
NOTE

Property damage through too much or too little oil.

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



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



5. Topping up oil

Add the amount of oil lacking.

NOTE

Property damage through too much or too little oil.

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

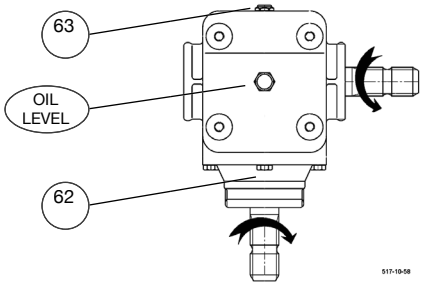
Too little oil does not guarantee the necessary lubrication.

- Be precise when adding oil!

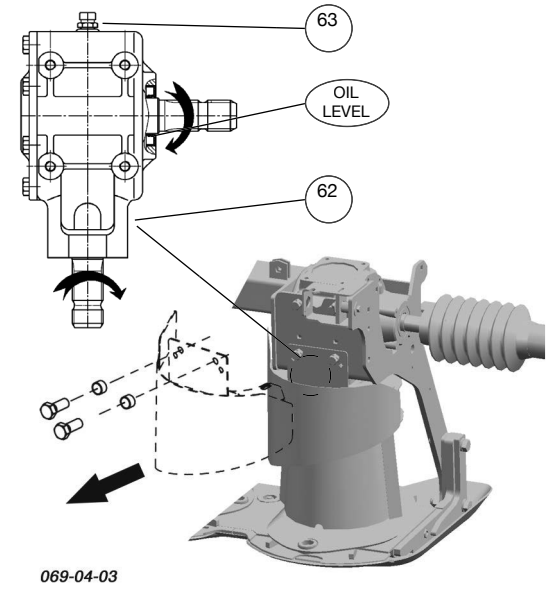
Oil change gearbox

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

Oil quantity main gear: 1.25 litre SAE 90



Oil quantity cutter bar gear: 1.00 lire SAE 90



Cutter bar oil change

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

TIP

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

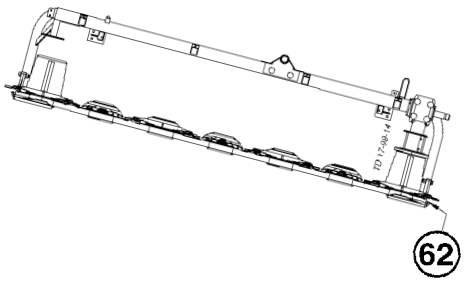
Oil quantity:

NOVACAT 352: 3.5 litre SAE 90

NOVACAT 402: 3.9 litre SAE 90

NOVACAT 442: 4.4 lire SAE 90

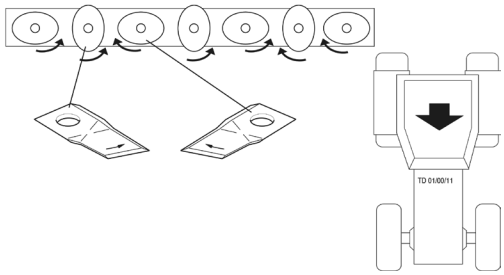
- Bring mower bar to max. tilt.
- Take out oil drain plug (62), let oil run out and dispose of waste oil correctly.



Installing cutter blades

TIP

- The arrow on the cutter blade shows the cutter disc's direction of turn.
- The mounting surfaces must be free of paint before fitting.



Hydraulic relief

1. Reduce the relief pressure to 0.
2. Lubricate the lubricating nipple on the cylinder suspension.
3. Restore the correct relief pressure.

Wear control of mowing blades and holder

WARNING

Risk of injury resulting in death or other serious injury.

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

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

TIP

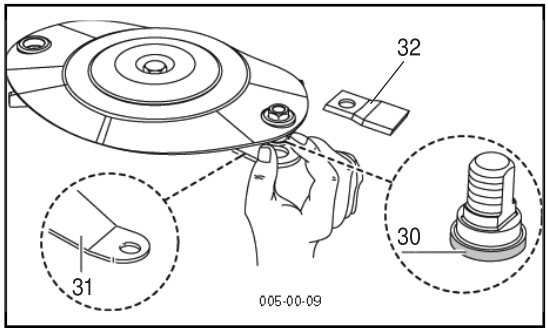
Use original Pöttinger spare parts! As these are optimally matched to the forces to be expected.

Parts to be checked:

Blade bolt (30)

Blade holder (31)

Mowing blades (32)



Control intervals:

Before each start-up

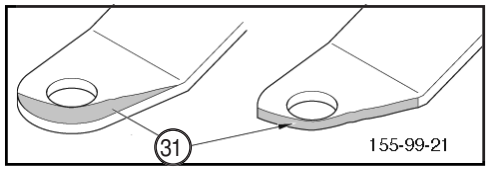
When mowing on stony terrain, carry out further checks during work.

Immediately after hitting an obstacle

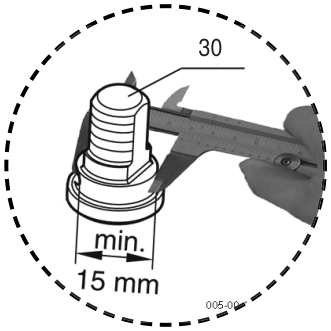
Immediately in case of abrasive noises in the area of the cutter bar

Control criteria:

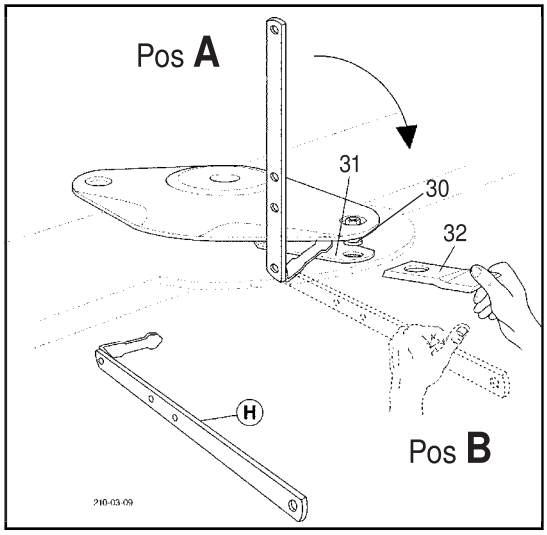
- Uneven wear of mowing blades (32) (danger of unbalance)
- Bent or damaged mowing blades (32)
- Bent, damaged or worn blade holder (the wear area of the blade holder has reached the edge of the hole) (31)



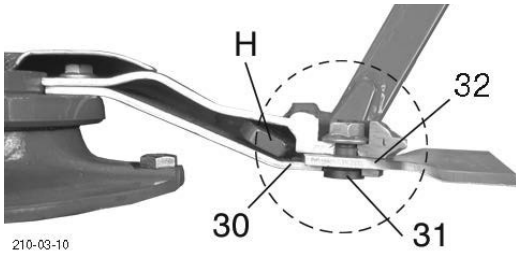
- Bent, damaged or worn blade bolts (middle area of the bolt: Diameter < 15 mm>; wear in the lower area of the bolt) (30)



Carrying out the check (with blade change):



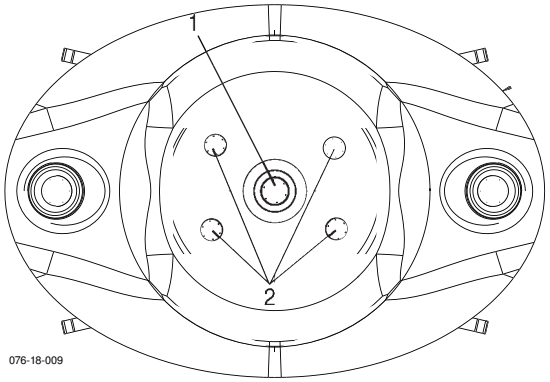
1. Insert lever (H) at a right angle to the ground (Pos A) between mower disc and blade holder.
2. Turn the lever (H) until it appears in line with the mower disc (Pos B). This will push the blade holder (31) downwards.
3. Remove the mowing blade (32).
4. Cleaning: Remove chuck residues and dirt from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



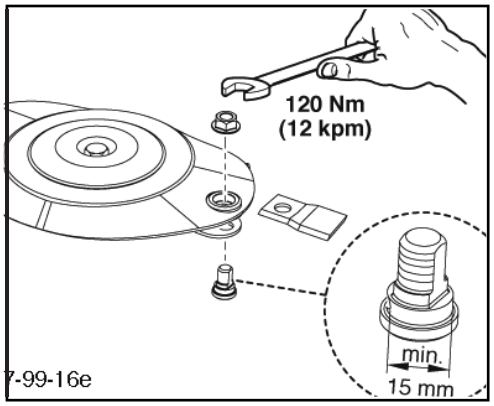
8. Raise lever H 90° to floor again (Pos A) and pull out sideways.

Bolt exchange passage:

1. Removing the mower disc



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



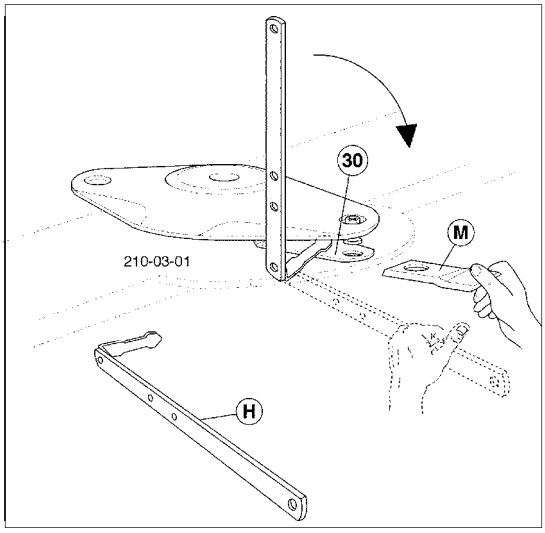
5. Replace mowing blade
6. Mounting the mower disc
   a. Reassemble the mower disc in the reverse order.

Storing of the lever

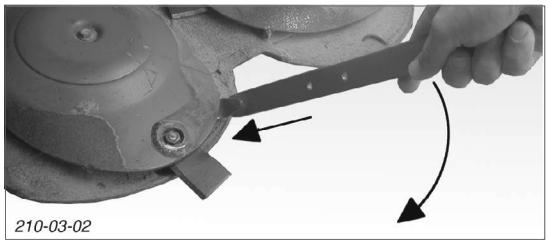
- Place lever in the respective retaining tab after use.

Changing the Cutter Blades (from 2004 model)

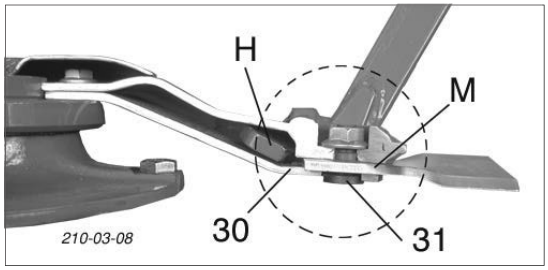
1. **Move lever (H) from the left or right to the stop between mower disk and blade holder (30) into position "A"**
2. **Swivel lever from pos. A to pos. B and thus press the moveable blade holder (30) down.**



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



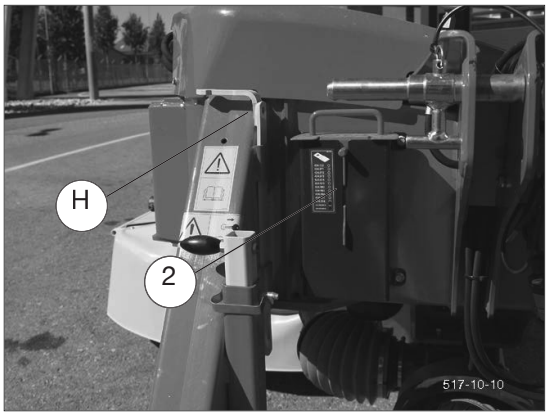
5. **Check:**
   - blade bolts (31) for damage, wear and fitting
   - holder (30) for damage, change in position and fitting
   - borehole (32) for damage.
     - Side surfaces must not show signs of deformation



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

Storing the lever

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



Technical data

Description	NOVACAT 352 Type 3774	NOVACAT 402 Type 3775	NOVACAT 442 Type 3776
Attachment	Three-point linkage Kat. III / Width 3	Three-point linkage Kat. III / Width 3	Three-point linkage Kat. III / Width 3
Working width	3,46 m	3,88 m	4,30 m
Transport width	< 3,00 m	< 3,00 m	< 3,00 m
Swath widths			
without swath boards	3,0 m	3,4 m	3,8 m
with 2 swath boards	2,4 m	2,7 m	3,0 m
with 4 swath boads	2,0 m	2,3 m	2,6 m
No. of mowing discs	8	9	10
No. of knives per disc	16	18	20
Coverage up to	3,7 ha/h	4,0 ha/h	4,3 ha/h
Max. p.t.o. speed (r.p.m.)	1000	1000	1000
Torque limiter	1500 Nm	1500 Nm	1500 Nm
Required power	59 kW (80 PS)	67 kW (90 PS)	82 kW (110 PS)
Weight	930 kg	980 kg	1070 kg
Permanent sound emmission level	77,8 dB (A)	77,8 dB (A)	77,8 dB (A)

All data subject to revision.

Necessary connections

- 1 double-action hydraulic connection
  (necessary minimum tractor fitting)
  pressure min.: 80 bar
  pressure max.: 180 bar

- 1 single-action hyfraulic connection
  (only for machines with hydraulic slewing equipment)
  pressure min.: 140 bar
  pressure max.: 180 bar

- 7-pole electric connection for lighting (12 Volt)

Optional equipment:

- Warning table

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

Position of Vehicle Identification Plate

The chassis number is engraved onto the vehicle identification plate shown opposite. Guarantee claims, enquiries and orders for replacement parts cannot be processed without the chassis number being supplied.

Please enter the number onto the title page of the operator's manual immediately after taking possession of the vehicle / machine.

The defined use of the mower unit

The **„NOVACAT 352 (Type PSM 3774)“, „NOVACAT 402 (Type PSM 3775)“** and **„NOVACAT 442 (Type PSM 3776)“** mower is intended solely for normal use in agricultural work.

- The mowing of grassland and short stemmed fodder.

  Any other uses outside of these are regarded as undefined.

  The manufacturer takes no responsibility for any resulting damage which occurs henceforth. The risk is carried by the user alone.
- The keeping of operating, service and maintenance requirements layed down by the manufacturer also come under the heading of „defined use“.

SUPPLEMENT

Things will run better with genuine Pöttinger parts

Original inside

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

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

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

PÖTTINGER

TIP

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

1.) Operating instructions

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

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

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

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

2.) Qualified personnel

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

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

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

3.) Performing maintenance work

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

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

4.) After maintenance work on brakes

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

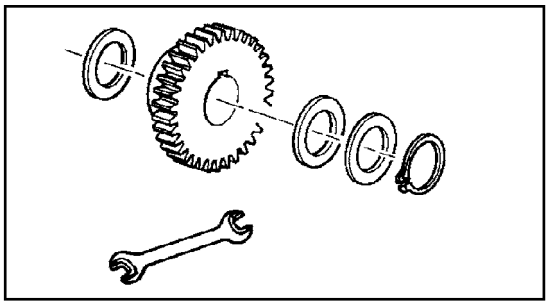
5.) Modification work

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

6.) Appropriate use

a. see technical data

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



7.) Spare parts

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

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

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

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

8.) Safety devices

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

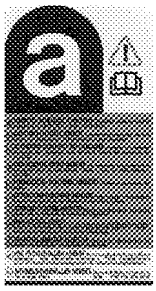
9.) Before starting work

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

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

10.) Asbestos

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



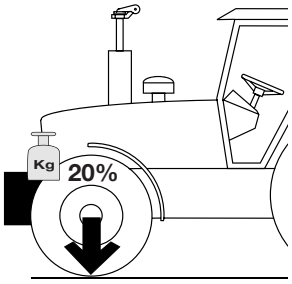
11.) Transport of people prohibited

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

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

12.) Driving ability with auxiliary equipment

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



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

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

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

13.) General

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

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

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

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

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

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

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

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

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

14.) Cleaning the implement

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

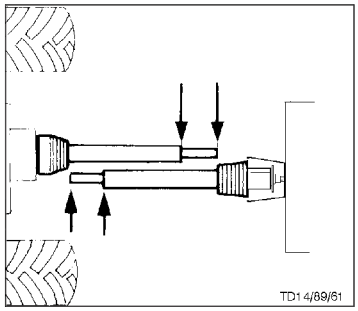
Adapting cardan shaft

NOTE

Material damage - due to inferior spare parts

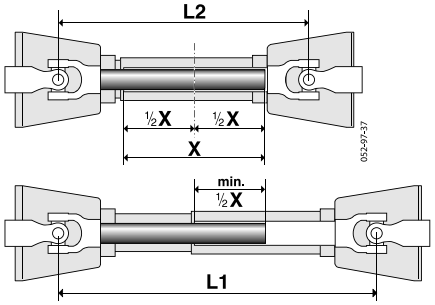
- Only use the cardan shaft supplied or stated; otherwise the warranty claims for any damage are not valid.

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



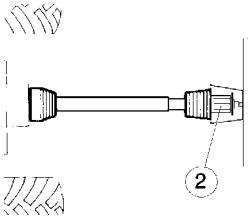
Cutting to length procedure

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



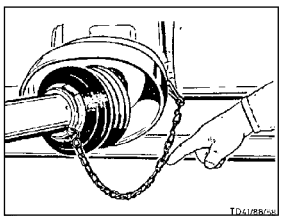
Caution!

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



Safety chain

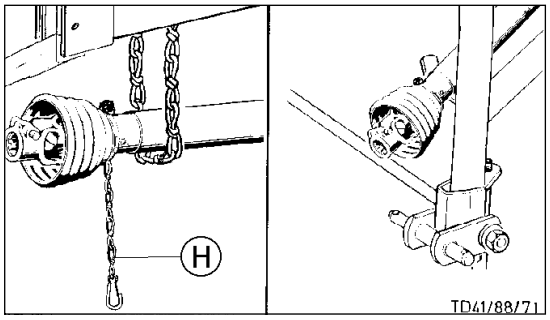
- Use chain to prevent tube guard from rotating.
- Ensure sufficient swivel space for the cardan shaft!
- Trim the safety chain so that it cannot wind around the cardan shaft.



Instructions for working

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

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



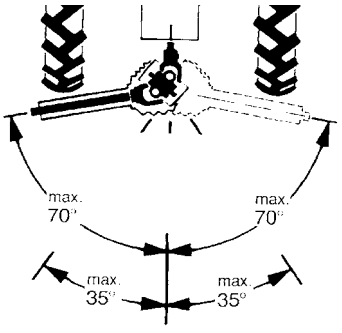
Wide-angle joint:

Maximum angle for operation and at standstill 70˚.

Normal link:

Maximum angle opening in standstill 90˚.

Maximum angle opening in operation 35˚.



Maintenance

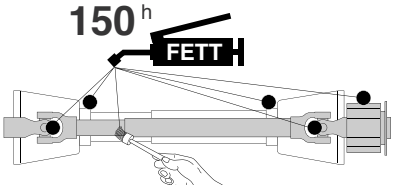
DANGER

Mortal danger - due to worn covers

- Replace the worn covers immediately

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

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



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.

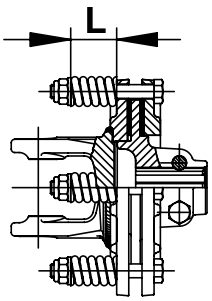
b.) Loosen screws to release the pressure on the friction disc.

Slip the clutch.

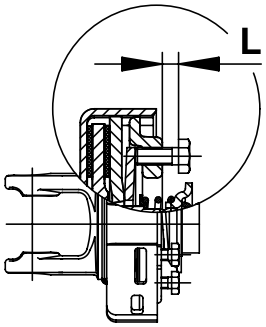
c.) Set screws to dimension "L".

Clutch is ready for use again.

K90,K90/4,K94/1



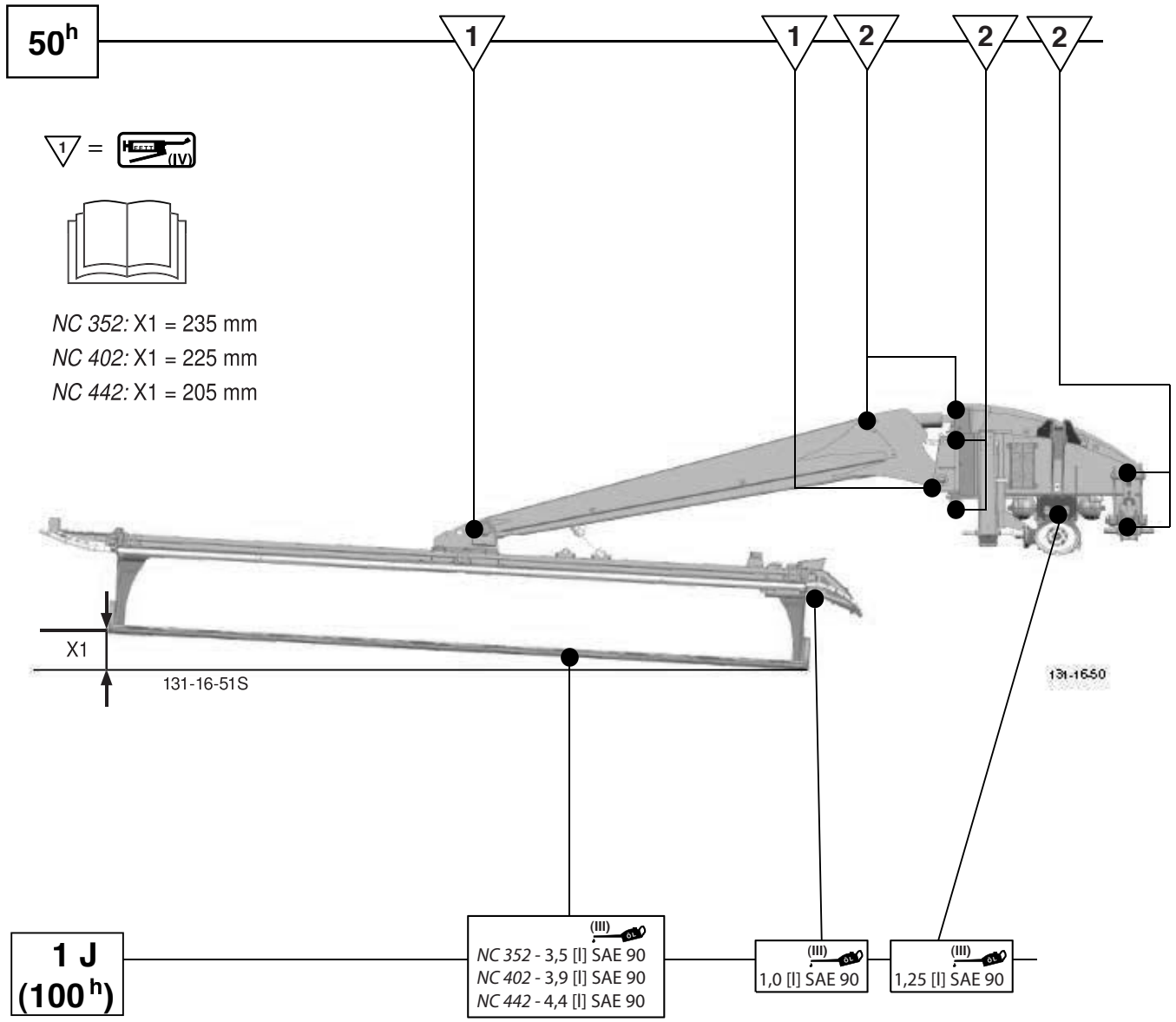
K92E,K92/4E



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 352
NOVACAT 402
NOVACAT 442



EN

Lubricants

Edition 2013

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

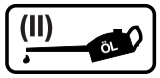
The applicable lubricants are symbolized (eg. “III”). According to this lubricant product code number the specification, quality and brandname of oil companies may easily be determined. The listing of the oil companies is not said to be complete.

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

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

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

Corrosion protection: Fluid 466

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

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

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

Taper bushes installation instructions

To assemble

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

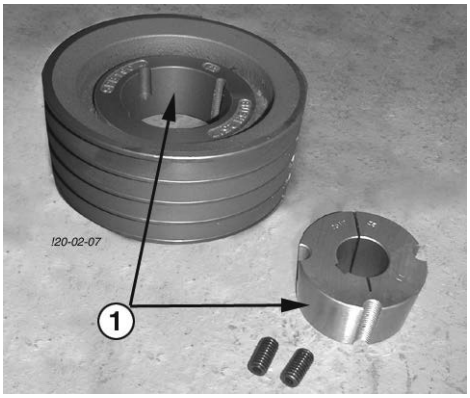
Bush identifier	Torque [Nm]
2017	30
2517	49

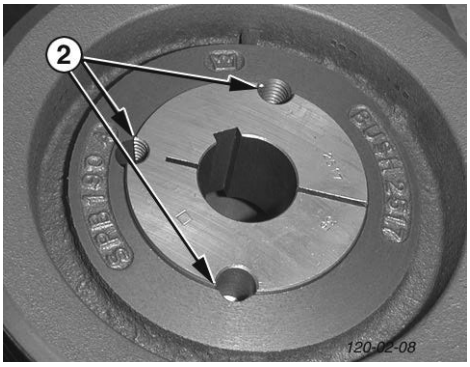
   - When the drive has been operating under load for a short period (half to on hour) check and ensure that the screws remain at the appropriate tightening torque.
   - In order to eliminate the ingress of dirt fill all empty holes with grease.

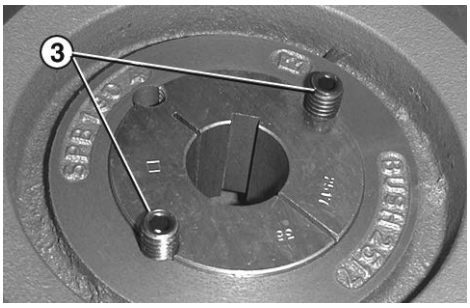
Removal

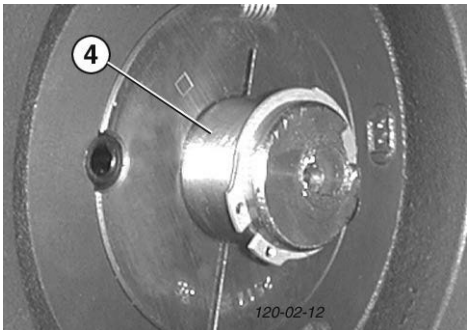
1. Slacken all screws. Depending on the size of the bush remove one or two.

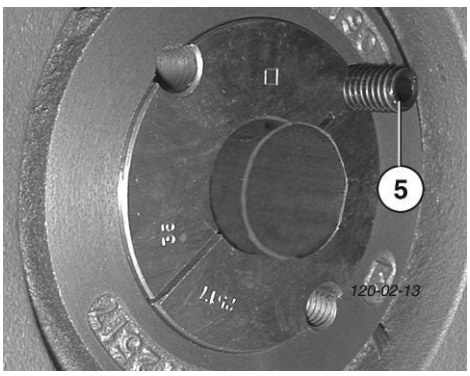
   After oiling point and thread of grub screws or under head and thread of cap screws insert them into the jacking off holie(s) in bush (Pos. 5).
2. Tighten screw(s) unitormly and alternately until the bush is loose in the hub and pulley is free on the shaft.
3. Remove pulley bush assembly from shaft.



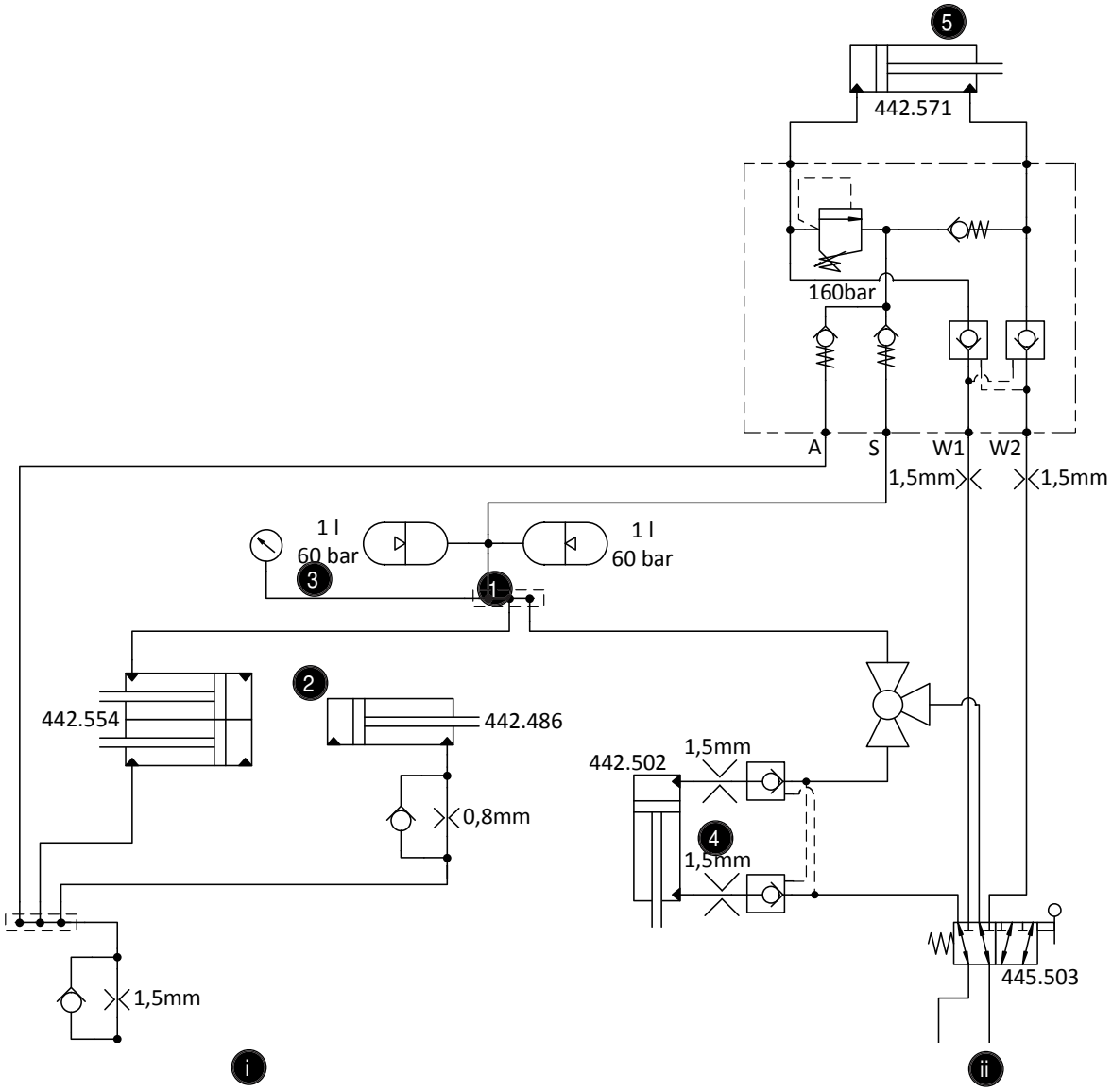








Hydraulic plan



Key:

1...Oscillation limiter

2...Lifting

3...Unloading

4...Lower link rocker

5...Back-swivel cylinder

i...Tractor control device, single-acting

ii...Tractor control device, double-acting

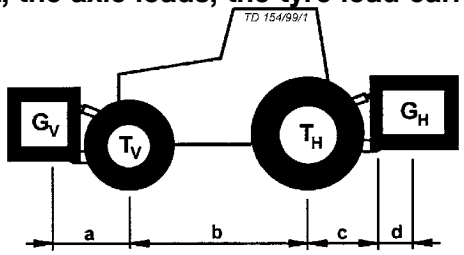
Combination of tractor and mounted implement

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.

PÖTTINGER

EC Conformity Declaration

Original Conformity Declaration

Name and address of the manufacturer:

PÖTTINGER Landtechnik GmbH
Industriegelände 1
AT - 4710 Grieskirchen

Machine (interchangeable equipment):

mower	NOVACAT	352	402	442
Type		3774	3775	3776
Serial no.				

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

machinery 2006/42/EG

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

Source of applied, harmonised norms:

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

Source of applied miscellaneous technical norms and / or specifications:

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

Markus Baldinger,
CTO R&D

Jörg Lechner,
CTO Production

Grieskirchen,
02.04.2020

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