

Operator's manual

Translation of the original Operating Manual

Nr. 99+3850.EN.80U.0

Chassis Nr.

Disc mower

NOVACAT A9 ED/RCB

(Type 3849 : + . . 00001)

NOVACAT A10 ED/RCB/CF

(Type 3850 : + . . 00019)

NOVACAT A10 ED/RCB Collector

(Type 3850 : + . . 00019)

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.

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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.



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

Please place a cross where appropriate.



- 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.

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.

Table of contents

Introduction 4

SYMBOLS USED

CE mark 7

Safety hints: 7

Meaning of the transfers 8

Transfer position 9

TRACTOR REQUIREMENTS

Tractor 10

Ballast weights 10

Lifting unit (three-point linkage) 10

Hydraulic control on the lifting gear 10

Required hydraulic connections A9 / A10 11

Required hydraulic connections A10 Collector 11

Necessary power connections 12

ATTACHING TO TRACTOR

Safety advice 13

Attaching machine to tractor 13

Attach connection lines from front mower 14

Establish connection to tractor 15

Connecting sensor cable from front mower 15

Attach the cardan shaft 15

Hydraulic connection for Select Control 15

Hydraulic connection for Power Control 15

Coupling from transport position 16

Note rotation direction of mower discs 17

TRANSPORT

Changing from working position to transport position 18

Raise to road transport position 19

Lower to field transport position 19

Basic setting of the headland position 20

Travelling on public roads 20

Transport position 21

PARKING THE MACHINE

General tips 22

Parking in the working position 22

Parking in the transport position - mechanical version: 22

Parking in the transport position Hydraulic version : 23

SELECT CONTROL

Terminal performance features 24

Starting work 24

Operating interface 25

Menu structure 25

POWER CONTROL

Terminal performance features 40

Initial start 41

Key allocation 42

Menu tree 43

Menus 44

Diagnosis function 56

ISOBUS - TERMINAL

Operation structure - mower with ISOBus solution .. 61

Start menu 62

Work menu 62

Transport menu 64

Data menu 64

SET menu 65

Test menu 67

Diagnosing function 69

Configuration 71

Joystick - Mower assignment 73

Setting the joystick 73

OPERATION

Working on slopes 74

OPERATION

Safety advice 75

Important notes prior to starting work 75

Mowing 76

Reversing 76

Collision Prevention 76

Overlapping with the front mower (with A9) 77

Remove clogging 77

RC = ROLLER CONDITIONER

Safety advice 79

Operation mode 79

Overview 79

Possible settings 80

Operation 81

Maintenance 83

ED TINE CONDITIONER

Operation mode 86

Possible settings 86

Operation 88

Maintenance 89

Rotor tines: (F) 90

Detaching and attaching the conditioner 90

CONDITIONER (CONDITIONER)

Mowing without conditioner 91

SWATH FORMER

Mode of operation 92

Possible settings 92

Optional equipment: 93

Maintenance 93

Removal and installation of the swath former 93

CROSS CONVEYOR BELT

General safety information 94

Mode of operation 94

Swath deposit 94

Operation 96

Possible settings 96

Cross conveyor belt maintenance 97

Removing the cross conveyor 98

Mounting the cross conveyor belt 99

Swath comb 100

CROSS FLOW

Overview - Machine with mechanical tailgate opening 101

Overview - Machine with hydraulic tailgate opening 101

Safety advice 102

Mode of operation 103

CF unit operation 103

Mechanical tailgate 103

Hydraulic tailgate (option) 104

Scraper bar 104

Swath comb 104

Spare belt 105

Maintenance 105



Attention!

Safety hints to observe in supplement!

GENERAL MAINTENANCE

Safety advice107
 General maintenance information.....107
 Cleaning of machine parts.....107
 Parking in the open107
 Winter storage.....107
 Articulated shafts 108
 Hydraulic unit..... 108
 Oil change on cutter bar 109
 Check cutter bar oil level..... 109
 Refilling the automatic grease lubricating unit. 110
 Maintaining the gearbox..... 111
 Maintenance of the mower's articulated shafts..... 112
 Installing cutter blades 113
 Adjusting the sensors 114

MAINTENANCE

Wear control of mowing blades and holder..... 115
 Storing of the lever..... 116

TECHNICAL DATA

Technical data..... 117
 Necessary connections..... 119
 The defined use of the mower unit..... 119
 Type plate position 119

SUPPLEMENT

SAFETY ADVICE

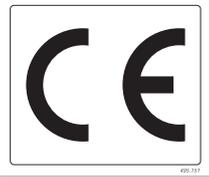
Lubrication chart 126
 Lubricants 128

SERVICE

Hydraulic plan Select Control with collector..... 131
 Select Control hydraulic diagram 133
 Select control - Emergency operation..... 134
 Select control - Control panel 135
 Select Control - Cable harness..... 136
 Select Control - Circuit diagram..... 138
 Hydraulic plan Power Control with collector..... 139
 Power Control hydraulic diagram 141
 Power Control - Emergency operation..... 142
 Power Control - Control panel..... 144
 Power Control - Job calculator..... 145
 Signal socket connection cable 145
 Tractor cable 146
 Power Control - Cable harness..... 147
 Power Control - Circuit diagram..... 149
 Terminal assignment of CCI terminal:..... 150
 Combination of tractor and mounted implement.... 152

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.

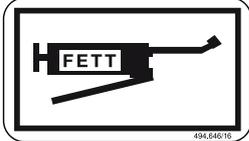
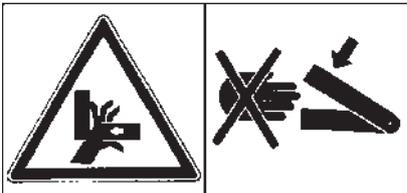
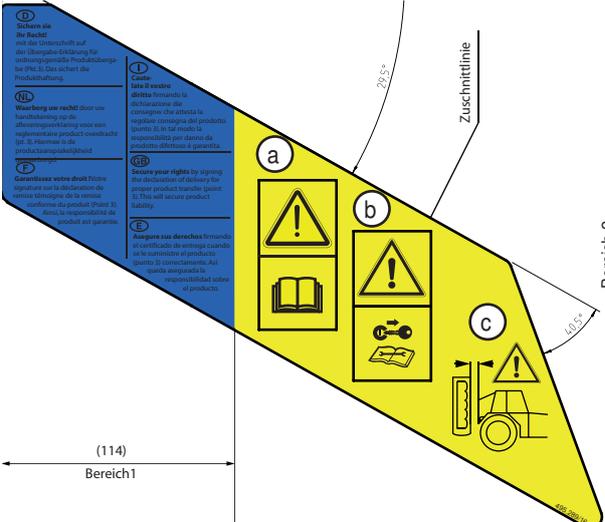
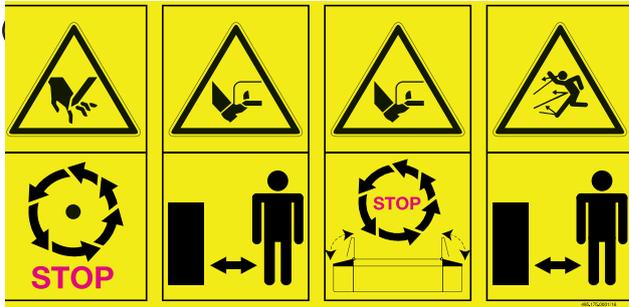
ENVIRONMENT

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

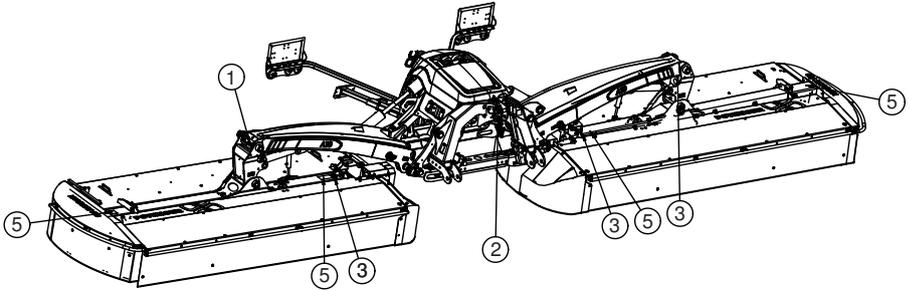
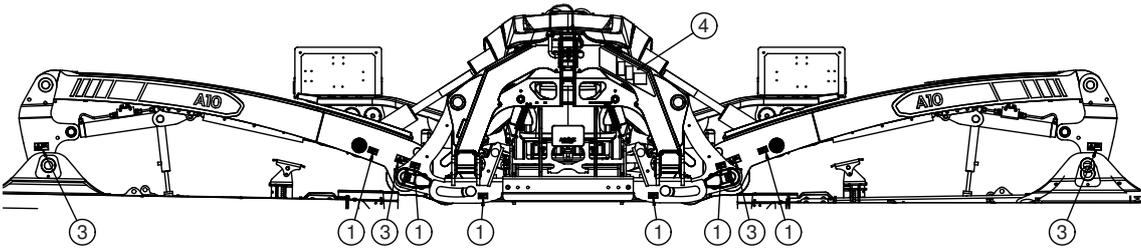
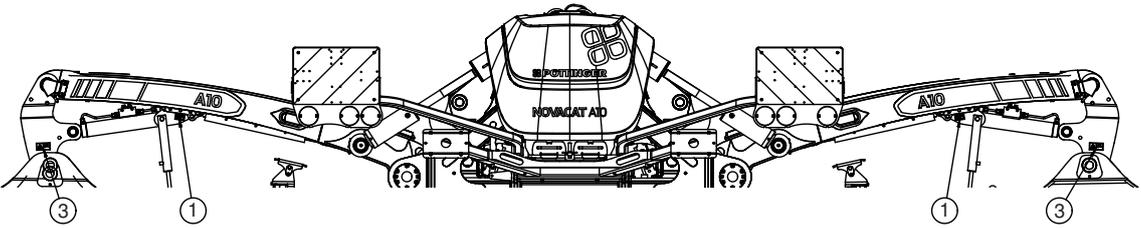
The features marked as (optional) are only available as standard with specific implement versions or are only offered for specific versions as optional equipment or are only offered in certain countries.

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.

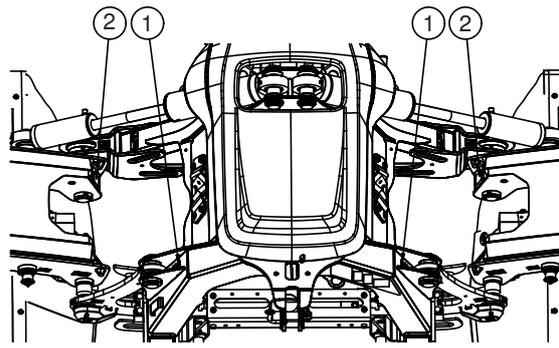
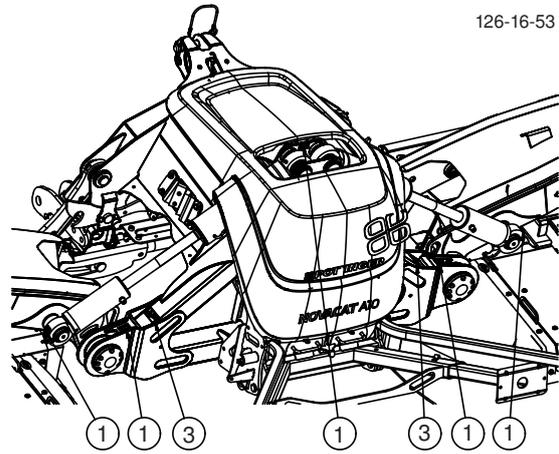
Meaning of the transfers		
1	Position of a grease nipple	
2	Position of an eyelet for the transport hooks.	
3	Never reach into the crushing danger area as long as parts can move there.	
4	<p>a. Read the operating instructions before initial operation.</p> <p>b. Shut off engine and remove key before carrying out any maintenance or repair work.</p> <p>c. Mind the distance between the mower and the tractor when opening the back window.</p>	
5	<p>a. Don't touch rotating machine components. Wait until they have stopped completely.</p> <p>b. Stay clear of mower blade area as long as tractor engine is running with p.t.o. connected.</p> <p>c. Close both side safeguards before engaging p.t.o..</p> <p>d. Danger of parts being ejected when the engine is running - Keep a safe distance.</p>	

Transfer position



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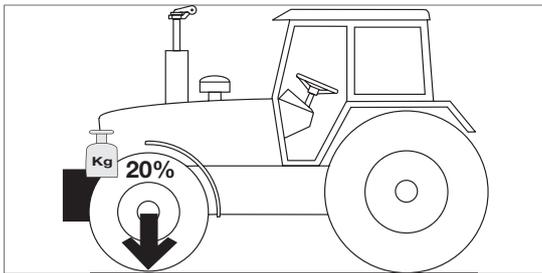


Tractor

The following tractor requirements are necessary to operate this machine:

- Tractor output:
 - Combination "Front-/Rear cutter" from 118 kW / 160 HP
 - Combination "Push-tow" from 130 kW / 200 HP
- Hitching: Lower link Cat. III
- Connections: see Table "Hydraulic and electrical connections required"

Ballast weights



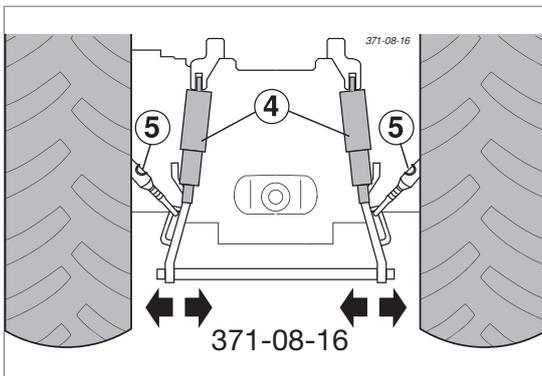
The front of the tractor must have sufficient ballast to guarantee braking and steering capabilities.

! 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.

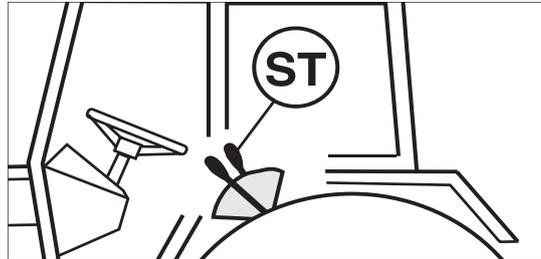
Lifting unit (three-point linkage)



- The tractor's lifting unit (three-point linkage) must be designed for the occurring load. (See technical data)
- The lifting struts are to be set at the same length (4) using the appropriate adjusting device (See the tractor manufacturer's operating manual)
- Select the rear position if the lifting rods can be set in various positions on the lower link. This relieves the pressure on the tractor's hydraulic system.

- The limiting chain or lower link stabilisers (5) are to be set so that the attached machine CANNOT move sideways. (Safety measure for transportation)

Hydraulic control on the lifting gear



The lifting hydraulics shall be switched on position control:

Required hydraulic connections A9 / A10

Design	Consumer	Single-action hydraulic connection	Dual action hydraulic connection
Select Control	Rear mower		X
	Front mower	X	
	Hydraulic upper link (variant)		X

Power Control / ISOBUS Terminal	Hydraulic connection "Advance" SN 16 red
	Hydraulic connection "Return" SN 20 blue
	Load sensing connection SN 6 *)

Operating pressure		<p>NOTE</p> <p>Material hazard - Friction wear on the piston of the control or hydraulic block due to incompatible hydraulic oils.</p> <ul style="list-style-type: none"> 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!
Operating pressure minimum	180 bar	
Operating pressure maximum	210 bar	

Required hydraulic connections A10 Collector

Design	Consumer	Single-acting hydraulic connection	Single-acting hydraulic connection with pressure-free return	Dual action hydraulic connection
Select Control	Rear mower			X
	Front mower	X		
	Hydraulic upper link (variant)			X
	Collector		X	

Power Control / ISOBUS Terminal	Hydraulic connection "Advance" SN 16 red
	Hydraulic connection "Return" SN 20 blue
	Load sensing connection SN 6 *)

Operating pressure		<p>NOTE</p> <p>Material hazard - Friction wear on the piston of the control or hydraulic block due to incompatible hydraulic oils.</p> <ul style="list-style-type: none"> 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!
Operating pressure minimum	180 bar	
Operating pressure maximum	210 bar	
Hydraulic performance	minimum 80l/min with 200 bars	

Necessary power connections

Design	Consumer	Pin	Volt	Power connection
Standard	Lighting	7-pin	12 V DC	According to DIN-ISO 1724
Select Control	Control	3-pin	12 V DC	per DIN-ISO 9680
Power control / ISOBUS	Control	3-pin	12 V DC	per DIN-ISO 9680

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 run is restricted when a NOVACAT A10 is attached.

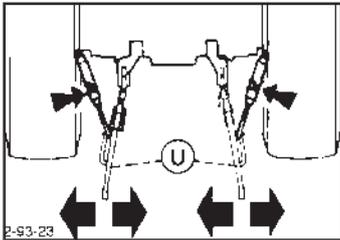
- Operate the machine only with tractors whose field of vision remains unaffected by the unit during transport.

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

Attaching machine to tractor

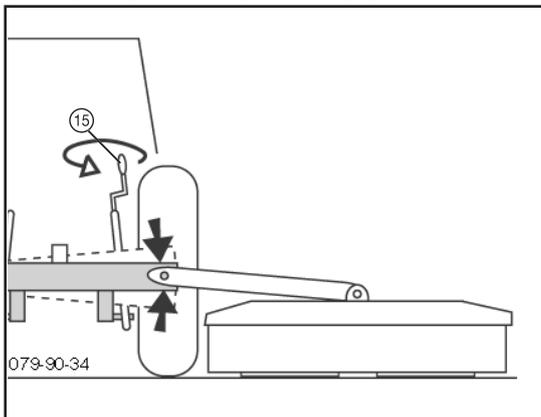
Attach mower centrally to tractor

- Adjust lower link accordingly.
- Secure the lower link so that the machine cannot swing out sideways.



Mounting frame horizontal

- Bring mounting frame to horizontal position by readjusting lower link jackscrew (15).



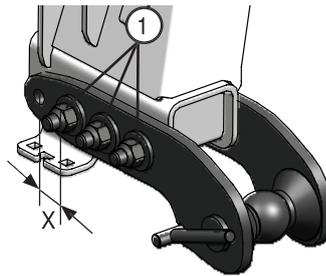
Attach the machine to the three-point headstock

1. The machine is designed for the attachment category III/3. (optionally: category IV/3)
2. Setting the distance to tractor:

NOTE

Property damage through colliding components!

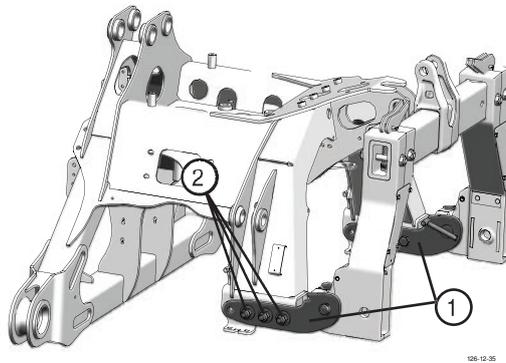
- Make sure that the mower units do not collide with the tractor when folding them to transport position.



A possible remedy would be to move both lower link pins 62.5 mm (X) away from the tractor.

For this procedure, tighten screws (1) with a torque of 450 Nm.

3. Conversion to Quick-Hitch (USA):



When attaching the Quick-Hitch, the lower link brackets (1) must be turned by 180°. Balls and spacers remain (see illustration).

For this procedure, tighten screws (2) with a torque of 450 Nm.

Put support stands in park position

1. Loosen support stand lock (spring bolts)
2. Put support stand in park position
3. Check support stand lock (spring bolts)

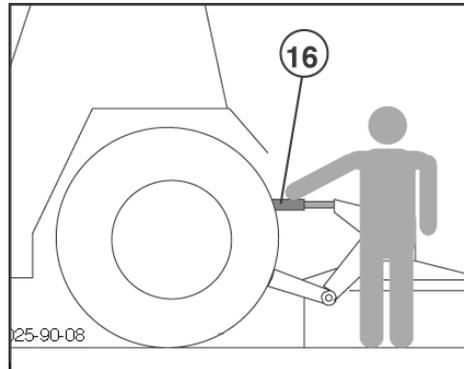
NOTE

Property damage if the unlocked support stand drops down while travelling. Secure parking on the damaged support stand can no longer be guaranteed.

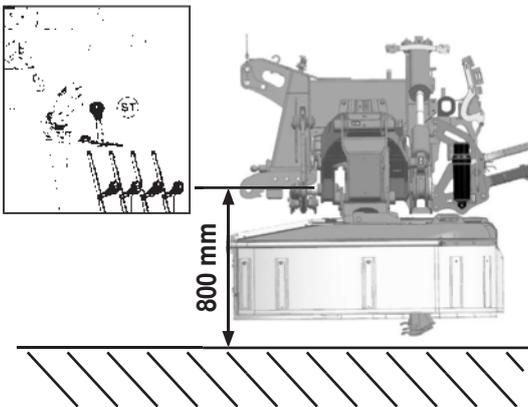
- Check support stand lock after every position change.

Adjust upper link spindle

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

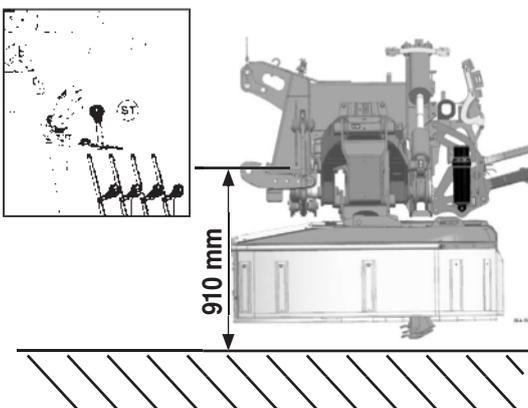


Setting lower link height



- Set tractor hydraulics (ST) using the depth stop.
An 800 mm gap from the ground to the hole centre of the lower link mounting bracket enables optimum uneven ground compensation and does not need to be changed when the cutter bar is swivelled up.

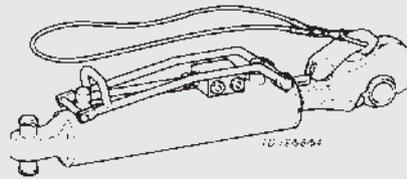
Lower link height adjustment with Quick-Hitch connection



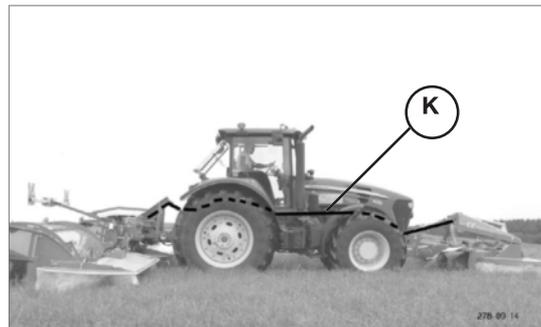
- Set tractor hydraulics (ST) using the depth stop.
An 910 mm gap from the ground to the hole centre of the lower link mounting bracket enables optimum uneven ground compensation and does not need to be changed when the cutter bar is swivelled up.

TIP

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



Attach connection lines from front mower



“Power Control” version

With the "Power Control" variant, it is possible to control the automatically folding front mower side guard and the rear mower simultaneously. (Optional extra)

TIP

The hydraulic hoses between front and rear mower are pressurized. Ensure they are depressurized before disconnecting:

Power Control Press key until signal tone is heard (approx. 3 Sec)

Isobus: Press key until signal tone (approx. 3 Sec)

Establish connection to tractor

Operation:

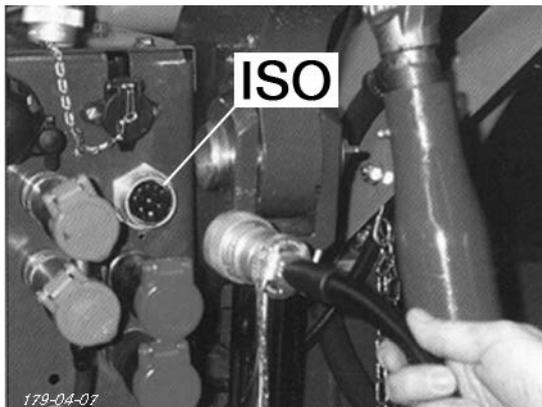
- Connect 3-pin plug to the DIN 9680 socket on tractor

Lighting:

- Connect 7-pin plug to tractor
- Check that lighting functions properly.

For tractors with Isobus control

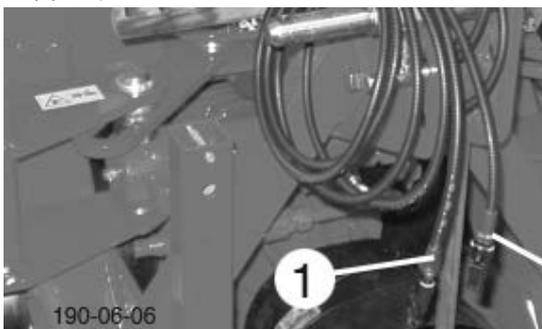
- Connect the 9-pin ISO plug to the ISOBus socket on the tractor.



Connecting sensor cable from front mower

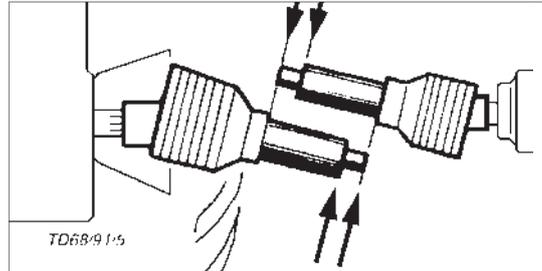
Electrical cable connection between front mower and mower combination

- 3-pin cable for sensor attachment kit (1)
(Starting from the rear of the tractor, lay the sensor cable so that it cannot be damaged (e. g. tyres, exhaust pipe,...))



Attach the cardan shaft

- Before initial operation, check the cardan shaft length and adapt if necessary. See chapter "CARDAN SHAFT" in Supplement B also.



Hydraulic connection for Select Control

Minimum hydraulic system:

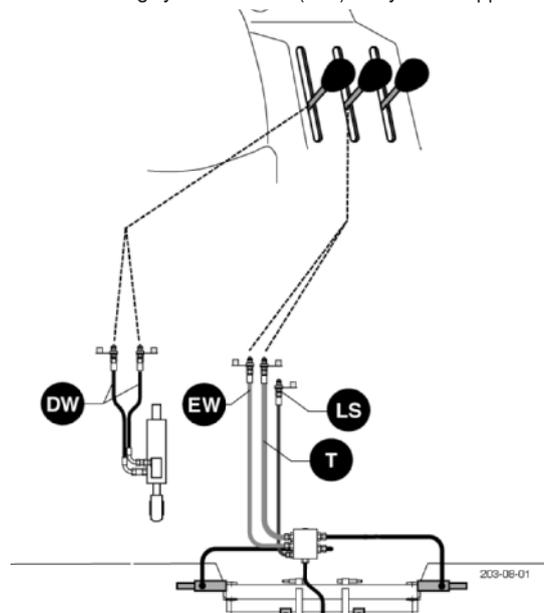
- 1x dual-acting hydraulic circuit (DW) for machine operation
- 1x single-acting hydraulic circuit (EW) with depressurized return flow (only with Collector)

Optimum hydraulic system:

- 1x dual-acting hydraulic circuit (DW) for machine operation
- 1x dual-acting hydraulic circuit (DW) for hydraulic upper link

Hydraulic connection for Power Control

- 1x Load sensing hydraulic circuit (LS) consisting of:
 - single-acting hydraulic circuit (EW)
 - depressurized return (T)
 - load sensing line
- 1x dual-acting hydraulic circuit (DW) for hydraulic upper link



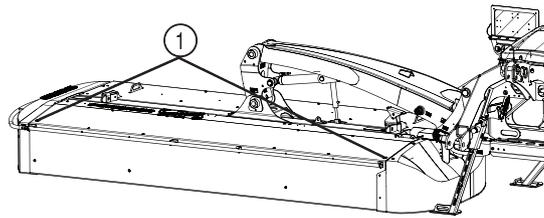
Settings

The screw (7) on the hydraulic block must also be adjusted.

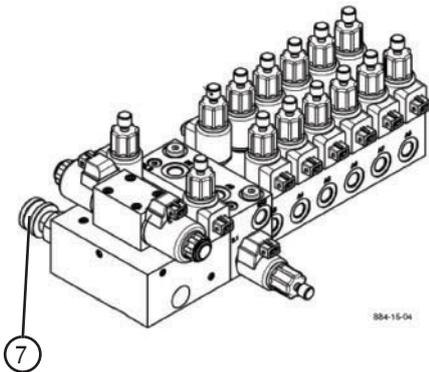
! NOTE

Property damaged due to excessive tension when attaching to the tractor

- Turn the tractor off before connecting the hydraulic block.



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For tractors with "Load sensing"

- Screw in screw (7) on hydraulic block completely

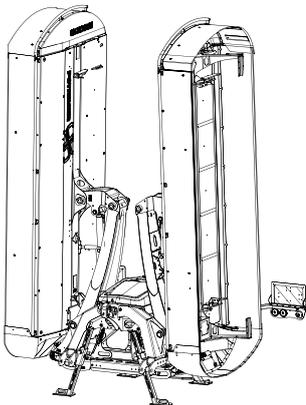
For tractors with a closed hydraulic system

- Screw in the screw (7) on hydraulic block completely

For tractors with an open hydraulic system

- Unscrew the screw (7) on hydraulic block completely

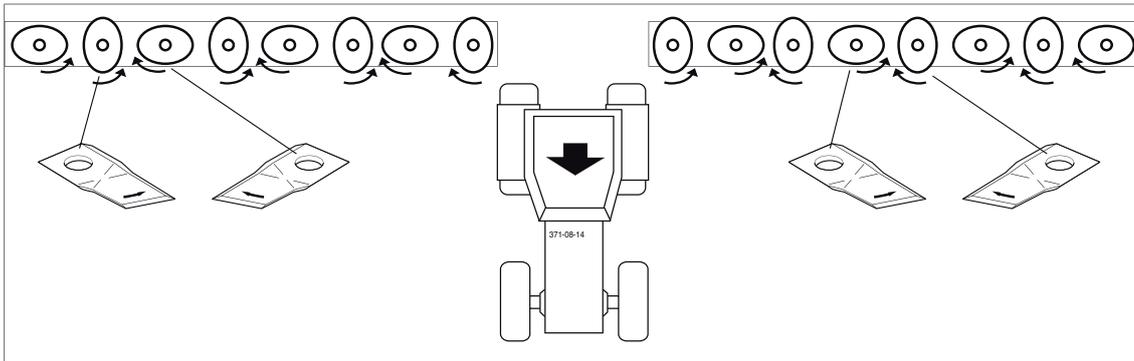
Coupling from transport position



126-16-29

1. Coupling the machine (see above)
2. Connecting the cardan shaft (see above)
3. Connecting the cables and hoses (see above)
4. Close front guards manually
5. Place machine in working position
6. Tighten 4 eye bolts (1) (2 per cutter bar) on the front guard.

Note rotation direction of mower discs



Changing from working position to transport position

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

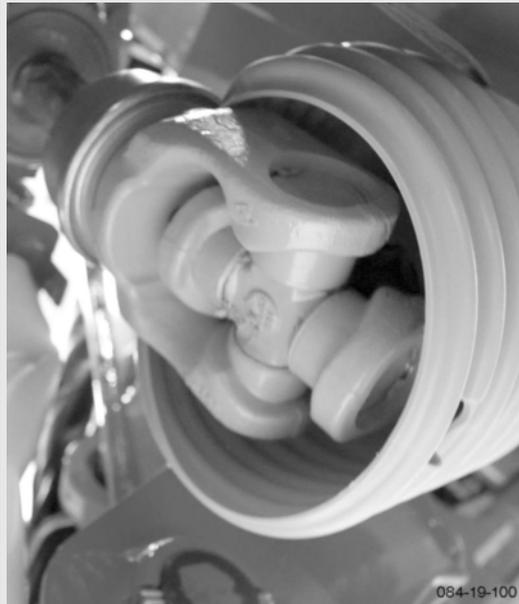
- Make sure that the swivel range is clear and that no-one is standing in the danger area.



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.



- Release the cardan shaft brake before swivelling to the transport position.

TIP

- Pressure points on the joints of the cardan shaft wear out normally. As long as the cardan shaft brake is not engaged when swivelling into transport position.

Raise to road transport position

This key's function can only be activated when all mower units are in field transport position (headland FT)

- Switch drive off and wait for standstill.
- Swivel all hoop guards on mower in

Version with "Power Control"

Briefly press key ,
the function is activated

Press key ,
all mower units swivel to end position

Version with "ISOBUS-Terminal"

Press softkey , to open Transport menu.

Briefly press softkey ,
the function is activated

Press softkey ,
all mower units swivel to end position

Lower to field transport position

Version with "Power Control"

Briefly press key ,
the function is activated

Press key ,
all mower units swivel to field transport position (FT)

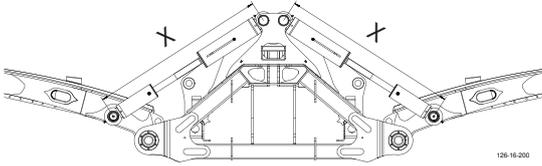
Version with "ISOBUS-Terminal"

Press softkey , to open Transport menu.

Briefly press softkey ,
the function is activated

Press softkey ,
all mower units swivel to field transport position (FT)
- Swivel all guard hoops on mower out

Basic setting of the headland position



Novacat A9 ED/RCB: X = 1205 mm

Novacat A10 ED /RCB:

- 3m front mower: X=1050 mm
- 3.5m front mower: X=1250 mm

Travelling on public roads

! DANGER

Life-threatening danger during transportation

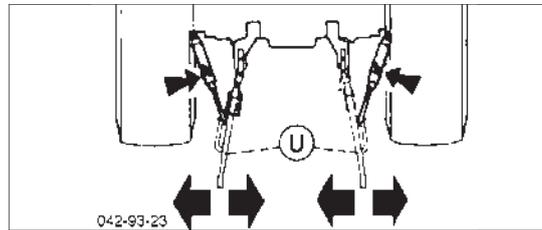
- Travelling on public roads is only permitted in the transport position.
- Check that the lights are working before travelling.
- Observe the max. permissible transport height (4m)!
- Check that the safety devices are in an orderly condition.
- Before travelling, place swivelling parts in the correct position and secure against dangerous changes in position.

TIP

- Observe the statutory regulations for your country.
- Important information can also be found in the supplement of this operating manual.

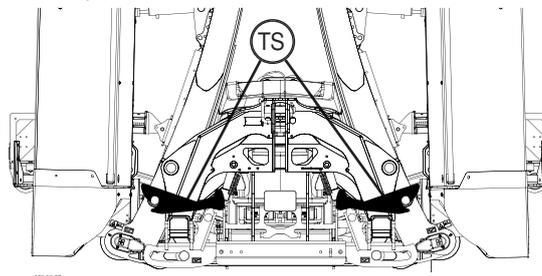
Hydraulic lower link

- Secure hydraulic lower link so that machine cannot swing out sideways.



Transport safeguard (TS)

- Check transport safeguard before travelling!
Check that both mower units are properly secured with safety hooks!



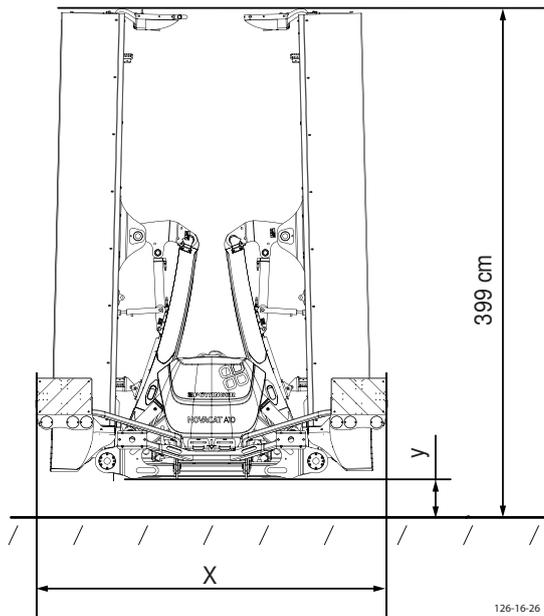
Transport position

Novacat A9:

- narrow boom position: $x=295\text{cm}$ $y=31\text{cm}$
- wide boom position: $x=295\text{cm}$ $y=18\text{cm}$

NOVACAT A10

- 3m front mower: $x=270\text{cm}$ $y=25\text{cm}$
- 3.5m front mower: $x=326\text{cm}$ $y=25\text{cm}$



General tips

! DANGER

Life-threatening danger through tipping over

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

! 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

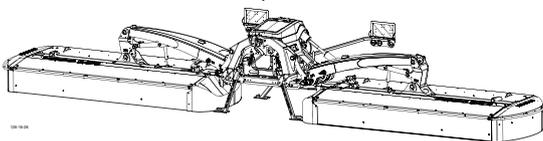
Life-threatening danger should the tractor start moving on its own.

- 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.

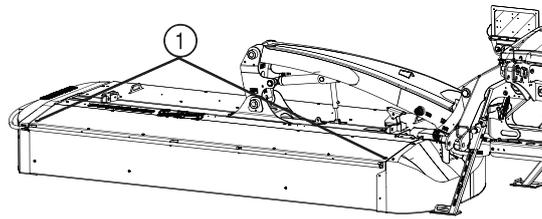
The machine can be parked in the working position or the transport position.

Parking in the working position

1. Set and secure the front support stands at the height required using the spring bolt.
2. Fold down the rear support stands and adjust them to the height of the front parking stands using the spring bolts, then lock them in place.



Parking in the transport position - mechanical version:



128-16-28

1. Still in folded down state: Loosen the four front guard eye bolts (1) (2 for each cutter bar).
2. Set the front support stands to the height required using the spring bolt, and secure.
3. Unfold the rear support stands and set them at same height as the front support stands using the spring bolt, and secure.

! NOTE

Property damage through colliding components

- Do not open the front guard until the side guards are in working position and the cutter bars are in transport position (see illustration above).

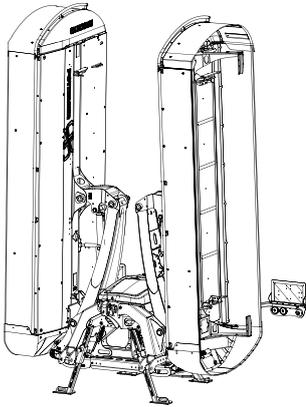
4. Bring side guards into working position.
5. Move mowing units to transport position
6. Open the front guard (until the coupling points are accessible).

! 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.

7. Disconnect the hoses and cable
8. Uncoupling the machine



126-16-29

**Parking in the transport position
Hydraulic version:**

1. Still in folded down state: Loosen the four front guard eye bolts (1) (2 for each cutter bar).
2. Set the front support stands to the height required using the spring bolt, and secure.
3. Unfold the rear support stands and set them at same height as the front support stands using the spring bolt, and secure.

! TAKE NOTE

Property damage through colliding components

- Do not open the front guard until the side guards are in working position and the cutter bars are in transport position (see illustration above).

4. Move mowing units to transport position
5. Move side guard (separate from front guard) to the working position.

Select Control: Press the  key on the control panel to select separate side guard movement. Operate the control device to move the side guard.

Power Control: In the Set menu, press keys  or  to move the side guards away from the front guard.

ISOBUS Control: In the Set menu, press key  to move the side guard away from the front guard.

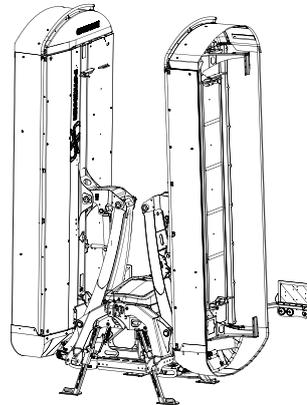
6. Open the front guard (until the coupling points are accessible).

! 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.

7. Disconnect the hoses and cable
8. Uncoupling the machine



126-16-29

Terminal performance features

Electrical connection

The terminal's electricity is supplied via a plug in accordance with DIN 9680 from the tractor's 12 V on-board electrical system. These three-pin plugs may also be two-pin versions as only two main wires (+12 V, ground) are required.

NOTE

Material hazard - due to impermissible plugs and sockets that cannot ensure operation.

- Plugs and sockets must be replaced only with genuine spare parts!

Technical data

Operating voltage: +10V +15V
 Operating temperature range: -20°C +60°C
 Storage temperature: -30°C
 +70°C
 Degree of protection: IP65
 Fuse: 20A multifuse in an operating voltage plug

Function

The attached machine is operated by a single-acting control unit on the tractor with which the individual functions can be pre-selected using the Select Control terminal. The preselected functions are displayed on the LDC screen of the terminal.

Starting work

1. Positioning

Position the Select Control terminal so that it is easily visible in the tractor cab. (There is a magnet on the back for attaching the terminal.)

2. Connecting



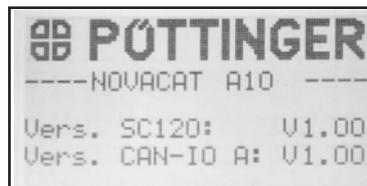
- Plug the connector (1) into the tractor's 12V power supply.
- Connect plug (2) to the 7-pin connection on the machine.
- During operation, insert the counterpart locking cap of the plug (2) into the adjacent dummy plug.

3. Switching on and off

Press key  to switch terminal on.

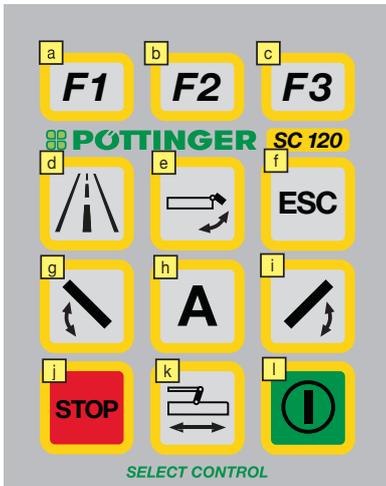
Press and hold key  for 3 seconds to switch terminal off.

The Start screen appears when the terminal is switched on. The current software status version number is located in the lower part of the Start screen.



- SC120: Control device software
- CAN-IO A: Extension module A software
- CAN-IO B: Extension module B software (optional)

Operating interface



Meaning of keys

- a** Function key 1
- b** Function key 2
- c** Function key 3
- d** Preselect folding (road transport - operation)
- e** Preselect side protection folding
- f** Navigation on the control device: Go back one menu level
- g** Preselect left mower unit
- h** Automatic operation
- i** Preselect right mower unit
- j** STOP
- k** Preselect side shifting
- l** I/O or menu

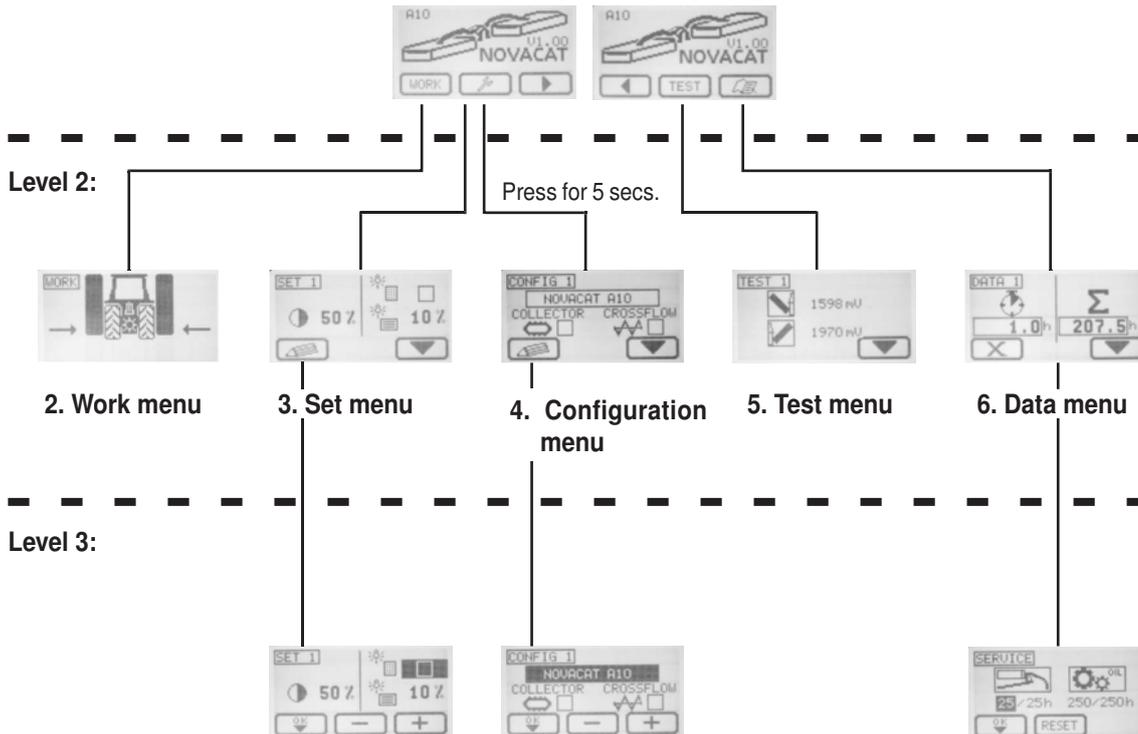
Operating notes

To preselect a function, press the appropriate key. Functions preselected on the terminal appear on the screen and are executed via the control device on the tractor.

Menu structure

Level 1:

1. Work menu



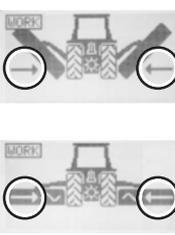
Level 3:

1. Main menu

Keys	Display	Note
		Press key  to access the Work menu without making a hydraulic preselection. The Work menu can also be opened with any preselection key. However, the relevant hydraulic function will also have been simultaneously selected.
		Press key  to access the Set menu. Press key  for 5 seconds to access the Configuration menu.
		Press key  to access the Test menu.
		Press key  to access the Data menu.
 		If keys "Continue" or "Back" are displayed, then not all function keys can be displayed at the same time. Press keys "Continue" and "Back" to move the undisplayed keys into the visible area.

2. Work menu

2.1 Display

Keys	Display	Note
		Press key  to access the Work menu. Press "ESC" key to access the Main menu.
		Mower position There are three different displays for the mower positions.  Transport position  Headland position  Working position
		Float position As soon as the mowers are in the float position, the wave symbol appears.
		Side shift (only A10) There are three different displays for the side shift positions. →← Inner end position ↔ Middle position ←→ Outer end position The side shift indicator always appears in the same place no matter where the mowers are located. If it is covered by a mower, the side shift indicator appears in white inside the mower unit.
		Automatic The automatic function (A) will be displayed once it has been activated. Refer to paragraph "Operation" for further information.

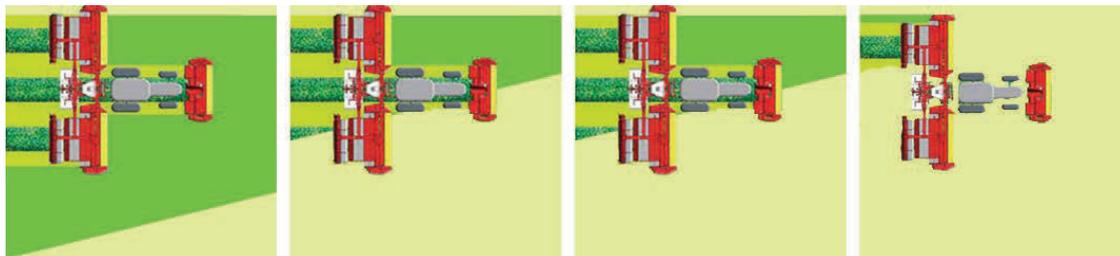
2.2 Operation:

2.2.1 Automatic mowing

The intelligent step sequence ensures easy mower operation. (see example)

Keys	Display	Note
 +  + 		Both mowers are swivelled between the "Field transport" and "Work position" positions using the tractor's control device.
 +  / 		Only one mower is swivelled between the "Field transport" and "Work position" positions using the tractor's control device. After the swivelling action, it switches back automatically to both mowers.

2.2.2 Example:



			
Control device: Float position	Preselection: Right mower Control device: Raise	Control device: Float position	Control device: Raise
	With preselected automatic operation, it switches automatically to the second mower after a short period, following the completion of a single lifting procedure. A signal tone indicates this.	The left mower is located in the float position again without any further preselecting.	If the second mower is also back in the headland position again, then both mowing units are automatically preselected for the next lowering procedure.

2.2.3 Manual mowing:

If required, it is also possible to operate without automatic preselection i.e. the preselected function is carried out using the control unit.

Keys	Display	Note
 + 		Both mowers are swivelled between the "Field transport" position and "Work" position using the tractor's control device.
 / 		Using the tractor's control device, the left or the right mower is swivelled alternatively between the "field transport" position and "working position". The second mower remains in the start position.

2.2.4 Swivelling from the "Field transport" position to the "Road transport" position.

 DANGER

Life-threatening danger exists through machine tipping over. There is a danger of tipping when swivelling the machine on slopes.

- Swivel the cutter units successively to the road transport position using the individual lifting device.
- Parking in transport position: Always swivel the downhill-side mower first and then the uphill-side mower.

Prerequisite for this function:

1. Side shift to inner end position
2. Headland position of both mowers
3. Cardan shaft at standstill.
4. Cross flow cover closed (for option Cross flow).
5. Cross conveyor in working position (with Cross Conveyor option)

Keys	Display	Note
1. 		<ol style="list-style-type: none"> 1. Preselect "Road transport" key -> both mowers are activated (for individual raising, select the relevant mower) 2. Press and hold the "Road transport" key 3. Operate the tractor's control device until <ul style="list-style-type: none"> - the "Road transport" position is reached - the side protection is folded in - the mechanical transport safeguard is locked.

 TIP

- If the cardan shaft is moving and the "Road transport" key is pressed, the adjacent warning appears on the screen.

Wait until the cardan shaft has completely stopped before continuing to fold the mowers..
- If side shifting is not in the inner end position, the adjacent notification appears on the screen. The control automatically preselects "Side shifting" and moves the mower to the inner end position..
- If the flap of the cross flow is opened, this note will appear. Close the flap before continuing to fold the mowers.
- If the cross conveyor is not in the working position, the adjacent notification appears. Move both cross conveyors to the working position before continuing to fold the mowers.



2.2. Individual raising in the transport position

Keys	Display	Note
<ol style="list-style-type: none"> 1.  /  2.  		<p>Select left or right mower, then press the "Road transport" key, Press and hold the "Road transport" key and operate the tractor's control device until the "Road transport" position is reached and the mechanical transport safeguard is locked.</p>

2.2.6 Swivelling from the "Road transport" position to the "Field transport" position or "Work" position.

 **DANGER**

Life-threatening danger exists through machine tipping over. There is a danger of tipping when swivelling the implement on slopes.

- Swivel the cutter units successively to the "Field transport" position or the "Work" position using the individual lifting device.
- When swivelling in "field transport" or "working position": Always swing the uphill-side mower first and then the downhill-side mower!

 **DANGER**

Life-threatening danger exists through objects being ejected.

- Before mowing make sure that the side safeguards are folded down.

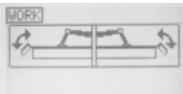
Keys	Display	Note
		(1) Preselect key "Road transport". (2) Operate the tractor's control device until the transport safeguard has engaged.
	 	(3) Press and hold the "Road transport" key, and operate the control device until the folding end position (just below the field transport position) is reached and the side safeguards are locked in place. When the mowers are in the folding end position (just below the field transport position), they are shown on the display at 90° to the tractor. Preselection extinguishes. (The mowers are shown with a light frame.)

 **DANGER**

Life-threatening danger exists through objects being ejected.

- Press the "Road transport" key and operate the control device once again to ensure the side protection is folded down completely and is functional.

2.2.7 Operating the side protection folding system

Keys	Display	Note
		(1) When servicing, press "Preselect side protection" key to operate the side protection separately from the mowers. (2) Use the tractor's control device to move the side protection into the required position.

 **DANGER**

Life-threatening danger exists through objects being ejected.

- Press the "Road transport" key and operate the control device once again to ensure the side protection is folded down completely and is functional.

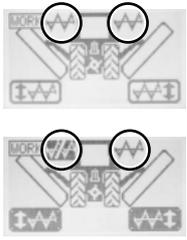
2.2.8 Operating the side shift

Keys	Display	Note
		<p>(1) Press "Preselect side shift" key to push the side shift.</p> <p>(2) Use the tractor's control device to set the required distance between the mowers.</p> <p> TIP</p> <p>Folding when in the road transport position is only possible when the mowers are at the inner end position.</p> <p>If the inner sensor position cannot be reached, the machine will try to move it into the sensor position inside through emergency actuation (see segment emergency actuation).</p> <p>If the inner sensor position cannot be recognized due to a sensor fault, bring the machine into inner sensor position using the emergency actuation (see segment emergency actuation) and deactivate the side shift in the configuration menu (see segment configuration menu).</p> <p>Side shift is not possible in the road transport position.</p> <p>Display:  The current side shift position is indicated by the arrows for the respective mower.</p>

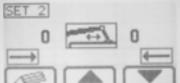
2.2.9 Cross conveyor (Option)

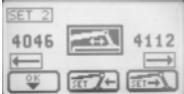
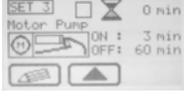
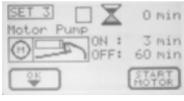
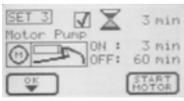
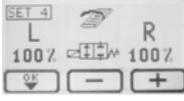
Keys	Display	Note
	   	<p>Display:</p> <p> Cross conveyor ready (Working position and activated)</p> <p> Cross conveyor not ready</p> <p>Cross conveyor swivelling operation</p> <p>(1) Press  key.</p> <p>(2) Press key  or  to preselect the required cross conveyor.</p> <p>(3) Operate tractor's control device to swivel the preselected cross conveyor.</p> <p>When the option "Cross Conveyor belt" is configured, the function keys in the work menu are arranged as follows.</p> <p> Operate once - select right cross conveyor Operate twice - select both cross conveyors The preselected cross conveyors have a black background.</p> <p> Operate once - select left cross conveyor Operate twice - select both cross conveyors</p> <p> Activate cross conveyors</p> <p> Deactivate cross conveyors</p>

2.2.10 Cross flow with hydraulic tailgate opening (option)

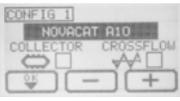
Keys	Display	Note
		<p>Display:</p>  Covering closed  Covering opened
		<p>Operation:</p> <p>(1) Press key </p> <p>(2) Press the key  or  in order to preselect the desired cross flow unit.</p> <p>(3) Activate the control unit from the tractor in order to swivel the preselected cross flow units.</p> <p>When the option "Cross flow" is configured, the function keys in the work menu are arranged as follows.</p> <p> 1x press - preselects of the right cross flow unit 2x press - preselects both cross flow units The preselected cross flow units are displayed on a black background.</p> <p> 1x press - preselects the left cross flow unit 2x press - preselects both cross flow units The preselected cross flow units are displayed on a black background.</p>

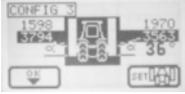
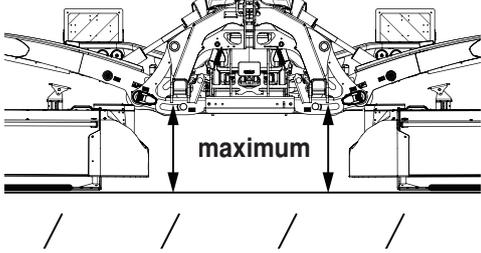
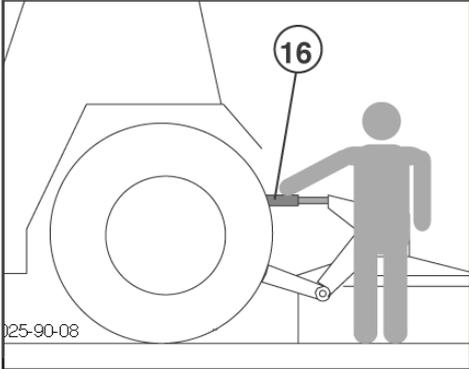
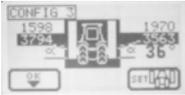
3. Set menu

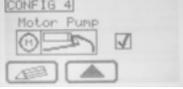
Keys	Display	Note
		<p>Press key  to access SET 1 menu.</p> <p>There are 3 different screens here.</p> <p>Press "ESC" key to access the Main menu.</p>
		<p>SET 1 Menu:</p> <p> 50% Screen contrast in percent</p> <p> Keypad lighting (on/off)</p> <p> 10% Screen brightness in percent</p>
		<p>Press key  to access the SET 2 menu - rotation angle sensor calibration.</p> <p>Press key  to calibrate the side shift sensors.</p> <p>B11...Left rotation angle sensor</p> <p>B12...Right rotation angle sensor</p> <p> TIP</p> <p>Calibrating the rotation angle sensors is only necessary after a rotation angle sensor has been exchanged.</p>

Keys	Display	Note
		<p>Calibration mask - only when a rotation angle sensor has been exchanged.</p> <p>Calibration procedure:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;">  TIP Make sure that in every extreme position (inside, outside), the the end position is reached when calibrating. </div> <ol style="list-style-type: none"> Select side shift using key  so that the side shift indicator has a black background. Move the side shift with the control unit all the way out (was the limit stop reached?). Press key  to save the value. Move the side shift completely in using the control device. (Was the limit stop reached?) Press key  to save the value. Press "ESC" to end the calibration procedure.
		<p>Press key  to open the SET 3 menu - automatic lubrication.</p> <p>Automatic lubrication is optional.</p> <p>Press key  to manually switch the the lubricating pump or to open the change mask.</p> <p>Press key  to access SET 2 menu (calibration mask).</p>
		<p>Press key  to manually start the lubricating pump. The "Elapsed lubrication cycle time" meter  starts to count.</p> <p>Press key  to manually stop the lubricating pump. The "Elapsed lubrication cycle time" meter stops.</p> <p>Press key  to access the change mask</p>
		<p>Change mask:</p> <p>Press key  to select a value to change.</p> <p>Press keys ,  to change the value.</p> <p>Press "ESC" key to access the Configurations menu.</p> <ol style="list-style-type: none">   Automatic lubricating system active/inactive  Lubrication pump runtime per lubrication cycle. (Default setting: 4 min)  Lubrication pump pause time per lubrication cycle. (Default setting: 30 min)  Time counter per lubrication cycle
		<p>Press key  to access the SET 4 menu - cross conveyor speed.</p> <p>Display:</p> <p>Press key  to change the cross conveyor speed.</p> <p>Press key  to access SET 3 menu (automatic lubrication).</p>
		<p>Change mask:</p> <p>Press key  to select a value to change. Here, the left or right cross conveyor</p> <p>Press keys ,  to change the value.</p> <p>100% .. Maximum speed 0%..... Minimum speed</p> <p>Press key "ESC" to return to the SET 4 menu.</p>

4. Configuration menu

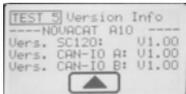
Keys	Display	Note
		<p>Press key  for 5 seconds to access the Config 1 menu. Set the machine configuration here.</p> <p> Machine type selection</p> <p> Collector (yes/ no)</p> <p> Cross flow (yes/no)</p> <p>Press key  to access the change mask. Press key "ESC" key to access the Main menu.</p>
		<p>Press key  to access the change mask.</p> <p>Press key  to select a value to change or to save it after changing.</p> <p>Press keys ,  to change the value.</p> <p>Press "ESC" key to access the configurations menu.</p>
		<p>Press key  to access CONFIG 2 menu.</p> <p> Side shift (yes/no)</p> <p> Indicate service interval (yes/no)</p>
		<p>Press key  to access CONFIG 3 menu - field transport position angle.</p> <p>Display:</p> <ol style="list-style-type: none"> 1. Current value on rotation angle sensor in mV 2. Field transport position angle <p>Press key  to access the change mask.</p>

		<p>Rotation angle sensor calibration:</p> <p>! NOTE</p> <p>Property damage can be caused by a collision of components during angle sensors calibration.</p> <ul style="list-style-type: none"> • Before starting angle sensors calibration, make sure that the side shift is in the minimum position. Otherwise, the lateral cardan shaft could collide with the gearbox cover. <p>1. Lift tractor's lifting gear to the maximum.</p>  <p>2. Lower the mowing bar to lowest position possible</p> <p>! NOTE</p> <p>Property damage due to possible collision between the cutter bars inclined in the direction of travel and the tractor cab in transport position.</p> <ul style="list-style-type: none"> • Make sure that the cutter bars are vertical. <p>3. Extend tractor's upper link (16) until cutter bars are horizontal.</p>  <p>025-90-08</p> <p>4. Preselect "Road transport" key -> both mowers are activated</p> <p>5. Press and hold the "Road transport" key</p> <p>6. Operate the tractor's control device until</p> <ul style="list-style-type: none"> - the "Road transport" position is reached - the mechanical transport safeguard is locked. <p>7. Press key  to save the position.</p> <p>Press key  to access the change mask.</p> <p>Press "ESC" button to return to Config 3 menu.</p>
		<p>Change mask - Adjusting the the field transport position angle:</p> <p>Press keys  ,  to change the value.</p> <p>Press key  , to change the next value.</p> <p>Press "ESC" button to return to Config 3 menu.</p>

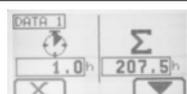
		<p>Change mask - Configuration of the left mower unit: Press keys ,  to change the value. Press key , to change to the next value. Press "ESC" button to return to Config 3 menu.</p>
		<p>Change mask - Configuration of the right mower unit: Press keys ,  to change the value. Press key , to change the next value. Press "ESC" button to return to Config 3 menu.</p>
		<p>Press key  to access CONFIG 4 menu.  Electric lubricating pump (yes/no)</p>

5. Test menu

Keys	Display	Note
		<p>Press key  to access the Test 1 menu.  Current voltage at the left mower (sensor B5)  Current voltage at the right mower (sensor B3) Press key  to access the Test 2 menu. Press "ESC" key to access the Main menu.</p>
		<p>Press key  to access the Test 2 menu. The sensor function is displayed here. A dark field means that the sensor is currently active.  Transmission speed sensor (B10) Pressure: <input type="checkbox"/> Press switch (B1) Press key  to access the Test 1 menu (Sensors). Press key  to access the Test 3 menu (Software Information).</p>
		<p>Press key  to go to the Test 3 menu. The Collector sensor function is displayed here. A dark field means the sensor is currently active.  3270 rpm <input type="checkbox"/> Left cross conveyor in working position / Cross conveyor speed / Test field for inductive speed sensor  3330 rpm <input type="checkbox"/> Right cross conveyor in working position / Cross conveyor speed / Test field for inductive speed sensor Press key  to access the Test 1 menu (Sensors). Press key  to access the Test 3 menu (Software Information).</p>

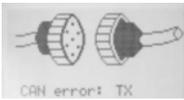
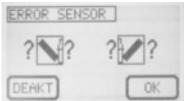
Keys	Display	Note
		<p>Press key  to access the Test 4 menu (voltage).</p> <p>The voltages for the extension modules (X1A/X1B) are displayed here:</p> <ol style="list-style-type: none"> 1. Row: Control panel supply voltage (current / minimum) Extension module X1A: <ol style="list-style-type: none"> 2. Row: Extension module supply voltage (current / minimum) 3. Row: Voltage of the reference voltage source. (current / minimum) Extension module X1B: <ol style="list-style-type: none"> 4. Row: Extension module supply voltage (current / minimum) 5. Row: Voltage of the reference voltage source. (current / minimum) <p>Press key  to access the Test 1 menu (Sensors).</p> <p>Press key  to access the Test 3 menu (Software Information).</p> <p>Press key  to reset the minimum values to the current values.</p>
		<p>Press key  to access the Test 5 menu (Software Information).</p> <p>The versions of the various software components are displayed here.</p> <ol style="list-style-type: none"> 1. Row: (SC120) Control panel software version 2. Row: (CAN-IO A) Extension module (X1A) software version 3. Row: (CAN-IO B) Extension module (X1B) software version <p>Press key  to access the Test 4 menu (voltage).</p>

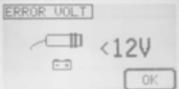
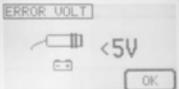
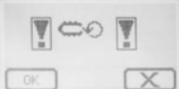
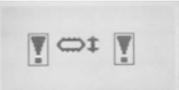
6. Data Menu

Keys	Display	Note
		<p>Press key  to access the partial-hour counter (Data 1)</p> <p>Press key  to reset the partial-hour counter to 0h.</p>
		<p>Service mask - Lubrication intervals display</p> <p>Press key  to access the Change menu.</p> <p>Press key  to return to the Data menu.</p>

Keys	Display	Note
		<p>Change mask - Resetting the service counter</p> <p>Resetting the service counter to the initial value after successful lubrication.</p> <p>Operation:</p> <ul style="list-style-type: none"> - Press key  to select a counter. - Press key  to reset the selected counter to the initial value (= interval). - Press "ESC" key to save the selected value and to return to the previous menu. <p>Display:</p> <p> 19 / 25h ② ①</p> <p> 102 / 250h ④ ③</p> <p>1... Interval for grease lubrication (Start interval: 25h afterwards 50h) 2...Lubrication counter 3... Interval for oil change (Start interval: 75h afterwards 250h) 4...Oil change counter</p> <p>If a counter has expired, the corresponding service message is displayed the next time the device is switched on. (see Service message)</p> <p>Refer to chapter "Maintenance" before lubricating or changing the oil.</p>

7. Diagnostic message

Diagnostic screen	Meaning	Causes
	<p>Fault in the CAN-bus connection</p> <p>The connection to the extension module x has been interrupted</p>	<ul style="list-style-type: none"> - Connection to extension module interrupted - Extension module is faulty or missing - Operating console faulty <p> TIP</p> <p>This fault message cannot be ignored! Call customer service.</p>
	<p>Voltage Angle sensor Mower</p> <p>The voltage on one or both angle sensors (B3/B5) lies outside the specified operating range (0.5V - 4.5V).</p> <ul style="list-style-type: none"> - Press key  to access the manual emergency operation. - Press key  to briefly acknowledge the fault 	<ul style="list-style-type: none"> - Faulty sensor - Connection to sensor interrupted - Gap between magnet and sensor is incorrectly set. (See chapter "Sensor" for setting) - Short circuit in the voltage supply or missing voltage supply

	<p>Work menu - Manual Emergency Operation indicator</p>  <p>In the Work menu the manual emergency operation is shown by question marks over both mowers.</p>	<p>If the mower angle sensors fail and the error message is acknowledged with DEAKT, the mower can then be controlled in the manual emergency operation. For example, in order to travel home in the transport position.</p> <p>Conditions for manual emergency operation:</p> <ul style="list-style-type: none"> - Unplug the failed angle sensors B3 and B5 before moving the mowers any further. - Visually monitor the movement of the mowers to prevent any collisions. <p>NOTE</p> <p>Property damage in manual emergency mode (with electronic control system failure).</p> <ul style="list-style-type: none"> • Monitor the mowers while travelling and check the end position of the mowers in the transport position.
	<p>Voltage supply</p> <ul style="list-style-type: none"> - to the extension module - to a sensor 	<ul style="list-style-type: none"> - insufficient voltage at the extension module - Extension module faulty - Short-circuit - Wiring error
	<p>Voltage supply</p> <ul style="list-style-type: none"> - of the reference voltage source supplying the angle sensors 	<p>TIP</p> <p>If there are problems with the voltage supply, check the page "Voltage supply" in the Test menu .</p> <p>TIP</p> <p>This fault message cannot be ignored! Call customer service.</p>
	<p>Cross conveyor rpm is too low</p> <ul style="list-style-type: none"> - Press key X to ignore the fault until the next system start-up. - Press key OK to briefly acknowledge the fault 	<ul style="list-style-type: none"> - Faulty sensor - Faulty connection - Insufficient or no rpm sensor voltage supply at the cross conveyor.
	<p>Cross flow Flap opened</p>	<ul style="list-style-type: none"> - Faulty sensor - Faulty connection - Insufficient or no sensor voltage supply at the cross conveyor.
	<p>Cross conveyor not in position</p>	<ul style="list-style-type: none"> - Faulty sensor - Faulty connection - Insufficient or no rpm sensor voltage supply at the cross conveyor.

8. Service message

NOTE

Property damage due to insufficient lubrication

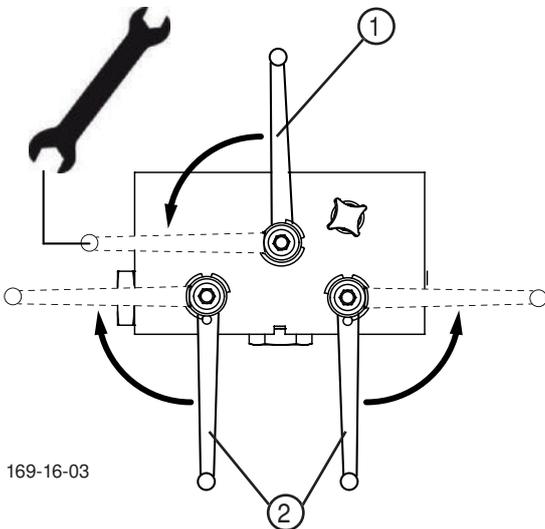
- In order to prevent damage to the lubricant users, it is recommended that the grease lubrication or oil change be carried out in accordance with the lubrication plan, at the latest, after the service message has been displayed .

Service message	Meaning	Procedure
 	<p>Point in time for lubrication has been reached</p> <p>This message appears after re-starting the terminal if the service message are activated in the configuration menu.</p> <ol style="list-style-type: none"> Lubricate the relevant parts according to the lubrication plan. Reset the service counter. 	<ul style="list-style-type: none"> If lubrication is not to be carried out immediately: Press key OK to ignore the message until the next system start-up. The terminal returns to the Start menu. After successful lubrication: Press key RESET to reset the service counter. Access the service mask (see Data menu) where the value can be manually changed.

9. Set relief pressure for hydraulics

Adapt the relief pressure to the ground conditions.

- Make sure that both mower units are in the floating position. Otherwise the relief pressure cannot be adjusted.
- Lift the outer rear unit manually. If this is even possible, this is equivalent to a relief pressure of approx. 70kg.



The hydraulic block is located centrally under the white machine cover.

- Bring the switching lever (1) from working to maintenance position
- Open the respective hydraulic circuit with the corresponding jib lever (2)
- Set the release pressure using the tractor's control device
- Lift the rear unit to check release pressure
- Close the open hydraulic circuit with the corresponding jib lever
- Bring the switching lever to working position

Terminal performance features

Electrical connection

The power supply for the entire electronic system (job calculator and terminal) is conducted through a plug (compliant with DIN 9680) from the tractor's 12V onboard electrical system. These 3-pin plugs may also be 2-pin versions as only two main wires (+12 V, ground) are required.

NOTE

Material hazard - due to impermissible plugs and sockets that cannot ensure operation.

- Plugs and sockets must be replaced only with genuine spare parts!

NOTE

Property damage through corrosion.

- Do not expose the operating terminal to the weather!

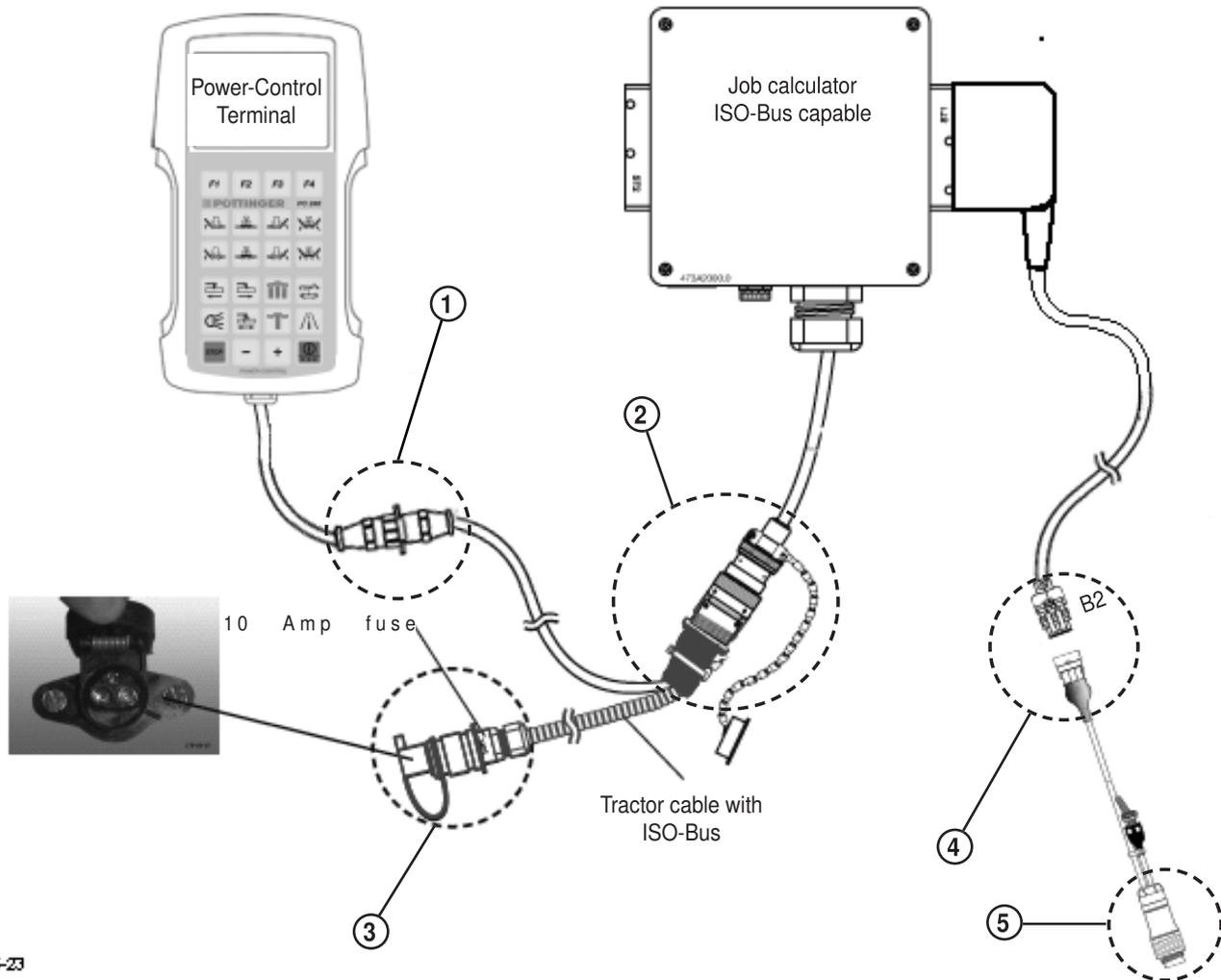
Technical data

Operating voltage:	+10V +15V
Operating temperature range:	-20°C +60°C
Storage temperature:	-30°C +70°C
Degree of protection:	IP65
Fuse:	10A multifuse in an operating voltage plug

Function

All machine functions can be directly controlled through the Power Control Terminal. Furthermore, the Power Control Terminal also has a large display to show the current operating status and various menus and alarm messages. A prerequisite is a single-acting hydraulic circuit with depressurised return or load sensing.

Initial start



143-16-23

1. Position the Power Control Terminal in tractor cabin where it can be clearly seen. (To secure the terminal there is a holder on the back.
2. Connect the terminal with the tractor cable via the plug (1).
3. Direct the job computer cable from the machine into the tractor cab and connect it with the tractor cable via the ISOBUS plug (2). (Make sure the cables are properly routed!)
4. Connect the tractor cable plug (3) to the tractor's 12V power supply.
5. When the area metering is required, connect the cable (Pöttinger number 487.575) via plug (4) to position B2 on the cable harness of the job computer
6. Connect cable with plug (5) to tractor signal socket (according to DIN 9684.1 / ISO 11786).

To activate terminal, press key "I/O" .

To deactivate terminal, press key "I/O"  for three seconds.

Key allocation

Function keys

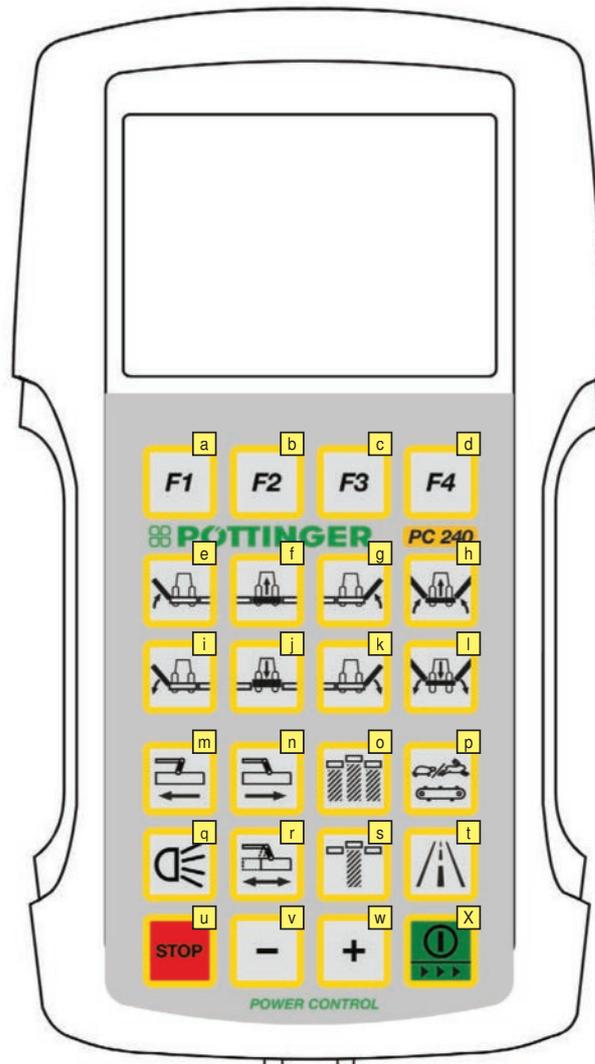
- a** Function key 1*
- b** Function key 2*
- c** Function key 3*
- d** Function key 4*

Raising and lowering the mower unit

- e** Raise left mower unit
- f** Raise front mower unit
- g** Raise right mower unit
- h** Raise all mower units
- i** Lower left mower unit
- j** Lower front mower unit
- k** Lower right mower unit
- l** Lower all mower units

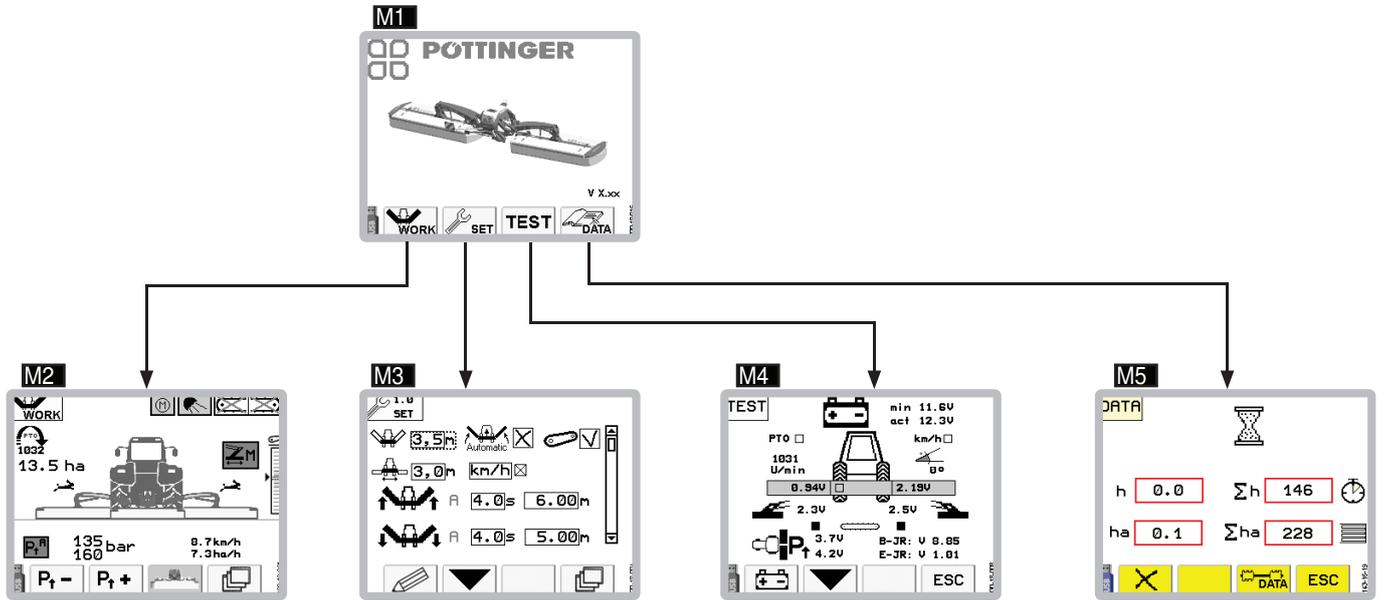
Side shift, cross conveyor, transport

- m** Decrease working width
- n** Increase working width
- o** Lift cross conveyor / open cross flow
- p** Alter cross conveyor speed
- q** Operating headlights on/off
- r** Slope travel preselection
- s** Lower cross conveyor / Close Cross-flow
- t** Road transport preselection
- u** Stop - stops every hydraulic function
The cardan shaft continues to run!
- v** Decrease a setting value
- w** Increase a setting value
- X** On/Off
Press [On/Off] key to switch on Power Control Terminal. Press [On/Off] key to open up System Menu.
Press and hold [On/Off] key longer to switch off Power Control terminal.

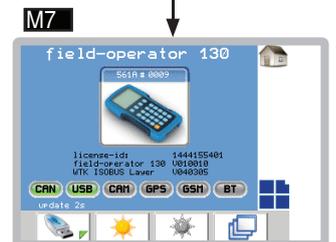
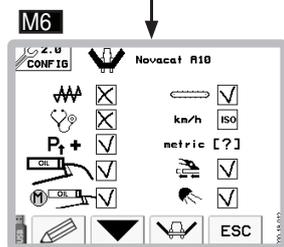


* Function keys have different functions depending on the menu.

Menu tree



 **SET**
Press and hold for 10 seconds!



Menus

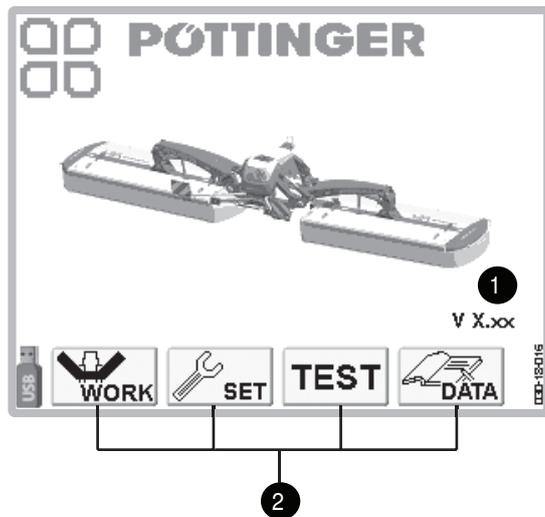
TIP

Each menu can be exited by pressing the ESC key. **ESC**

Start menu

M1

After turning on the Power Control Terminal the Start menu appears.



Display:

- 1 ... Software version
- 2 ... Function keys

Function keys:

-  ... Work menu **M2**
-  ... Set menu **M3** / prolonged pressing: Configuration menu **M6**
-  ... Sensor test menu **M4**
-  ... Data menu **M5**

Work menu

M2

In Start menu, press function key **F1** to open up Work menu.

Press function key **F4** to return to Start menu.

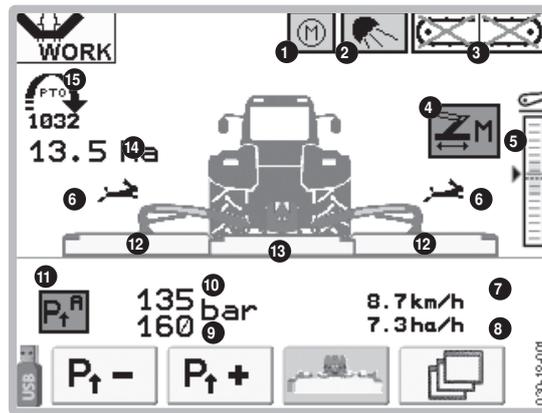


Fig. 1

Display:

- 1... Automatic grease lubrication (optional)
 - green...grease lubrication running
 - grey...grease lubrication off

The automatic grease lubrication can be set on the set menu. See set menu 1.3
- 2... Work lights
 - green...on/grey...off

only if the working light has been configured in the configuration menu.

When folding to transport position, the working light is switched off automatically.

The work lamp can be switched manually using the button on the terminal.
- 3... Note cross conveyor belt (optional)
 - As long as a cross conveyor is crossed out, it has not reached the working position. The cross conveyor is not activated. Activate the cross conveyor using the "Cross conveyor speed" key.
- 4... Status of side shift
 - grey - automatic off
 - green with "A" - automatic on (side shift is adjusted according to the steering angle)
 - green with "M" - Slope drive - Both mower units move in the same direction. - Switch the slope drive on and off with the button on the terminal. - 
- 5... Lower link height display - is displayed when the side shift is fully retracted.
 - the green area shows the correct lower link height. Above and below this, the cardan shaft collides with the rear mowers.
- 6... Speed of the cross conveyor belt:
 - fast (rabbit) / slow (turtle) / automatic - (A)
- 7... Tractor speed:
 - only if selected in the configuration menu.
- 8... Actual area output in ha per hr
 - only if tractor speed is selected in configuration menu.
- 9... Left rear mower unit relief pressure
- 10... Right rear mower unit relief pressure

11... Automatic relief adjustment active
It only works when the mower units are in working position. (see the Set menu)

12... Mower unit operating status:
Working (Image 1), Field transport (Image 2), Road transport (Image 3)



13... Front mower status:
Operating position or field transport position. If this symbol is not displayed, there is either no front mower available or it cannot be managed with this control.

14... Daily hectare counter, only if tractor speed is selected in the configuration menu.

15. Actual cardan shaft speed

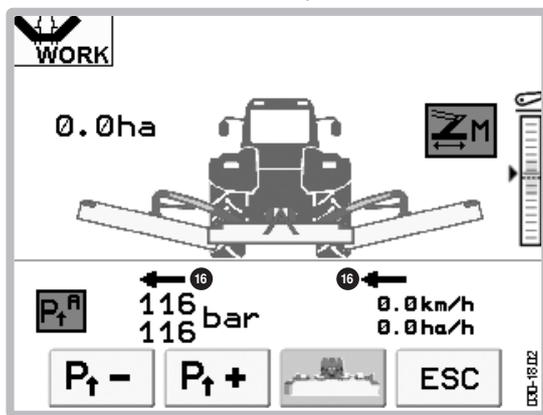


Fig. 2

16... Side shift manual
both arrows point outward = max. width
both arrows point inward = min. width
both arrows point in the same direction = slope travel



Fig. 3

17... Page Shift in Automatic Mode
Green bar = maximum width
White bar = minimum width

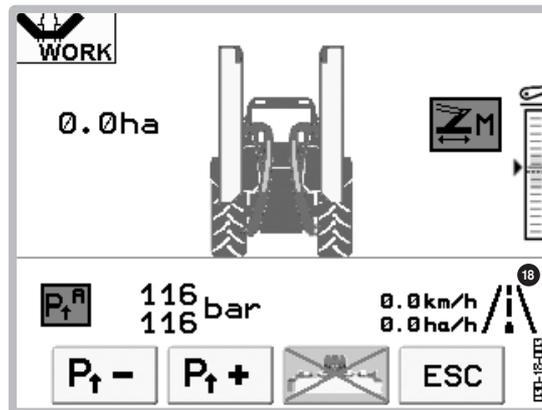


Fig. 4

18... Road transport symbol
Lifting and lowering from or into the road transport position is only possible when the symbol is displayed. If the symbol starts flashing, press the [Road Transport] button again.

 **TIP**

It is possible to change to road transport position only when both cross conveyors are stationary and in working position.

Function keys

 **TIP**

To set the relief pressure, the mower units must be in the floating position.

 ... Decrease relief pressure of rear mower units

 **TIP**

Momentary pressure differences could arise between left and right rear mower units. But these are automatically balanced out after the filling process.

 ... Increase relief pressure of rear mower units

 **TIP**

Momentary pressure differences could arise between left and right rear mower units. But these are automatically balanced out after the filling process.

 ... Activate/deactivate front mower

 ... Go up one menu level (here: Start menu)

 ... Wide delivery on the right - The cross conveyor unit on the right is swivelled out so that a wide delivery remains in the middle and on the right.

 ... Wide delivery on the left - The cross conveyor unit on the left is swivelled out so that a wide delivery remains in the middle and on the left.

 ...scroll further to new function keys

Hard keys: Raising and lowering

	Lower left mower unit	Lowers left mower unit from field transport to working position
	Lower front mower	Lowers front mower from field transport to working position
	Lower right mower unit	Lowers right mower unit from field transport to working position
	Lower all mower units	Lowers all mower units from field transport to working position. The delay between front and rear mower can be set in the Set menu. (see set-menu)
	Raise left mower unit	Raises left mower unit from working position to field transport position.
	Raise front mower	Raises front mower from working position to field transport position.
	Raise right mower unit	Raises right mower unit from working position to field transport position.
	Raise all mower units	Raises all mower units from working position to field transport position. The delay between front and rear mower can be set in the Set menu. (see set-menu)

	Road transport preselection	<p> TIP</p> <p>To change to road transport position</p> <ul style="list-style-type: none"> the cardan shaft must be stationary. <p>The [Preselect road transport] key cannot be used while the cardan shaft is still turning.</p> <hr/> <p> TIP</p> <p>In order to activate the [Preselect road transport] key,</p> <ul style="list-style-type: none"> all mower units must be in field transport position. both cross conveyors must be in the working position. <hr/> <p> TIP</p> <p>Pressing the "Road transport preselection" key  for 3 seconds will depressurize the side protection hydraulic hoses. (e.g. before uncoupling)</p> <hr/> <ol style="list-style-type: none"> Press the preselection key to enable lifting to and lowering from the road transport position. Press either the [Raise] or [Lower] key to move the respective mower units to or from the road transport position.
	Stop	Stops any raising or lowering process.

Hard keys: Raise and lower cross conveyor / Open and close Cross-flow

	Raise the cross conveyors / Open Cross-flow	<p>Function depends on the type of cross conveyor:</p> <ul style="list-style-type: none"> Lifts both cross conveyor belts. Opens the back panel of both Crossflow screws
	Lower the cross conveyors / Close Cross-flow	<p>Function depends on the type of cross conveyor:</p> <ul style="list-style-type: none"> Reduces both cross conveyor belts. Closes the back panel auger rear panel
	Cross conveyor speed levels (Optional extra)	<p>Press the key to change the speed level of the cross conveyor belts. One of two levels can be selected which are represented by a "hare" or a "tortoise".</p> <p>Go to the Set menu to adjust the speed of the speed levels.</p>

H a r d k e y s : S i d e s h i f t

	Slope travel preselection	<ol style="list-style-type: none"> Press the preselection key to move both rear mower units in the same direction, one after the other. Press the appropriate key [side shift] to start side shifting in the relevant direction. The mower units then move one after the other.
	Decrease working width / Side shift left	<p>Decreases mower working width so that both mower units move inward to end position.</p> <p>In conjunction with [Slope travel preselection], both rear mower units move to the left.</p>
	Increase working width / Side shift right	<p>Increases mower working width so that both mower units move outward to end position.</p> <p>In conjunction with [Slope travel preselection], both rear mower units move to the right.</p>

 **TIP**

The keys "Decrease working width" and "Increase working width" are stay-put keys (function activated by briefly pressing the key). The function is interrupted by using the STOP key or by pressing the key for the opposite direction. If function is interrupted with STOP key, no arrow appears in the display.

 **TIP**

When mowing on slopes it is sensible to position both mower units uphill. Doing so will prevent streaking.

 **TIP**

Adjusting the working width is only possible in the working and field transport positions. If both mowers are to be moved to the transport position and one of the two mowers is in the field transport position at the maximum working width, both mowers move to the minimum working width first so as not to exceed the 4 m transport height.

Hard keys : General

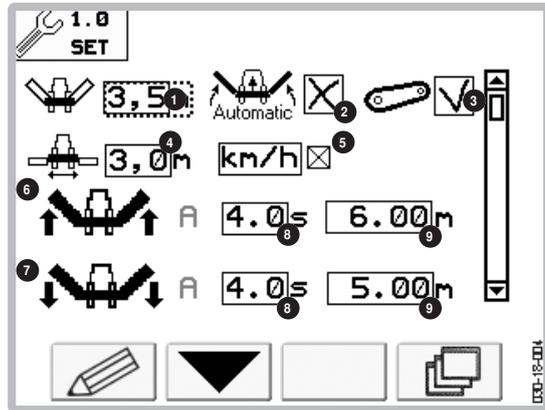
	Lighting system	Turning the work light on/off The work light is automatically turned off in the transport position. That means that the working lights must be manually turned on when they are in the working position again.
	On/Off	<p>Operating console switched off Brief press < 1 second - Turning the operating console on</p> <p>Operating console switched on Short press < 1 second - Change to system menu M7 (to adjust brightness) and return</p> <p>Long press >= 2 seconds - Turning the operating console off</p>
	Minus	<p>Short press < 1 second - Changes the selected symbol - Scroll through a list</p>
	Plus	<p>Keep depressed - Holding the +/- key depressed activates a fast forward through the options.</p>
	Stop	Press the „STOP-Key“, in order to stop all the hydraulic functions.

Set menu

M3

In the Start menu, press function key **F2** to open the Set Menu.

Press function key **F4** to return to the Start Menu.



Display:

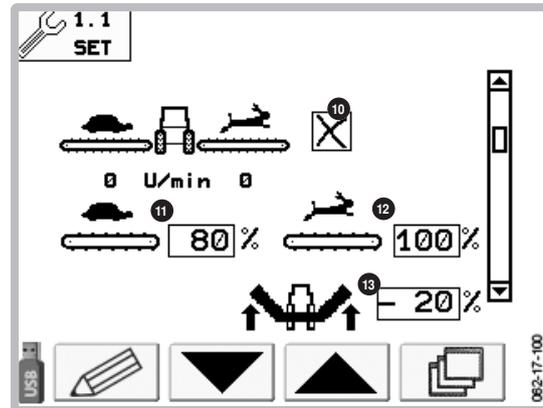
- 1... Front mower working width
- 2...Automatic raising of all mower units when reversing. (only in connection with speed signal via ISOBUS)
- 3... Enable/disable display by lifting the height in the work menu
- 4... Distance between the rear mower units
Selectable 3.0m or 3.5m (width of the trestle)
- 5... Time or distance controlled delay when lowering the rear mower.

TIP

The values for the distance controlled delay will not appear if the speed has not been selected in the configuration menu.

- 6...Line for raising the mower unit
- 7...Line for lowering the mower unit
- 8...Column for time-controlled delay
- 9...Column for time-controlled delay

Collector:



10...Cross conveyor belt settings:

x...Cross conveyor removed. The position sensors will continue to be queried. There is no speed enquiry.

...Same speed for both cross conveyors with the option of changing between two speed settings.

D... Differing speeds between the left and right cross conveyor (for mowing in contour lines)

A ... Automatic cross conveyor speed adaptation to the side shift.

Side shift outside: Cross conveyor fast (hare)

Side shift inside: Cross conveyor slow (turtle)

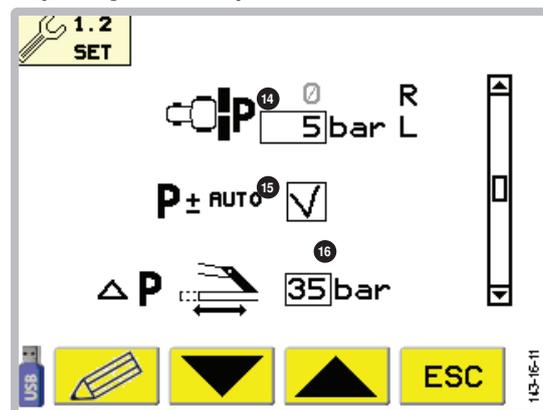
11...The configuration for the cross conveyor speed slow (turtle) - percentage of the maximum speed

12...The configuration for the cross conveyor speed fast (rabbit) - percentage of the maximum speed

13... Adjustment of the cross conveyor belt speed reduction (in percent) for lifting the mowers when cross conveyor belt is running.

If the cross conveyor belt is running while the mower units are being raised, there may be insufficient oil circulating in the hydraulic circuit. The result is that the mower units can only be raised very slowly. Reduce the speed of the cross conveyor belt to increase the lifting speed of the mowing units. (Default setting: 45%-60%)

Adjusting the relief pressure:



14...Setting the relief pressure difference between the left and right mower units. Set the deviation of the left mower unit from the right mower unit here. A negative value means that the right mower unit relief pressure is greater than the left one.

15...Automatic relief adaptation

Display in work menu, see position 14, work menu

TIP

If automatic relief adaptation is activated, the following pressure limits are monitored:

- If the pressure falls 5 bars or more, then it is increased.
- If the pressure exceeds 1 bar or more, then it is decreased.

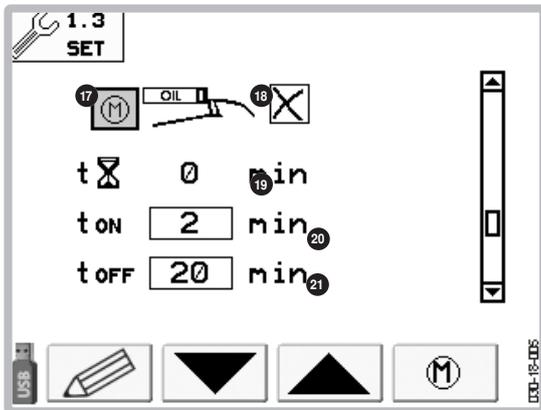
16...Relief pressure adaptation when the side shift changes position (adjustment interval: both mower units inside: 15 bar - both mower units outside: 50 bars).

Set relief pressure for hydraulics

Adapt the relief pressure to the ground conditions.

1. Ensure that both mower units are in the neutral position. Otherwise the relief pressure cannot be adjusted.
2. Raise an outside rear unit. If this is even possible, this is equivalent to a relief pressure of approx. 70kg.
3. Press the function keys **P_r-** or **P_r+** to adapt the relief pressure to the ground conditions.

Automated lubrication



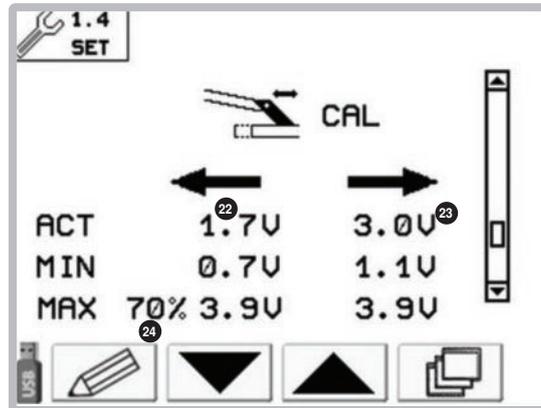
- 17... Display - current status of the automatic grease lubrication
 green...lubrication on
 grey...lubrication off

TIP

Grease lubrication can also be switched on and off manually.

- 18... automatic grease lubrication yes/no
 19 time counter per lubrication cycle
 20... Lubrication pump run time per lubrication cycle
 21... Lubrication pump waiting time per lubrication cycle

Angle sensor side shift:



- 22... Display of voltage values - Left angle sensor (B11)
 23 ... Display of voltage values - Right angle sensor (B12)
 curr = current
 min = minimum
 max = maximum
 24 ... Setting of the maximum width:
 Here you set a value between 50-100% of the width between the angle sensors B11 and B12.

Function keys:

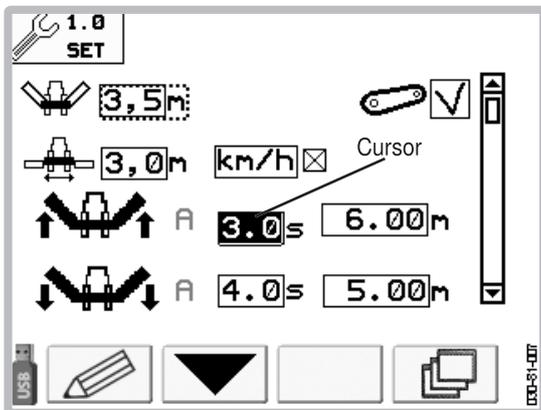
- ... Edit menu entry
- ... scroll down
- ... scroll up
- ESC** ...switch to the next higher menu level (here: Start menu)
- P+** ...increase collision protection system pressure
- P-** ...reduce collision protection system pressure
- ...scroll through to the new function keys
- ...save the current values (only possible from 1V difference to the old value)
- ...folding side guards up manually
- ...folding side guards down manually
- M** ...activating lubrication pump manually.
Remember to switch off the lubrication pump again.
- ...calibrate the lift height
 1. Set lower link to the setting value (700 mm)
 2. Press and hold the key for 2 seconds

! DANGER

Life-threatening danger through objects being ejected.

- Fold the side guards down before reactivating the mower
- Fold the side guards up only when the cardan shaft is stationary.
- Fold side guards up only during maintenance or service work. Fold the side guards down afterwards.

Calibrate the angle sensors for side shift:



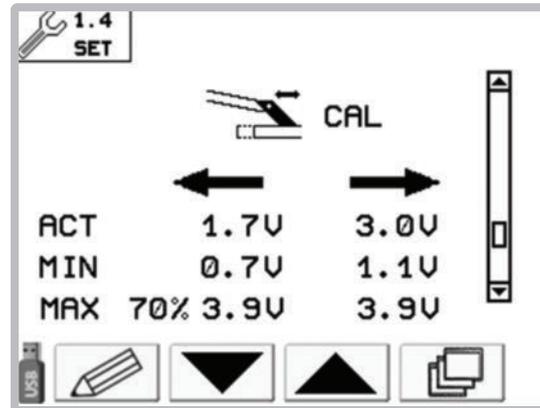
It is necessary to calibrate the angle sensors after a sensor exchange. The function serves to teach-in the voltage level at end positions.

- The minimum and maximum working widths are activated using keys ((Function is only active as long as the [Left side shift] or [Right side shift] key is pressed). The mower units must be in the field transport position for this.
- Calibration procedure
 - Press key until both mower units are on the inside of the limit stop.
 - Press key until both mower units are on the outside of the limit stop.
 - Press and hold key . Saving is confirmed by an audible signal.

TIP

Saving is possible only at a difference of >1V. Before that the key is greyed out.

Changing a value



1. Press function key to change a value.
2. Press function key until cursor has reached the value to be changed.
3. Change the value with the keys and until the desired value is reached.
4. Press function key to save the value and to select the next value.
5. Press to exit the change screen.

Function keys

- ... save the current value and change to the next variable
- ... change the current variable value down
- ... change the current variable value up
- ... change to higher menu (here: Set Menu)

Sensor test menu (together)

M4

In the Start menu, press the function key to open the Sensor Test menu.

Press function key to return to the Start menu.

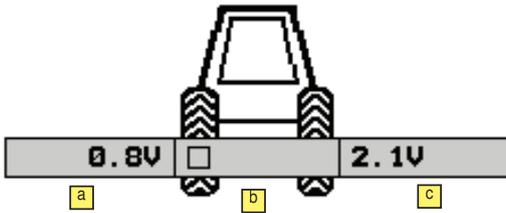
Display:

- A shaded square shows an active sensor.
- A white square shows an inactive sensor.

TIP

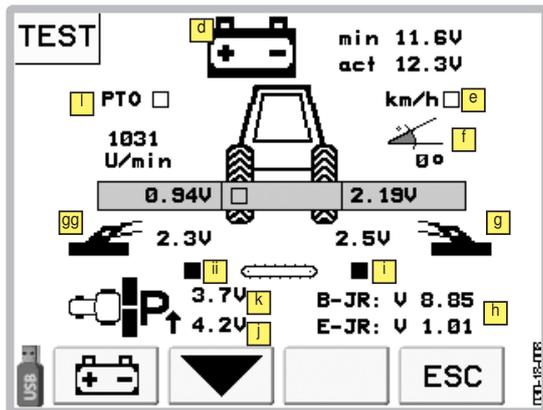
When a rotating component rotates past the sensor at a sufficiently low speed, the field starts to flash.

Sensors:



- a** ... B5
Tension value on the angle sensor of the left mower unit
- b** ... B7
Front mower field transport and working positions
- c** ... B3
Tension value on the angle sensor of the right mower unit

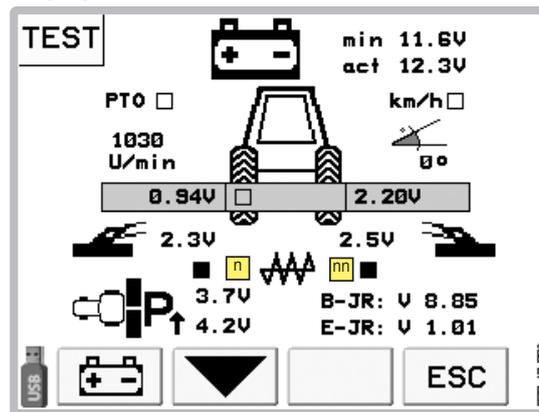
Value:



- d** ... Voltage indicator:
The top voltage display (min) shows the lowest measured power supply value since the operation started. This value is stored until the next new start.
The lower voltage display (act) shows the current measured power supply value.
- e** ... B2 (Speed)
Speed sensor active. To check the signal, compare the kph displayed in the Work menu with the tractor's tachometer display.
- f** ...CAN-angle sensor
Display of the machine inclination in comparison to the horizontal.
- g** ...B12
Side shift: Voltage of right angle sensor, in volts
- gg** ...B11
Side shift: Left angle sensor power, in volts
- h** ... Software versions
shows the software versions used for the base board (B) and the expansion board (E).
- l** B6 (Voltage display of the left pressure transducer)
Shows the current value of the left pressure transducer. So the function can be checked using the data sheet.

- l** ...B4 (voltage indicator of the right pressure transducer)
Shows the current value of the right pressure transducer. So the function can be checked using the data sheet.
- k** ... B21 Collector right, swivelled in / swivelled out
- kk** ... B20 Collector left, swivelled in / swivelled out
- l** ... B10 (P.T.O. cardan shaft)
Sensor function is checked while cardan shaft is turning. At approx. 10 rpm the field will become shaded.

Display for Cross-flow

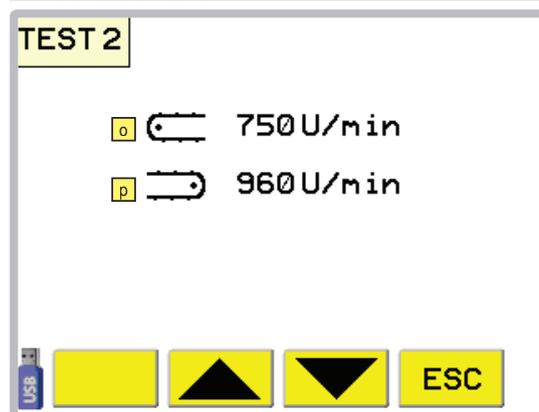


- n** ...B24 Back cover left, opened / closed
- nn** ...B25 Back cover right, opened / closed

Function keys

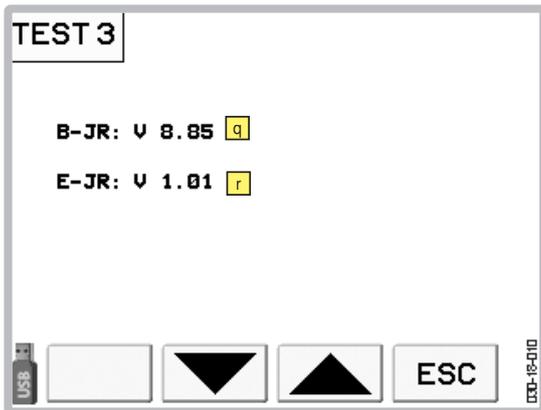
- ... Reset the minimum voltage indicator (to the current value)
- ESC** ... change to higher menu (here: Start menu)

Sensor test menu 2



- o** ...B22
current speed of left cross conveyor
- p** ...B23
current speed of right cross conveyor

Sensor test menu 3



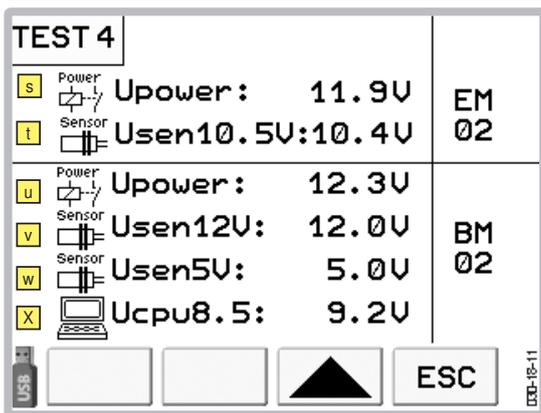
q ...B-JR

current software version of the basic module

r ...E-JR

current software version of the expansion module

Sensor test menu 4



s Supply voltage of the expansion module

t Sensor voltage 10.5V of the expansion module

u Supply voltage of the base module

v Sensor voltage 12V of the base module

w Sensor voltage 5V of the base module

x CPU voltage 8.5V of the base module

Data menu

M5

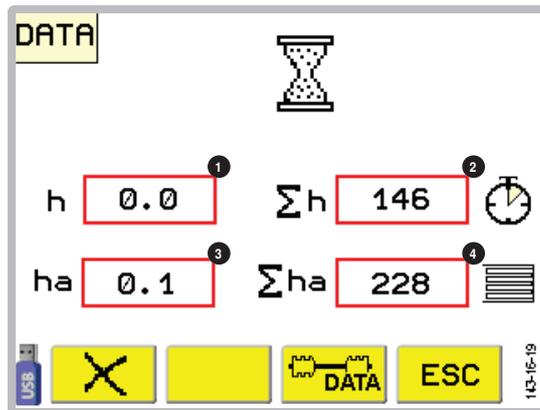
Press function key **F4** in the Start menu to open the Data menu.

Press function key **F4**, to return to the Start menu.

TIP

The hectare counters only function when the "km/h" has been selected in the configuration menu and the cable to the tractor's signal socket is connected.

Data-Menu 1



Display:

- 1 ... Partial hours counter
- 2 ... Total hours counter
- 3 ... Partial ha. counter
- 4 ... Total ha. counter

Function keys:

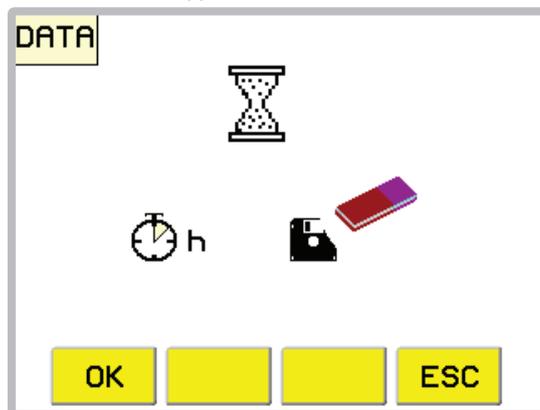
- X** ... resetting both partial counters
- DATA** ... Change to data menu 2
- ESC** ... go to higher menu (here: Start menu)

TIP

It is not possible to reset one partial counter without the other. Partial counters can only be reset together.

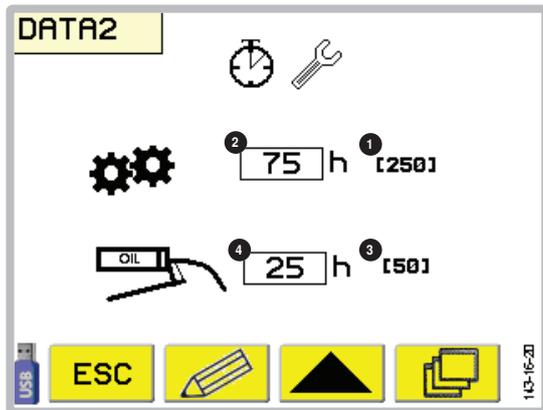
Resetting partial counters:

- 1. Press function key **X** to reset partial counter to nil.
A new screen appears.



- 2. Press function key **OK** to confirm the procedure or press function key **ESC** to interrupt the procedure and return to the previous menu.

Data-Menu 2



Display:

- 1... Oil change interval (Start interval: 75h afterwards 250h)
- 2...Counter until the next oil change
- 3...Interval for the grease lubrication (Start interval: 25h afterwards 50h)
- 4...Counter until the next grease lubrication

If a counter has expired, then the relevant service message appears the next time the device is turned on. (see Service notifications).

Carry out the maintenance and reset the respective counter. To carry out lubrication or oil change, see chapter of Maintenance.

Function keys:

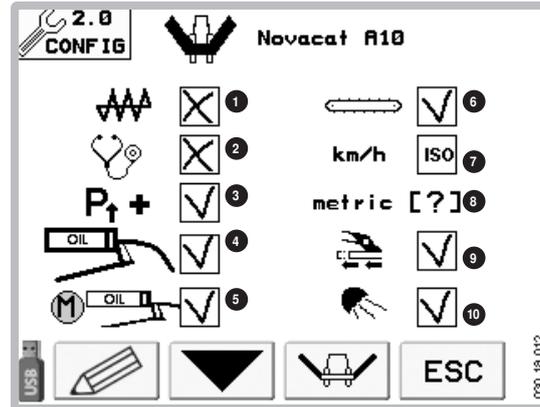
- ... Edit menu entry
- ... scroll down
- ... go to higher menu (here: Start menu)
- ... scroll to other function keys
- ...Press the key to reset the grease lubrication interval counter to the initial value.
- ...Press the key to reset the oil change interval counter to the output value.

Configuration menu

M6

In the Start menu, press and hold the function key for 10 seconds to open the configuration menu.

Press function key to return to the Start Menu.

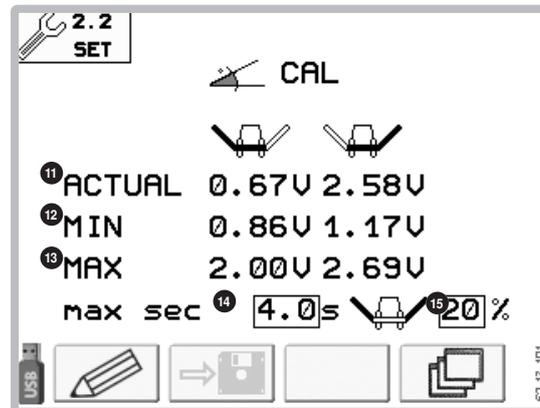


Display:

- 1 Cross-flow
- 2 ... Inputs/Outputs diagnosis function
- 3 ... Hydraulic relief
- 4... Service interval indicator
- 5... electric grease pump
- 6 ... Cross conveyor (only with collector)
- 7 ... Speed signal from tractor available
- 8 ... Measuring units metric or imperial
- 9 ... hydraulic side shift
- 10 ... Work lights

(Tick = active / cross = inactive / ISO)

Calibrate the angle sensors for the cutter bar:



11. Current voltage display
- 12... Minimum angle sensor voltage (calibration)
- 13... Maximum angle sensor voltage (calibration)

14... Maximum lifting time between work and headland setting. Set this time for each tractor change: Measure the time the tractor needs to lift from the working position to the headland and add one second.

TIP

Operate the tractor at 2000 rpm to ensure maximum hydraulic performance.

15. Headland height as deviation of the working position in %. The higher the percentage, the higher the headland position.

NOTE

Risk of property damage through the cardan shaft colliding with the input gearbox

- When adjusting the headland height, do not exceed the maximum angle of 40%.

Calibrating the cutter bar positions "high" and "low":

"High" position corresponds to the transport position.

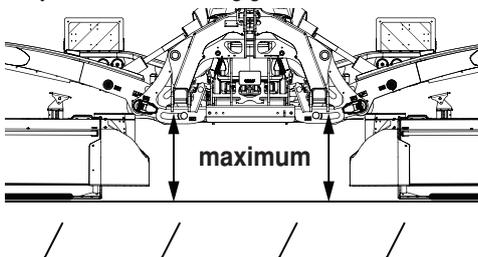
"Low" position corresponds to the lowest position achievable with the current mounting situation.

NOTE

Risk of property damage through the cardan shaft colliding with the input gearbox

- Before starting angle sensors calibration, make sure the side shift is in the minimum position.

1. Fully raise tractor's lifting gear.



TIP

The "Save" button is only active after the mower units have been moved 45° away from the current position. Before that, the key is greyed out and cannot be selected.

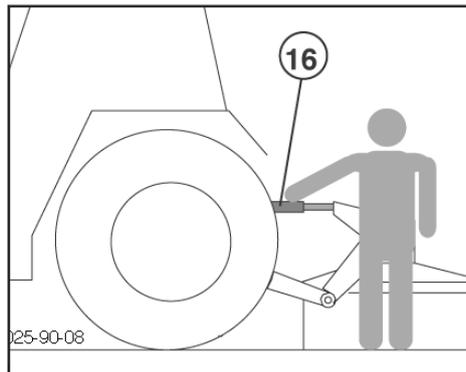
2. Lower the cutter bars - "deep" position
3. Set relief pressure to 0.

NOTE

Property damage through colliding components!

- Make sure that the mower units do not collide with the tractor when folding into the "up" position. Otherwise, cutter bars angled in the direction of motion may collide with the tractor cab during operation.

4. Extend upper link of the tractor (16) until cutter bars are horizontal.



5. Hold the "Save" button down for 3 seconds to save the "Deep" position.
6. Set the relief pressure so that there is approx. 70 kg on each side.
7. Lift the cutter bars to the "up" position.
8. Hold the "Save" button down for 3 seconds to save the "Up" position.

TIP

The "Save" button is only active after the mower units have been moved 45° out of the working position. Before that, the key is greyed out and cannot be selected.

Function keys:

-  ... Edit menu entry
-  ... scroll down
-  ... scroll up
-  ... go to higher menu (here: Start menu)
-  ...into the calibration menu of the angle sensors for the mower units
-  ... Save the voltage values for the "high" and "low" positions. As long as the difference between the two positions is too small, the button may not be selected (the button will gray out) The key becomes selectable after the mower units have been moved about 45°.
-  ...scroll to other function keys

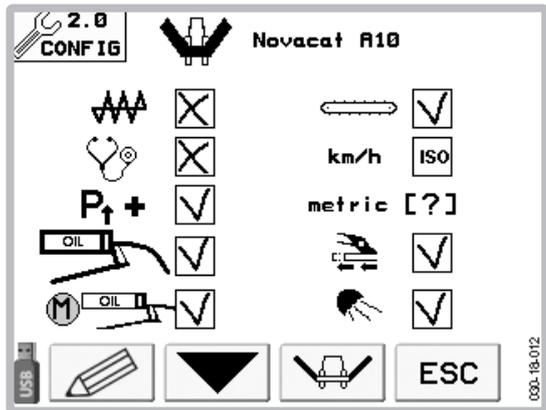
P_r - ... Decrease relief pressure of rear mower units

TIP
Momentary pressure differences could arise between left and right rear mower units. But these are automatically balanced out after the filling process.

P_r + ... Increase relief pressure of rear mower units

TIP
Momentary pressure differences could arise between left and right rear mower units. But these are automatically balanced out after the filling process.

Changing a value



1. Press function key [] to change a value.
2. Press function key [] until the cursor reaches the value to be changed.
3. Change the value using key [] and [] until the required value is reached.
4. Press function key [] to save the value and to select the next value.
5. Press **ESC** to exit the change screen.

Function keys

- ... save the current value and change to the next variable
- ... change the current variable value down
- ... change the current variable value up
- ESC** ... change to higher menu
(here: Set Menu)

System Menu

M7

Briefly press key to open System menu.

Press the key once again to return to the previous menu.

TIP

A display brightness of less than 60% automatically switches on the Power Control Terminal keyboard lighting.



Function keys:

- ... only for service personnel
- ... Adjust screen brighter
- ... Adjust screen darker
- ... only for service personnel

Diagnosis function

With faults, the corresponding alarm message is displayed and an acoustic warning signal is audible.

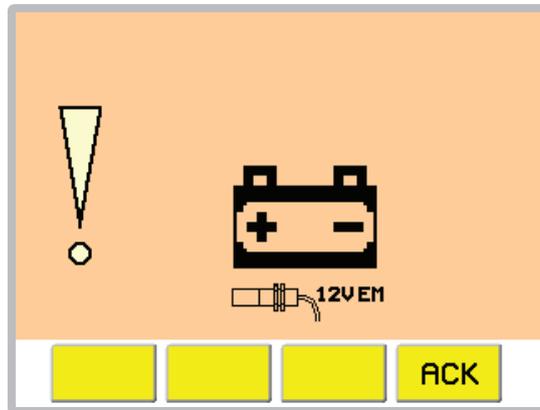
Function keys:

- ...the particular alarm is suppressed until the next system start.
The alarms for the power supply cannot be switched off!
- ACK** ... Confirm the fault. If the fault repeats itself, another alarm will be set off.

TIP

- Confirm a fault with key [ACK] **ACK**
- The diagnostic function for each individual sensor can be switched off until the next system start by pressing the F1 [Switch off] function key! 
- The alarms for the power supply cannot be switched off!
- When a fault occurs, every required function can be manually activated by using the emergency operation (see chapter "Electro-hydraulics")

Sensor power fault (Example: Sensor power supply < 12V)

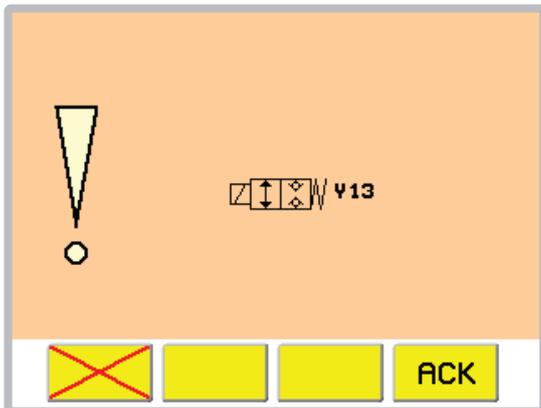


Causes:

- Insufficient power at the job calculator
- faulty job calculator

Alarm reports:

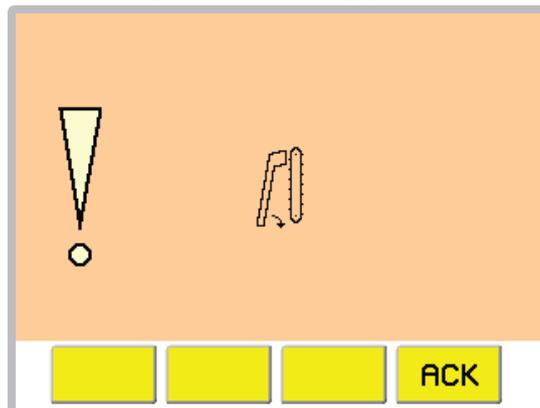
Switching output fault (Example: Y13)



Causes:

- Short circuit
- Insufficient power
- Valve not plugged in

Cross conveyor not in working position!



Therefore impossible to fold mower together.

Remedy:

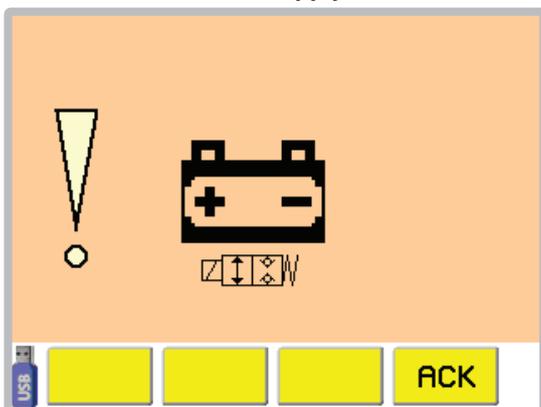
Bring cross conveyor into working position and then fold mower together.

If the message is still displayed:

Causes:

- Sensor (B20, B21) faulty
- Faulty line
- Hydraulics leaking

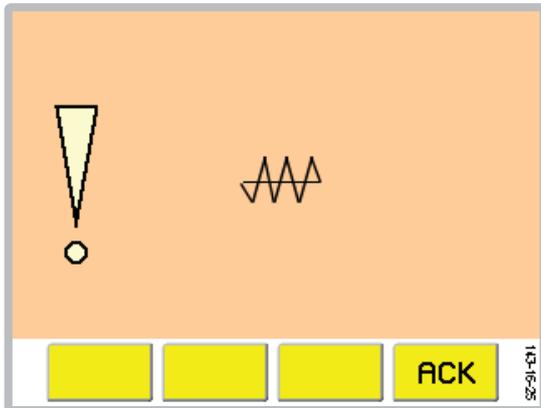
Malfunction with valve supply



Causes:

- missing or defective 40 A fuse

Cross-flow is not in the working position!



Therefore impossible to fold mower together.

Remedy:

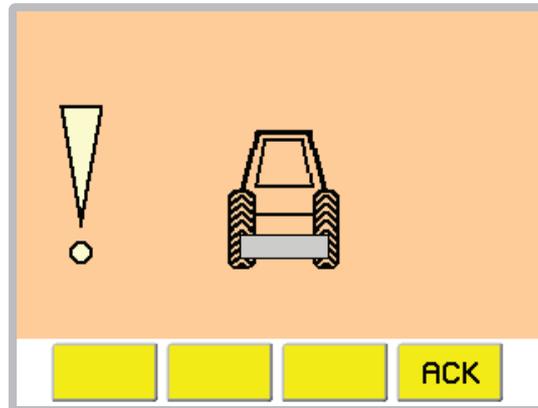
Move cross-flow to the working position and then fold the mower.

If the message is still displayed:

Causes:

- Sensor (B24, B25) faulty
- Faulty line
- Hydraulics leaking

Front mower sensor fault:



The front mower's sensor does not give any feedback to the job computer within 6 seconds after the [Lift Front Mower] or [Lift All Mowers] button has been pressed.

Causes:

- Faulty sensor
- Faulty line

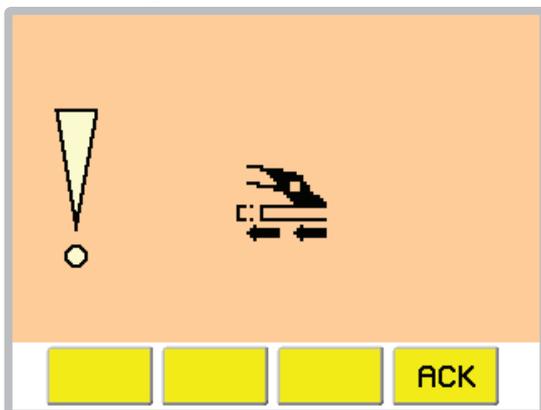
Checking the sensor setting:

When the front mower is in transport position, the sensor (B7) must be covered.

Immediate measures:

- Check in the menu **M2** if the front mower has been activated
- Check the sensor lines.

Side shift angle sensor fault:



It cannot be automatically ensured that the unit does not exceed the maximum transport height of 4m.

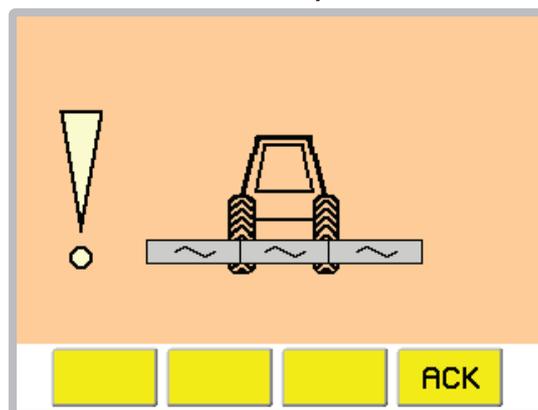
Remedy:

Minimize side shift using emergency activation on the hydraulic block.

Causes:

- Angle sensor (B11, B12) faulty
- Faulty power line to angle sensor

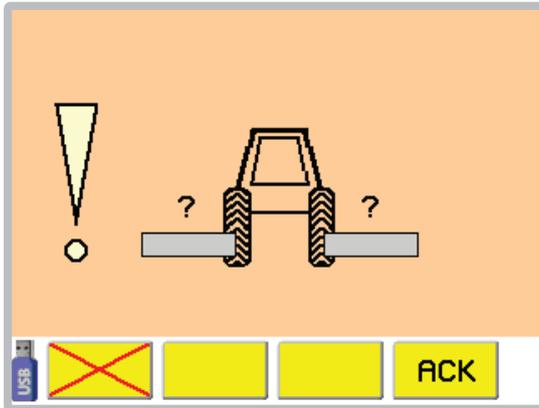
Mower units not in neutral position



There are two possible causes for this warning:

1. The mower units are not in the neutral position and therefore filling the hydraulic relief is impossible.
2. The cardan shaft is still turning and mower is in working position but not in the neutral position, and the tractor speed is greater than 0 kph.

Undefined position of the rear mower units



No response from the angle sensors for the rear mower units (B3, B5) .

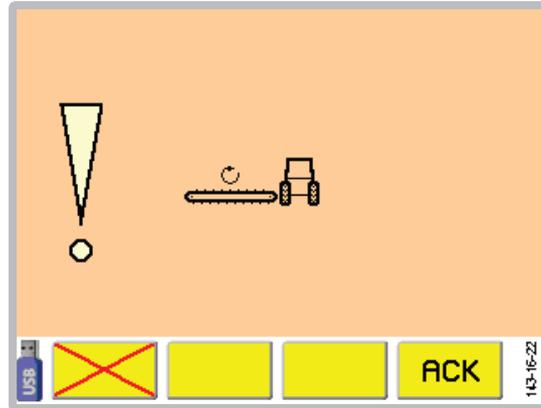
Causes:

- Faulty sensor
- Faulty line

Immediate measures:

- Check the voltage values of the angle sensors for the rear mower units in the menu **M4** Sensor test.
- Check the sensor lines.

The cross conveyor is stationary



At least one of the cross conveyors is stationary, although the drive shaft is turning.

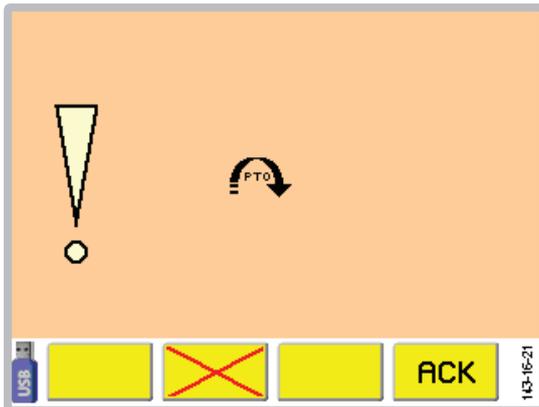
Causes:

- Deactivated belt
- Faulty speed sensor
- Faulty line

Immediate measures:

- Activate the belt
- Check the speed sensor.
- Check the sensor lines.

Swivelling to transport position is not possible



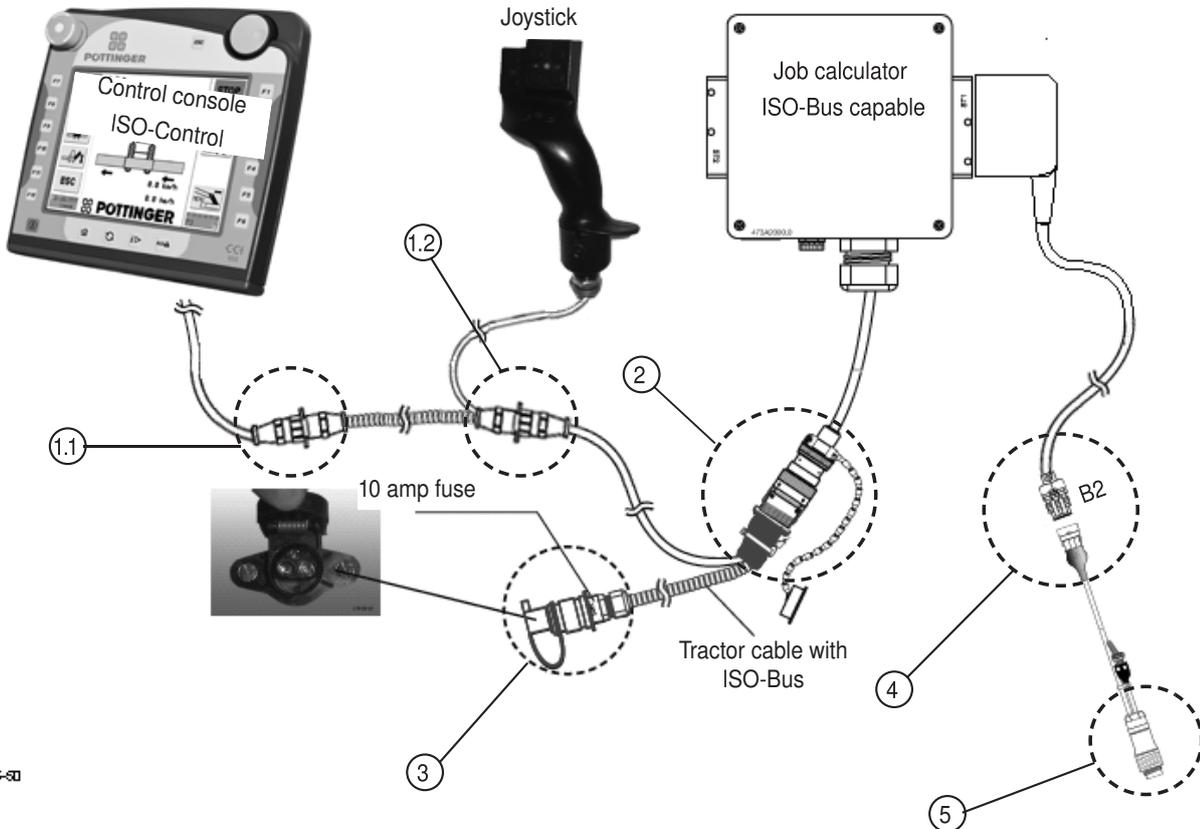
It is required to switch to transport position, but the drive shaft is still running.

Immediate measures:

- Turn off the cardan shaft.

Variant

Operation with ISO Control Terminal



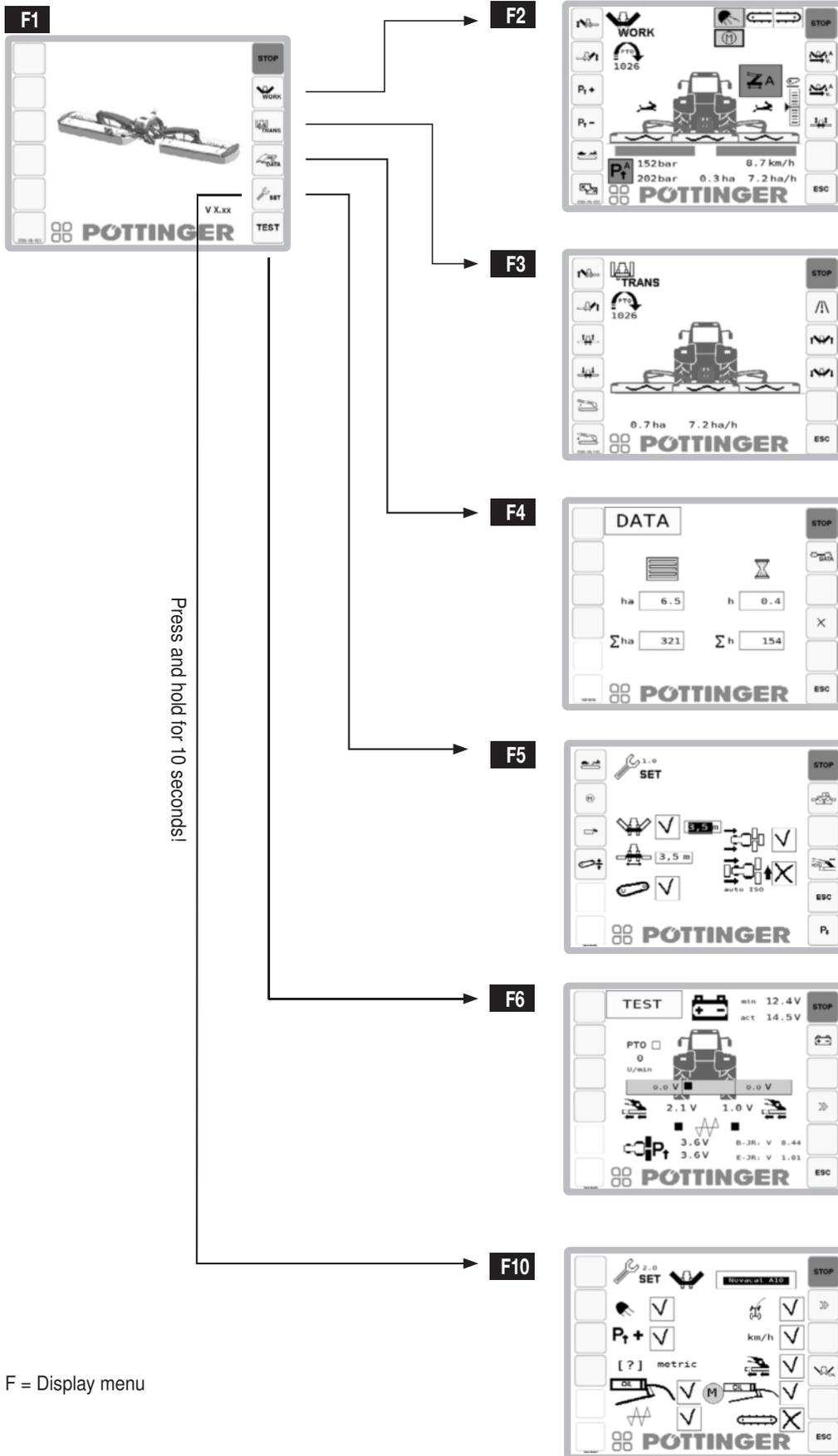
43-16-50

1. Position the Power Control Terminal in tractor cabin where it can be clearly seen. (There is a holder on the back to secure the terminal)
2. Connect the terminal to the tractor cable using the plug (1.1).
3. Optional: Connect the joystick between the plugs (1.1) and (1.2).
4. Lead the job computer cable from the attached machine (2) into the tractor cab and connect it with the tractor cable via the ISOBUS plug (1.2). (Make sure that the cables are properly arranged!)
For the integrated terminal: Connect the ISOBUS plug (2) directly with the tractor's ISOBUS socket.
5. Connect the tractor cable plug (3) with the tractor's 12 V power supply.
6. If hectare counting is required, connect the cable (Pöttinger number 487.575) to the cable harness of the job computer via plug (4) at position B2
7. Connect the cable with the plug (5) to the tractor signal socket (according to DIN 9684.1 / ISO 11786).

To activate terminal, press key "I/O" .

To deactivate terminal, press key "I/O"  for three seconds.

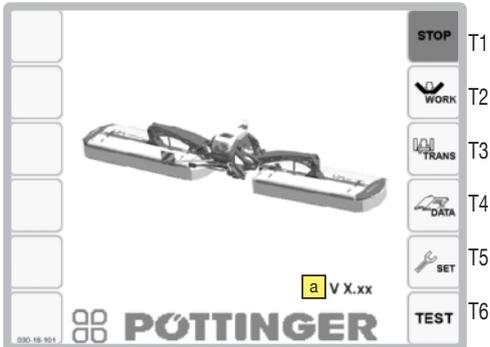
Operation structure - mower with ISObus solution



F = Display menu

Start menu

F1



Display:

- a...Machine
- b...Software version

Keys:

- T1 STOP
- T2 Work menu
- T3 Transport menu
- T4 Data menu
- T5 Set menu
- T6 Test menu

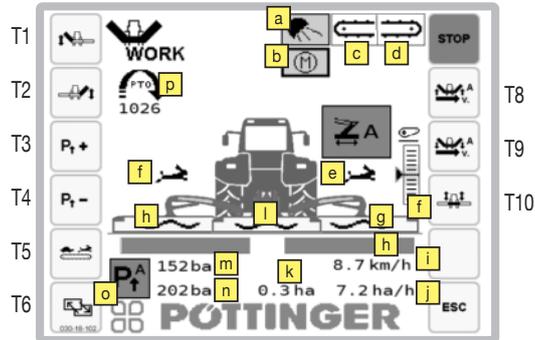
STOP-key function To stop all operations currently running.	
ESC key function To return to previous menu.	

TIP

The functions of the [STOP] and [ESC] keys are identical on all masks. Therefore they will no longer be shown.

Work menu

F2



Display:

- a...Work lights on/off
Only if the work light has been configured in the configuration menu.
The work light will be automatically turned off when folding into the transport position.
 - b...Automatic grease lubrication (optional)
green...grease lubrication running
grey...grease lubrication off
 - c / d...Cross conveyor (optional) information:
As long as a cross conveyor belt is crossed out, it has not reached the working position and the cross conveyor belt is not switched on. Press the key "Cross conveyor speed" to activate the cross conveyor.
 - c / d...Note: Crossflow (optional):
If one arm of the crossflow is crossed out, the tailgate is open and the swath is placed wide on this side. Close or open the crossflow using the "Wide Placement" buttons in the work menu.
 - e...Cross conveyor speed (left or right)
fast-(hare) / slow-(tortoise) / automatic - (A)
 - f...Lower link height display - is displayed when the side shift is fully retracted.
The green area shows the correct lower link height. Above and below this, the cardan shaft collides with the rear mowers.
 - g...Operating status of the rear mower units:
Operation, field transport (Fig. 2), road transport
 - h...Side shift in Automatic Mode
Green bar = maximum width
White bar = minimum width
 - h...Side shift, manual
- both arrows point outward = max. width
both arrows point inward = min. width
both arrows point in the same direction = slope travel
- i...Tractor speed: (only if selected in the configuration menu)

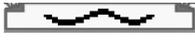


i...Float position display

j ...ha per hr: only when the tractor speed is selected in the configuration menu.

k ...Total hectare counter

l ...Front mower status: Working or field transport position. If this symbol is not displayed, there is either no front mower or it cannot be operated by this control.

 ...Float position display

m ...Left rear mower unit relief pressure

n ...Right rear mower unit relief pressure

o ...Automatic relief pressure adaption

The automatic relief adjustment keeps the relief pressure constant.

	This icon is shaded grey. Automatic relief adaption is switched off. Use the ICON to switch the function on and off.
	The icon is shaded green. Automatic relief adaption is switched on but not active. Use the ICON to switch the function on and off.
	The icon is shaded green and the letter "A" appears. The automatic relief adaption is switched on and active. Use the ICON to switch the function on and off. Conditions: - Cardan shaft is active - Rear mower units in work position

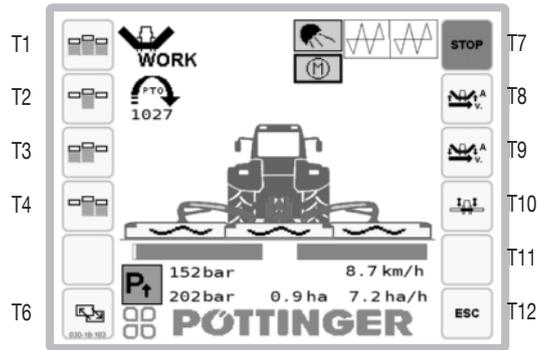
p ...Current cardan shaft speed

Keys:

- T1 Raise / Lower left mower unit
- T2 Raise / Lower right mower unit
- T3 Increase relief pressure*
- T4 Decrease relief pressure*
- T5 Change cross conveyor speed
- T6 Change to mask F3 - transport menu
- T8 Automatic function "Raise mower units". The delay time between the front and the rear mower can be adjusted in the Set menu. (see the Set menu)
- T9 Automatic function "Lower mower units". The delay time between the front and the rear mower can be adjusted in the Set menu. (see the Set menu)
- T10 Raise/Lower the front mower

*Momentary pressure differences could arise between left and right rear mower units. These are automatically equalized after the filling process.

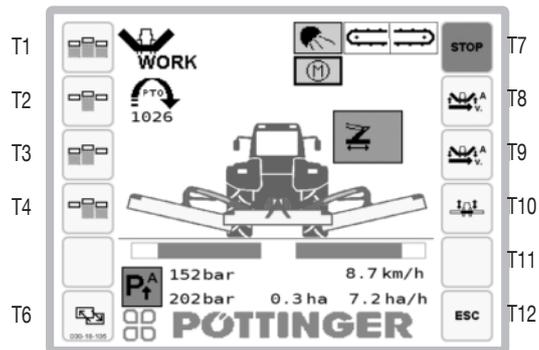
F2.1 Wide spread crossflow:



Keys:

- T1 Wide spreading - All Crossflow tailgates open
- T2 Swath combination - All crossflow tailgates closed.
- T3 Widespread left - Crossflow tailgate leftopen
- T4 Widespread right - Crossflow tailgate rightopen

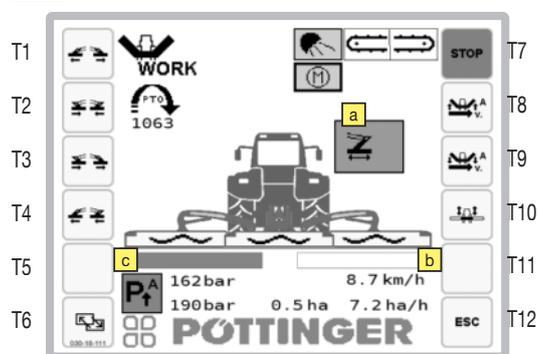
F2.2 Wide spreading cross conveyor belt:



Keys:

- T1 Wide spreading - All cross conveyor belts are raised.
- T2 Swath combination - All cross conveyor belts are lowered.
- T3 Wide spreading left - Cross conveyor belt left raised
- T4 Wide spreading right - Cross conveyor belt right raised

F2.3



Display:

a ...Automatic curve-cut optimisation status

	When the icon is shaded grey, automatic curve-cut optimization is switched off Use the icon to switch the function on and off.
	When the icon is shaded green, automatic curve-cut optimization is switched on but not yet active. Use the ICON to switch the function on and off.
	When the icon is shaded green and the "A" is visible in the right field, automatic curve-cut optimization is switched on and ready for use. Use the icon to switch the function on and off. Conditions for operational readiness: <ul style="list-style-type: none"> • Curve-cut optimization active in the configuration menu • Curve-cut optimization activated in the work menu • Mower units are in working position (for at least as long as configured in the Set-Menu) • Cardan shaft is activated • Speed > 1 km/h

b...Position of the right cutter bar

c...Position of the left cutter bar

The green area of the cutter bar indicates the current position of the cutter bar.

If the steering angle is so great that automatic curve optimization can no longer compensate for the gap, that part of the bar is displayed in red and an acoustic signal sounds.

Keys:

- T1 Increase working width
- T2 Decrease working width
- T3 Side shift to the left
- T4 Side shift to the right

T8 Road transport preselection

Press key T7 for 3 secs. -> the side guard hydraulic hoses are depressurized (e.g. before uncoupling)

T9 Raise the mower units to the road transport position

T10 Lower the mower units to the working position

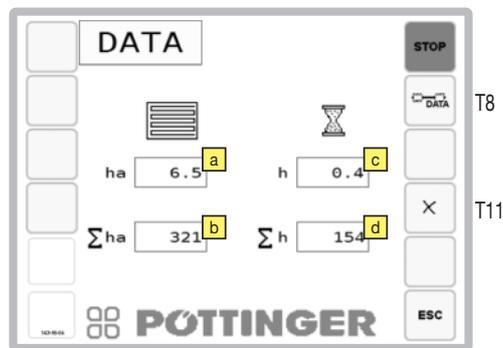
TIP

To go to the road transport position,

- the cardan shaft must be stationary.

Data menu

F4



Display:

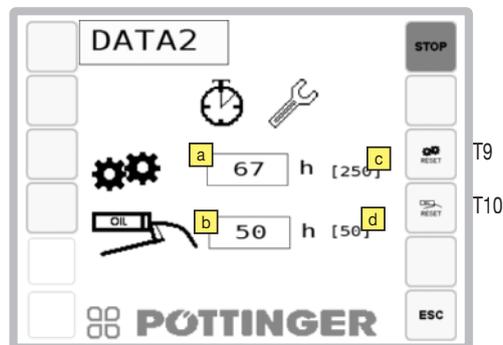
- a**... partial ha counter
- b**... total ha counter
- c**... Partial hours counter
- d**... Total hours counter

Keys:

- T8 Change to Data-Menu 2
- T11 Reset partial (ha, hr) counter

Data Menu 2 - Service counter for lubrication

F4.1

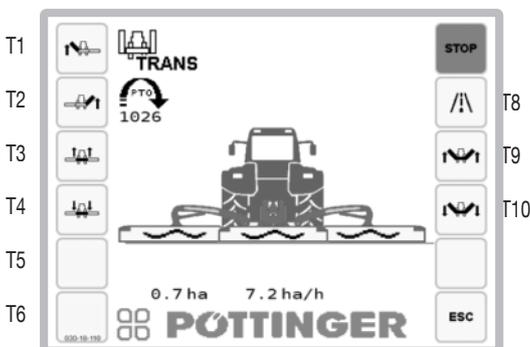


Display:

- a**...Oil change interval (Start interval: 75h, afterwards 250h)
- b**...Counter until the next oil change
- c**...Grease lubrication interval (Start interval: 25h, afterwards 50h)
- d**...Counter until the next grease lubrication

Transport menu

F3



Keys:

- T1 Raise left mower unit
- T2 Raise right mower unit
- T3 Raise front mower
- T4 Lower front mower

Keys:

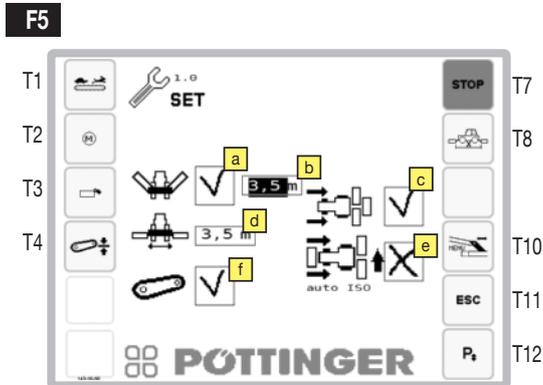
- T9 Reset the grease lubrication interval counter to the initial value (=interval)
- T10 Reset the oil change interval counter to the initial value (=interval)

If a counter has expired, then the relevant service message appears the next time the device is turned on. (see Service message)

Carry out the lubrication process and reset the respective counter.

For carrying out the lubrication process or the oil change process, please see chapter "Maintenance".

SET menu



Display:

- a...Activate/deactivate front mower
- b...Working width - front mower
- c...Activate/deactivate reverse drive
- d...Headstock width - rear mower
- e...Automatic raising of mower units when reversing.
- f...Activate/Deactivate lift height display in work menu

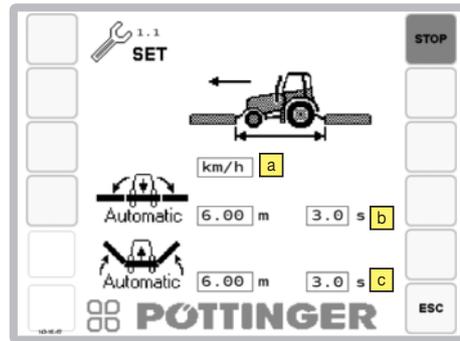
Keys:

- T1 Change cross conveyor speed
- T2 Switch to mask 5.5 -"Manual lubrication pump operation"
Remember to switch off the lubrication pump again.
- T3 Side guard flaps
- T4 Calibrating the lift height display
- T8 Switch to mask F5.1 - "Time-Distance-dependent lowering/raising"
- T10 Change to mask F5.3 - "Calibrate the side shift"
- T12 Switch to mask 5.4 - "Adjust the system pressure"

Select and change these values using the external keys (e. g.: up, down, +, -) on the terminal or use the touch screen function of your terminal. For further information on this topic, please refer

to the operating instructions of your terminal.

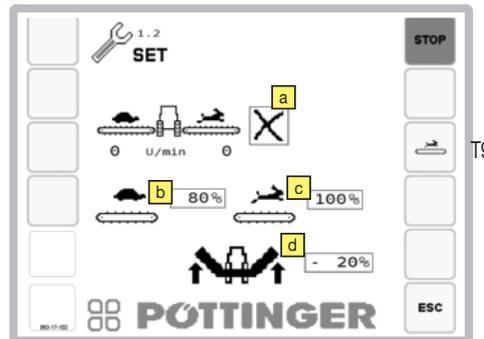
F5.1



Display:

- a Set time- or Distance-dependent lowering/raising
Kph = Distance or speed dependent
sec = Time-dependent
 - b Set the lowering values
 - c Set the raising values
- Display (meter (m) or seconds (secs.))

F5.2



Display:

a...Cross conveyor settings:

- x...Cross conveyor removed. The position sensors will continue to be queried. There is no speed enquiry.
...Same speed for both cross conveyors with the option of changing between two speed settings.
- D... Differing speeds between the left and right cross conveyor (for mowing in contour lines)
- A ... Automatic cross conveyor speed adaptation to the side shift.
Side shift outside: Cross conveyor fast (hare)
Side shift inside: Cross conveyor slow (tortoise)

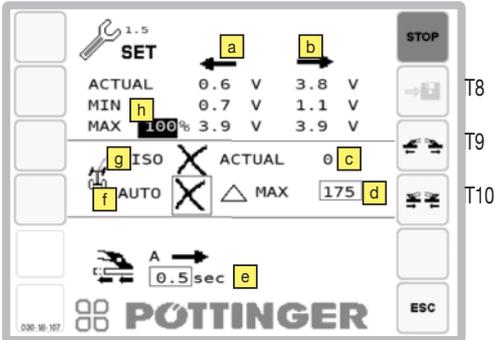
- b... Set speed setting "tortoise"
Setting: in 5% stages, setting range: 5 – 100%
- c... Set speed setting "hare"
Setting: in 5% stages, setting range: 5 – 100%
- d.... Setting the speed reduction of the cross conveyor belt (in percent) for raising the mower units while the cross conveyor belt is running.

If the cross conveyor belt is running while the mower units are being raised, there may be insufficient oil circulating in the hydraulic circuit of some tractors. Then the mower units can only be raised very slowly. This can be prevented by reducing the speed of the cross conveyor belt.

Keys:

T9...Manual activation of cross conveyor as long as key is pressed.

F5.3



Display:

- a**... Voltage value for left angle sensor (B11)
ACTUAL = real
MIN = minimum
MAX = maximum
- b**... Voltage value for right angle sensor (B12)
ACTUAL = real
MIN = minimum
MAX = maximum
- c**...Current steering lock angle of the tractor (value when driving straight ahead: 32128) For sensor control: The value changes when you make a turn.
- d**...The steering angle difference from where the automatic curve optimisation can no longer compensate for the gap formation during cornering.
- e**...Delay time, after which the curve optimization starts. The delay starts after lowering the rear mower unit.
- f** Activation for the steering angle signal of the tractor
... Steering angle signal active
x... Steering angle signal inactive
- g**... Display for the ISOBUS steering angle signal of the tractor
... Signal available
x... no signal
- h** Maximum width setting:
A value of between 50-100% of the width between the angle sensors B11 and B12 is set here.

Key:

- T8 Save
- T9 Start the inner position
- T10 Start the outer position

Calibration of the angular sensors for the side shift:

! DANGER

Life-threatening danger through objects being ejected

- Fold the side guards down before reactivating the mower
- Fold the side guards up only when the cardan shaft is stationary.
- Fold side guards up only during maintenance or service work. Fold the side guards down afterwards.

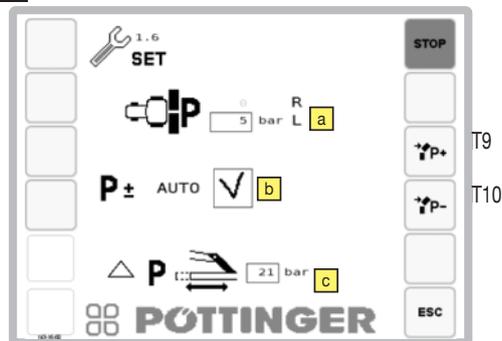
It is necessary to calibrate the angle sensors after a sensor exchange. The function serves to memorize the voltage values at the end positions.

- Minimum and maximum working widths are started through keystroke (function is only active as long as key [↔] or [↔] is pressed).
The mower units must be in the field transport position for this.
- Calibration procedure
 - Press key [↔] until both mower units are at the inside stop.
 - Press key [↔] until both mower units are at the outside stop.
 - Press and hold key [→].
Saving is confirmed by an audible signal.

8 TIP

Saving is possible only at a difference of >1V. Before that the key is greyed out.

F5.4



Display:

- a** Setting the relief pressure difference between the left and the right mower unit. Set the deviation of the left mower unit from the right mower unit here. A negative value means that the right mower unit relief pressure is greater than the left mower unit relief pressure. For a positive value it is the opposite.

b Automatic relief pressure adjustment

TIP

If the automatic relief pressure adjustment is activated (green display in work menu), then the following pressure limits are monitored:

- If the pressure falls below 5 bar or more, then it is increased.
- If the pressure exceeds 1 bar or more, then it is decreased.

c Relief pressure adaption when the side shift changes position (adjustment interval: both mower units inside: 15 bar - both mower units outside: 50 bar).

Keys:

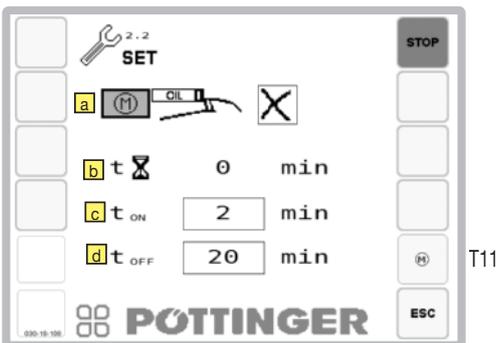
- T9 Increase the system pressure of the anti-collision device
- T10 Decrease the anti-collision device system pressure

Set relief pressure for hydraulics

Adapt relief pressure to ground conditions.

1. Ensure that both mower units are in the neutral position. Otherwise the relief pressure cannot be adjusted.
2. Raise an outside rear unit. If this is even possible, this equates to a relief pressure of approx. 70kg.
3. Press the function keys **P₁-** or **P₁+** to adapt the relief pressure to the ground conditions.

F5.5



Display:

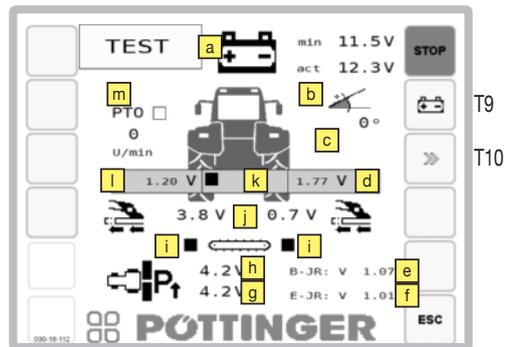
- a**...Automatic grease lubrication active
- b**...Time counter per lubrication cycle
- c**...Lubrication pump run time per lubrication cycle
- d**...Lubrication pump dwell time per lubrication cycle

Keys:

- T11 Change to mask 5.x -"Manual lubrication pump operation"

Test menu

F6



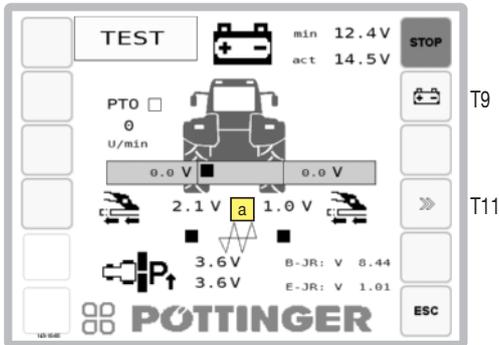
Display:

- a** Voltage indicator
The top voltage indicator (min) shows the lowest measured supply voltage value since the operation started. This value is stored until the next new start. The lower voltage display (act) shows the current measured supply voltage value.
- b**...CAN-angle sensor
Display of the machine inclination in comparison to the horizontal.
- c** B2 (Speed)
Speed sensor active. To check the signal, compare the kph displayed in the Work menu with the tractor's tachometer display.
- d** B5 Voltage indicator for the right rear mower unit angle sensor
- e** Job calculator software version
- f** Extension module software version
- g** B6 Left pressure transducer voltage indicator
Shows the current value of the left pressure transducer. So the function can be checked using the data sheet.
- h** B4 Right pressure transducer voltage indicator
Shows the current value of the right pressure transducer. So the function can be checked using the data sheet.
- i** B20/B21 Position of cross conveyor belts (left and right) working position / not in working position
- j** B11/B12 Current voltage of the side shift angle sensors (left and right)
- k** B7 Display front mower active / inactive
A black square indicates an active sensor. When activating and deactivating the sensors, the square must alternate between black and white.
- l** B3 Voltage indicator for the left rear mower unit angle sensor
- m** B10 PTO (cardan shaft)
The field shows the function of the sensor when the cardan shaft is rotating; this field is highlighted in black if the cardan shaft is rotating faster than 10 rpm.

Keys:

- T9 Change cross conveyor speed
- T10 Reset the minimum voltage display (to the current value)

F6.1



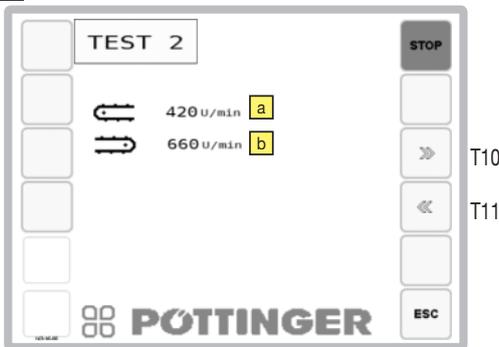
Display:

- a**...B20/B21 Cross-flow (left and right) tailgate open ■ / closed

Keys:

- T9 Reset the minimum voltage display (to the current value)
- T11 Next page

F6.2



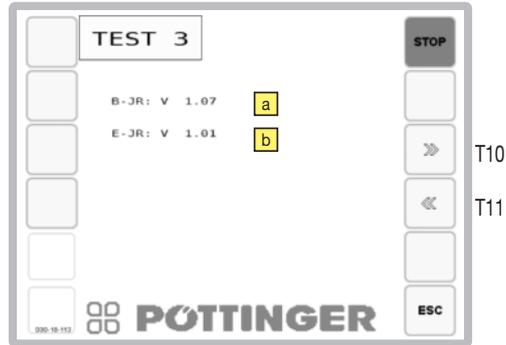
Display:

- a**...B22 - Current left cross conveyor speed
- b**...B23 - Current right cross conveyor speed

Key:

- T9 Next page
- T11 Previous page

F6.3



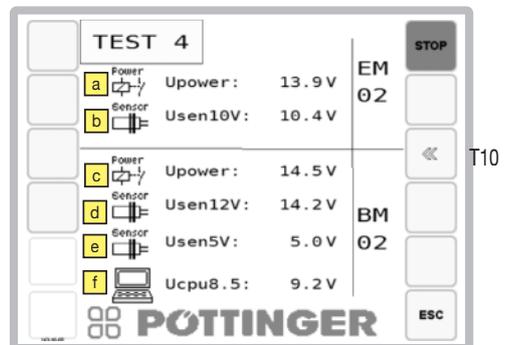
Display:

- a**.....B-JR
current software version of the basic module
- b**...E-JR
current software version of the expansion module

Key:

- T9 Next page
- T11 Previous page

F6.4



Display:

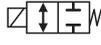
- Extension module:
 - a**...Supply voltage
 - b**...Sensor supply voltage set value 10V
- Basic module:
 - c**...Supply voltage
 - d**...Sensor supply voltage set value 12V
 - e**...Sensor supply voltage set value 5V
 - f**...Supply voltage set point 8.5V

Key:

- T10 Previous page

Diagnosing function

Monitoring the job calculator for

Operating voltage	
Voltage supply sensor	
Short circuit to earth or 12 V Broken cable Overload	

With fault recognition

- The alarm mask is superimposed and an alarm tone sounds
- The relevant symbol and the fault is displayed

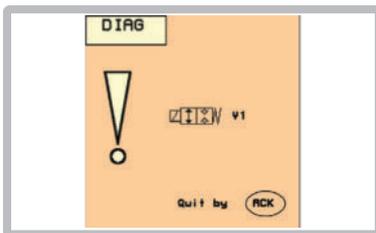
Confirm a fault with the "ACK" key.

The diagnosing function can be switched off for each individual channel until the next system start by using the key "T9".

Switching outputs

(Example: Y1 = Directional control valve)

Diag



T9

Causes:

- Short circuit
- Insufficient power
- Valve not plugged in

TIP

In the event of a malfunction, any desired function can be switched manually with the aid of emergency operation (see chapter "Electrohydraulics").

Supply valve outputs fault

Diag



T9

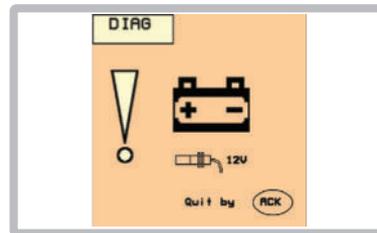
Causes:

- missing or faulty 40 A fuse

Sensor Inputs

(Example: Sensor voltage supply < 10V)

Diag



Causes:

- Insufficient power at the job calculator
- Faulty job calculator

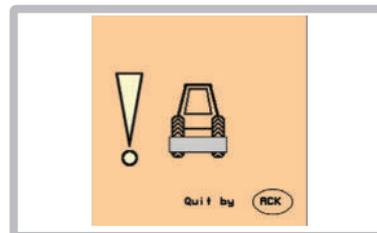
TIP

The voltage supply alarms cannot be switched off!

Time out - Monitoring

If the front mower sensor is not reached within 6 seconds after pressing the "Raise front mower or all mowers" key.

Diag



Causes:

- Faulty sensor
- Faulty line

TIP

When this message appears, the front mower sensor B7 is inactive.

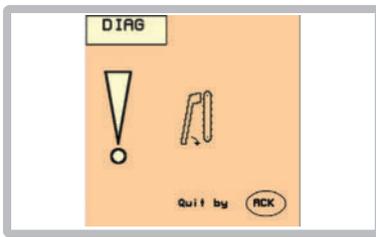
Immediate measures:

- Check if the front mower has been activated in the SET menu!
- Check sensor lines!

Warning: Cross conveyor not in working position!

Therefore impossible to fold mower together.

Diag



Remedy:

Bring cross conveyor into working position and then fold mower together.

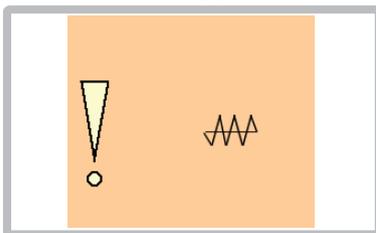
If the message is still displayed:

Causes:

- Sensor (B20, B21) faulty
- Faulty line
- Hydraulics are leaking

Cross-flow is not in working position!

Diag



Therefore impossible to fold mower together.

Remedy:

Move cross-flow to the working position and then fold the mower.

If the message is still displayed:

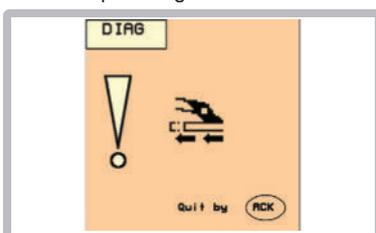
Causes:

- Sensor (B20, B21) faulty
- Faulty line
- Hydraulics leaking

Angle sensor malfunction:

There is no automatic guarantee that the machine will not exceed the max. transport height of 4m.

Diag



Remedy:

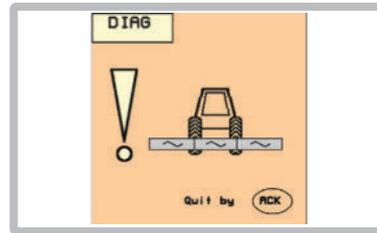
Minimize side shift using emergency operation on the hydraulic block.

Causes:

- Angle sensor (B11, B12) faulty
- Faulty supply line to angle sensor

Warning: Mower units not in neutral position

Diag

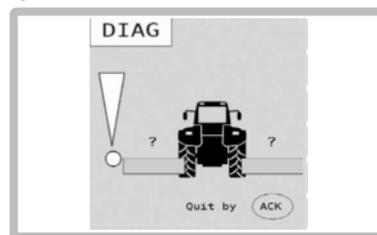


There are two possible causes for this warning:

1. The mower units are not in the neutral position and therefore filling the hydraulic relief is impossible.
2. The cardan shaft is still turning and mower is in working position but not in the neutral position, and the tractor speed is greater than 0 kph.

Undefined position of the rear mower units

Diag



No response from the angle sensors for the rear mower units (B3, B5).

Causes:

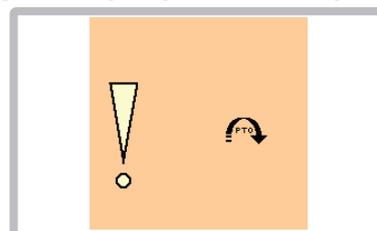
- Faulty sensor
- Faulty line

Immediate measures:

- Check the voltage values of the angle sensors for the rear mower units in the menu **M4** Sensor test.
- Check the sensor lines.

Swivelling to transport position is not possible

Diag



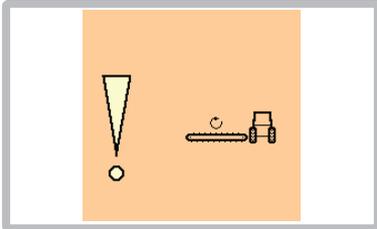
Switching to transport position is required but the cardan shaft is still running.

Immediate measures:

- Turn cardan shaft off.

The cross conveyor is stationary

Diag



At least one of the cross conveyors is stationary, although the cardan shaft is turning.

Causes:

- Deactivated belt
- Faulty speed sensor
- Faulty line

Immediate measures:

- Activate the belt
- Check the speed sensor.
- Check the sensor lines.

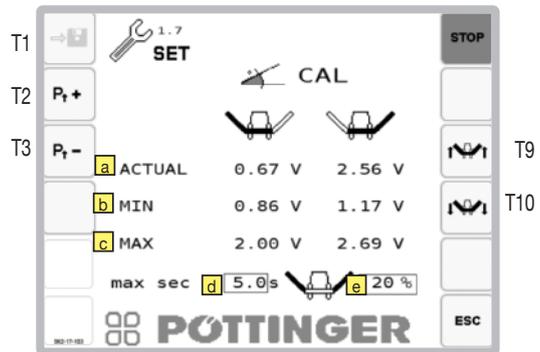
- g**...Optimizing curve overlapping
- h**...Speed signal from tractor available
- i**...Hydraulic side shift
- j**...Electric lubrication pump
- k**...Cross conveyor belts (also activate the swath comb)

Keys:

- T8 Previous page
- T10 Calibrate angle sensors, change to mask 10.1

Calibrate the angle sensors for the cutter bar:

F10.1

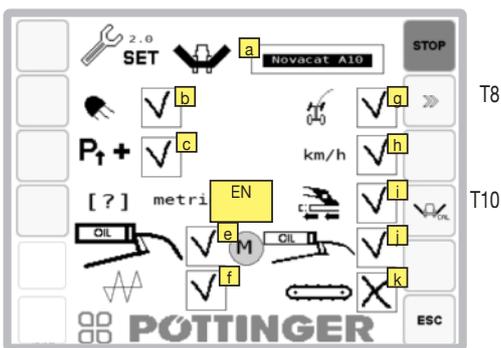


Configuration

Press the function key in the Start menu for 10 seconds to access the Configuration Menu.

(Tick = active / cross = inactive / ISO)

F10



Display:

- a**...Machine type
- b**...Work lights
- c**...Hydraulic relief
- d**...Metric or imperial units of measure
- e**...Display service intervals
- f**...Cross flow unit
 - ...Crossflow with mechanical tailgate, also activates the swath comb
 - H...Crossflow with hydraulic tailgate, also activates the swath comb

Display:

- a**...Displaying the current voltage.
- b**...Minimum angle sensor voltage (Calibration)
- c**...Maximum angle sensor voltage(Calibration)
- d**...Maximum lifting time between work and headland setting. Adjust this time for each tractor change: Measure the time the tractor needs to lift from the working position to the headland and add one second.

TIP

Operate the tractor at 2000 rpm to ensure maximum hydraulic performance.

- e**...Headland height as deviation in % from the working position. The higher the percentage, the higher the headland position.

NOTE

Risk of property damage through the cardan shaft colliding with the input gearbox

- When adjusting the headland height, do not exceed the maximum angle of 40%.

Headland height as deviation of the working position in %. The higher the percentage, the higher the headland position.

Keys:

- T1 Save min. and max. sensor values
- T2 Increase relief pressure*
- T3 Decrease relief pressure*
- T9 Bring all mower units to transport position
- T10 Bring all mower units to working position

*Momentary pressure differences could arise between left and right rear mower units. These are automatically equalized after the filling process.

Calibrating the cutter bar positions "high" and "low":

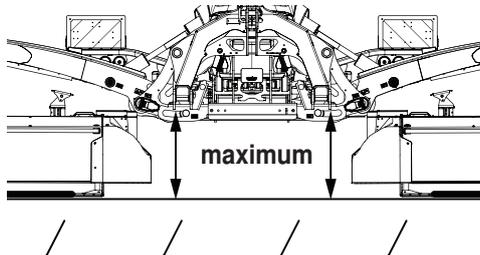
"High" position corresponds to the transport position.
 "Low" position corresponds to the lowest position achievable in the current attachment situation.

NOTE

Risk of property damage through the cardan shaft colliding with the input gearbox

- Before starting angle sensors calibration, make sure the side shift is in the minimum position.

1. Fully raise tractor's lifting gear.



TIP

The [Save] button only becomes active after the mower units have been moved 45° away from the current position. Before this, the key is shaded grey and cannot be selected.

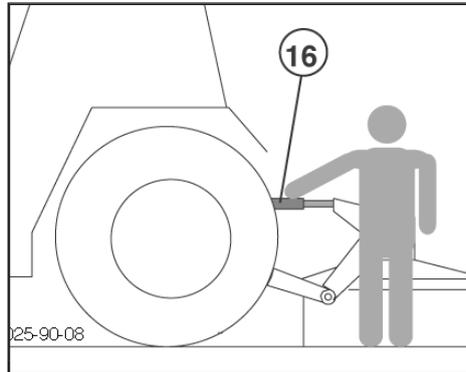
2. Lower the cutter bars (T 10) - "low" position
3. Set relief pressure to 0 (T3)

NOTE

Property damage through colliding components!

- Make sure the mower units do not collide with the tractor when folding into the "high" position. Otherwise, cutter bars angled in the direction of travel may collide with the tractor cab during transport.

4. Extend tractor's upper link (16) until cutter bars are horizontal.



5. Hold down the "Save" key (T1) for 3 seconds to save the "low" position.
6. Set the relief pressure so that there is approx. 70 kg on each side (T2, T3)
7. Raise the cutter bars to "high" position (T9)
8. Hold down the "Save" key (T1) for 3 seconds to save the "high" position.

TIP

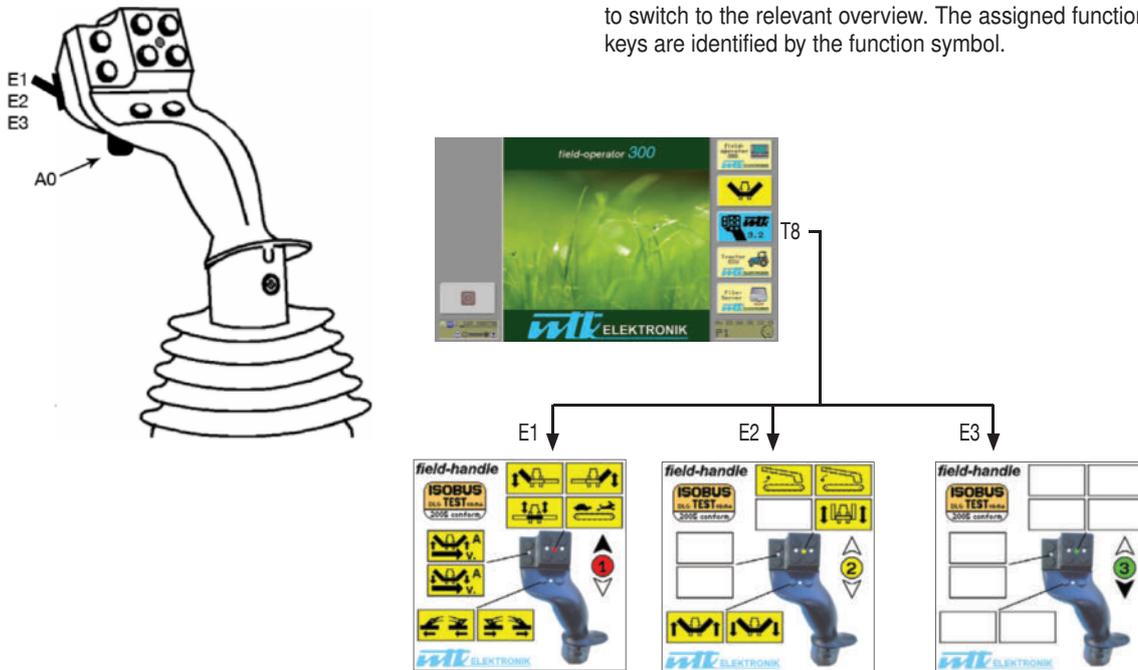
The "Save" button only becomes active after the mower units have been moved 45° out of the "low" position. Before that, the key is shaded grey and cannot be selected.

Joystick - Mower assignment

On the joystick there are 8 equal function keys (1 – 8), a green clearing key (A0) and a level switch (E1/E2/E3). The keys enable 8 different functions to be allocated per level (E1/E2/E3) = max. 24 different functions can be performed with the joystick.

Check joystick function keys assignment

Press T8 in the Start menu. Use the level switch (E1/E2/E3) to switch to the relevant overview. The assigned function keys are identified by the function symbol.



Setting the joystick

Setting the joystick function keys assignment

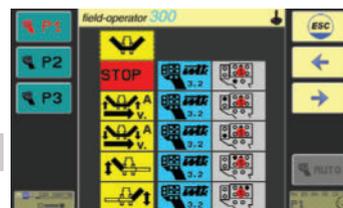
1. Press key [T6] in the Start menu. "Field operator 300" menu appears.
2. Press key [T9] in "Field operator 300" menu to access the "Joystick setting menu".



3. Select the function symbol using the terminal keypad.
4. Select the level on the joystick using the level switch (E1/E2/E3).
5. Press the green clearing key "A0" on the joystick while simultaneously selecting the required function key (1-8).

6. The following symbols appear on the display for checking **STOP**

In this case it means: The "STOP" function has been assigned to function key 7 of level 1 on the joystick.



Important: The number on the joystick symbol (1/2/3) shows the level selected for the function!

- 1 - Level 1 - "Switch up" and LED glows red on joystick
- 2 - Level 2 "Switch middle" and LED glows yellow on joystick
- 3 - Level 3 - "Switch down" and LED glows green on joystick

To assign further function keys, repeat steps 3 to 6.



Working on slopes

! DANGER

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

Tipping hazard on slopes is present

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

Counter-measures:

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

! NOTE

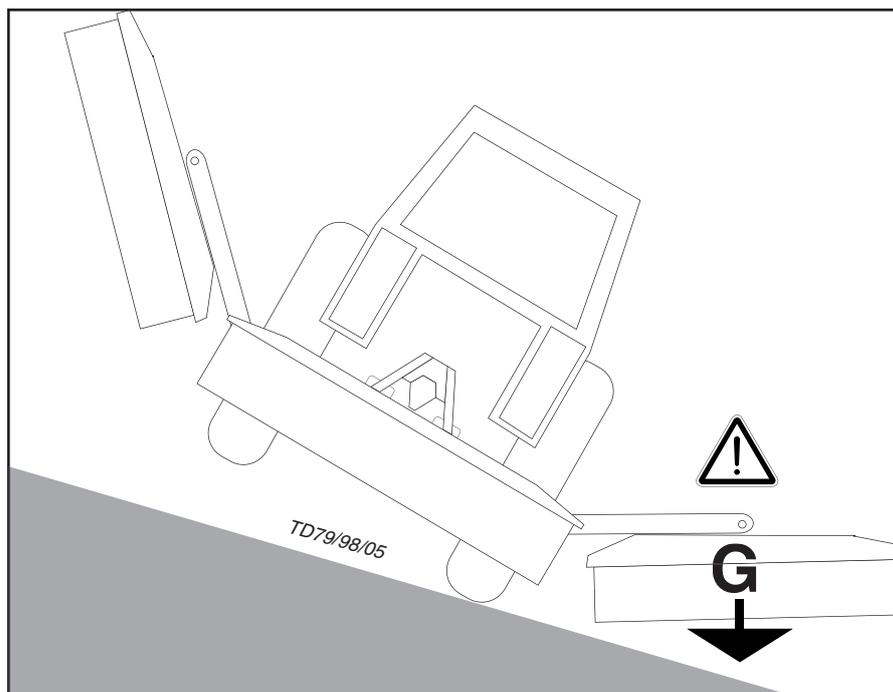
Material hazard - due to unnoticed obstacles

- Raise the mower when driving backwards and reversing!

! DANGER

Life hazard - due to tandem tipping. There is a danger of tipping when swivelling the implement on headland.

- Swivel the cutter units successively using the individual lifting system in "field transport" or "working position".
- When swivelling in "field transport" or "working position": Always swing the uphill side mower first and then the downhill side mower!



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 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, 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!

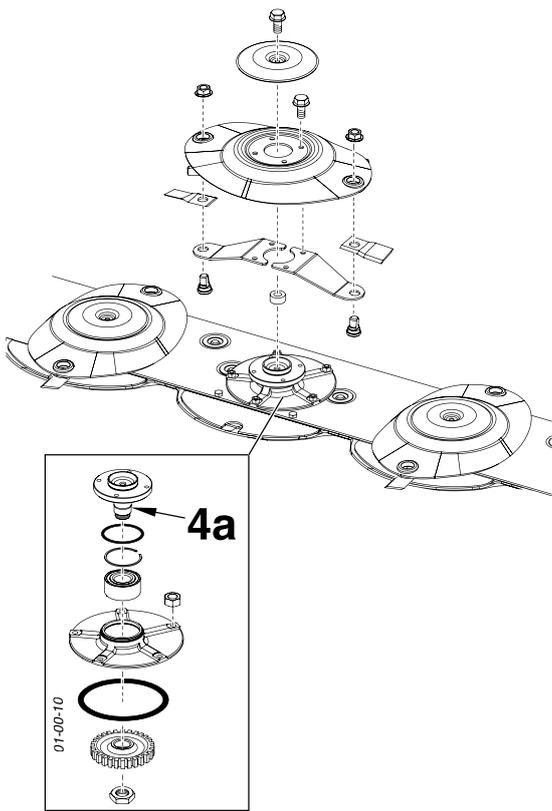
NOTE

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).

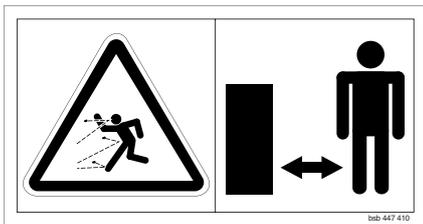


- If necessary have it checked over in a specialist work shop also.

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

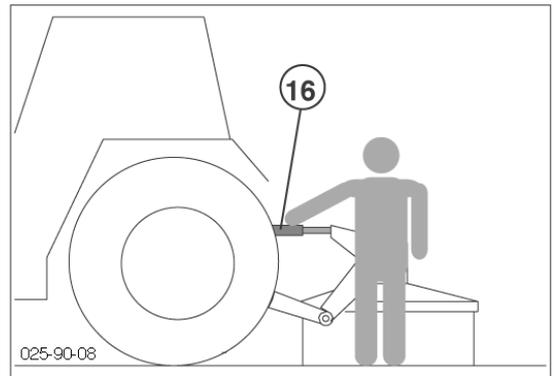
The noise level in the workplace can deviate from the measured value (see Technical Data) partly because of the differing cabin types of various tractors.



- 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. 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.

Reversing

Raise the machine when reversing!

Collision Prevention

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

NOTE

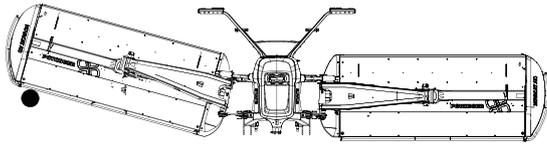
It is not the purpose of the collision prevention system to prevent material damage to the machine when travelling at full speed.

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

If a collision with an obstacle occurs and the tensioning pressure of the collision prevention system is exceeded, the cutter bar swivels back at the deflection angle of approx. 15°.

To continue working, free the cutter unit from the obstacle by reversing until the cutter bar swivels back to working position.

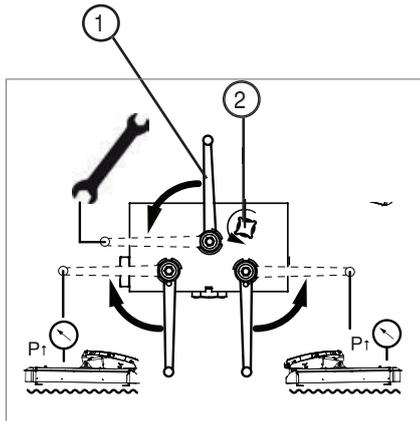
The accumulator pressure then swings the cutter bar automatically back to the starting position.



Set accumulator pressure:

- 100 bar for a 3m frame
- 120 bar for a 3.5m frame

- Select Control



1. Move the switch lever (1) to the maintenance position
2. Open the filling screw (2) until it stops.
3. Set accumulator pressure using the tractor control device
4. Close the filling screw (2) (torque 25 Nm)
5. Move switch lever (1) to start position
6. Check the accumulator pressure on the pressure gauge in the hydraulic area on the attachment frame.

- Power Control



1. Set the collision prevention system pressure using the keys in the Set menu.
2. Check the accumulator pressure on the pressure gauge.

- ISOBUS



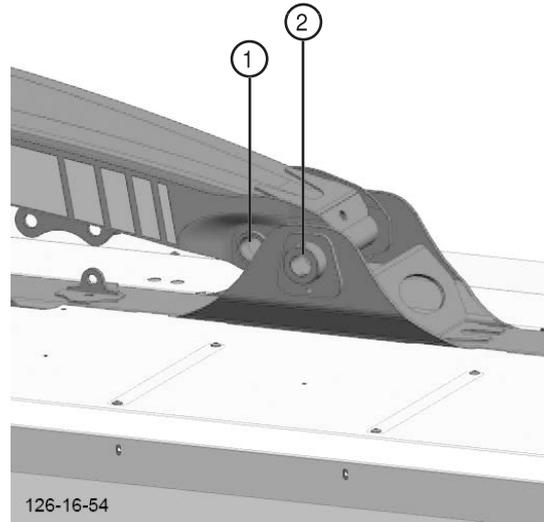
1. Set the collision prevention system pressure using the keys.
2. Check the accumulator pressure on the pressure gauge.

Overlapping with the front mower (with A9)

The front mower overlap can be adapted on the NOVACAT A9 through a modification in a specialist workshop.

For this purpose, it is possible to install the cutter bar rocker in two different positions at the end of both jibs. (See illustration).

In addition, the angle and pendulum cylinder must be remounted underneath the jibs.



In narrow position (1) there is 125 mm more overlap with the front mower per side than in wide position (2), as shown here.

Remove clogging

! DANGER

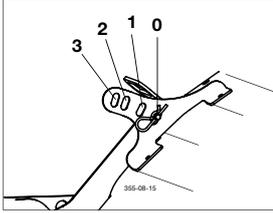
Life-threatening danger exists through ejected pieces when unclogging.

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

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

With tine conditioner:

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

**With roller conditioner:****⚠ DANGER****Risk of injury through tensioned springs.**

- Relieve the roller conditioner tension before unclogging.

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

General:**⚠ DANGER****Risk of injury through careless knife handling**

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

🔧 TIP

If the clogging is too difficult to remove:
Chop the forage that's clogging the bar with a knife.
Then try unclogging again!

Safety advice

! DANGER

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

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

! CAUTION

Risk of injury through ejected parts.

- Maintain a sufficiently safe distance from people when mowing.
- Stop work if you cannot keep a safe distance.

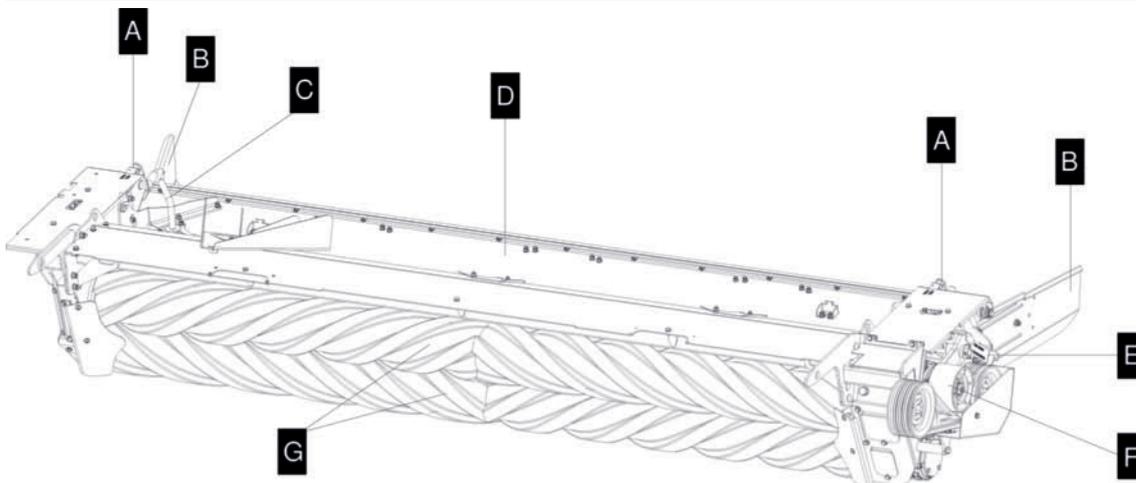
☘ TIP

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

Operation mode

The roller conditioner is suitable for lucerne and clover types. Two power-driven interlocking rollers crush the fodder. This breaks down the plant's natural wax coating and the drying time is accelerated.

Overview



Designations:

- | | |
|--|-------------------------------|
| (A) Adjustment spring for conditioning intensity | (E) Belt tension adjustment |
| (B) Swath board | (F) Belt drive tension pulley |
| (C) Adjustment lever for swath width | (G) Rubber roll |
| (EN) Spread width | |

Possible settings

DANGER

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

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

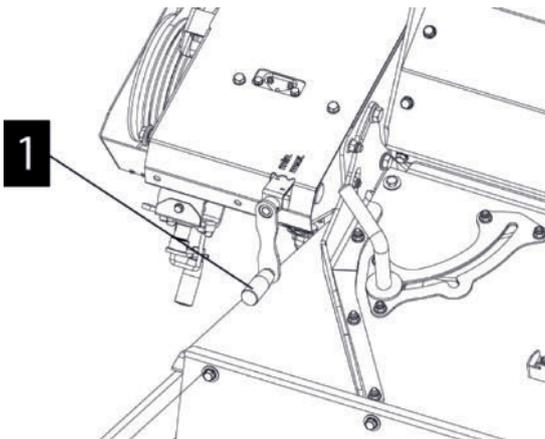
TIP

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

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

1. Conditioning intensity:

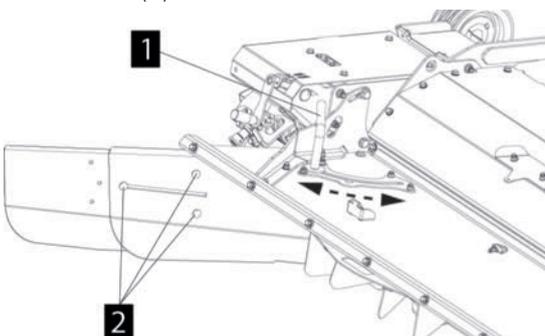
See overview (A):



The upper roller is moveable and is tensioned left and right with a spring. The spring tension intensity is adjusted on both sides of a conditioner using the crank (1).

2. Set swath width:

See overview (C):



The swath boards deposit the cut and conditioned fodder at the set width.

Adjusting the left and right swath boards is carried out identically by unscrewing and adjusting the setting screw (1)

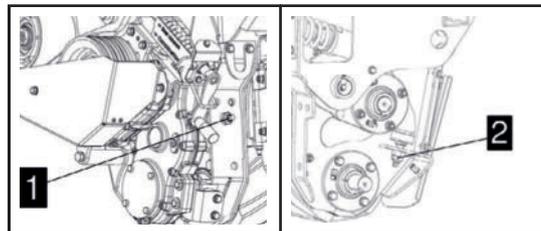
The length of the swath boards can be changed by loosening the screws (2) and then re-tightening them afterwards. Check the tightness of the screws before operation.

3. Gap between rollers.

Underneath overview (A):

The gap between the rollers is factory-set. Nevertheless, check gap uniformity before each operation.

The gap width between the rollers is adjusted using the adjusting screws (1, 2).



Implementation:

1. Relax the treatment intensity using the crank (see Treatment intensity).
2. Set the gap width at the adjusting screws (1) and (2) to a value of 2-4 mm between the roller flanges.

TIP

Remove the cover to gain a clear view of screw (2).

3. Set the treatment intensity to a working value using the crank (See Treatment intensity).
4. Check gap width

TIP

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

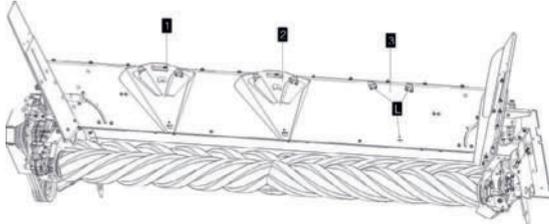
4. Improve spread width

See overview (D)

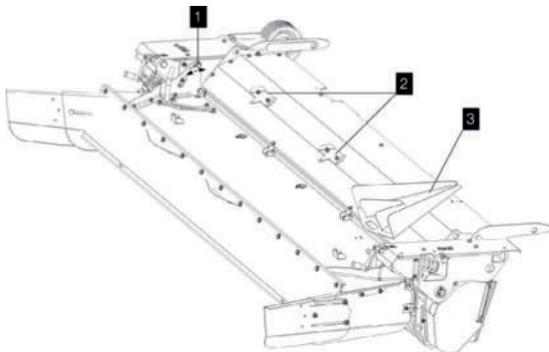
To improve the distribution of forage over the entire swath width, guide plates can be installed in three positions underneath the hood.

Fit guide plates:

1. Attach guide plates to brackets (L)



2. If the guide plates are no longer needed, store them in the parking position (2, 3) at the top of the hood.

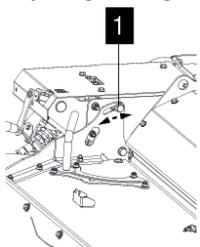


Adjust the hood angle according to the amount of feed to optimise the spread width.

Little fodder - flatter hood

Much fodder - steeper hood Also to prevent clogging.

Adjusting the angle of the hood:



1. Loosen bolts (1)
2. Set the hood at the desired angle.
3. Tighten bolt (1)
4. Repeat steps 1-3 on the other side of the roller conditioner.
5. If necessary, repeat steps 1-4 on the second roller conditioner.

Operation

! DANGER

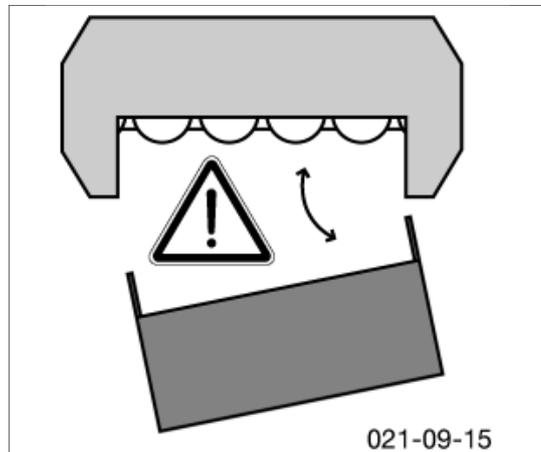
Life-threatening danger exists through parts being ejected

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

Driving speed:

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

Working without roller 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 completely safeguarded. In this case, mowing must not take place without fitting additional safeguards!

! DANGER

Life-threatening danger exists when detaching the conditioner. When 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.

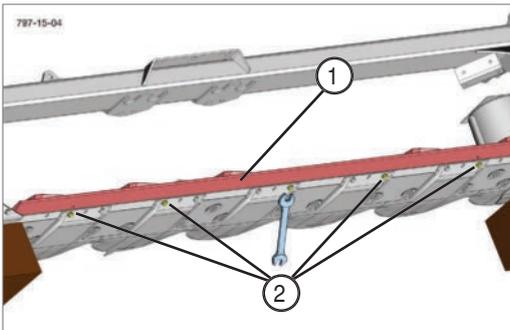
These safeguards are not included in the scope of delivery for a new machine with conditioner. The parts must be ordered additionally (see spare parts list, component: "REAR PROTECTION").

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

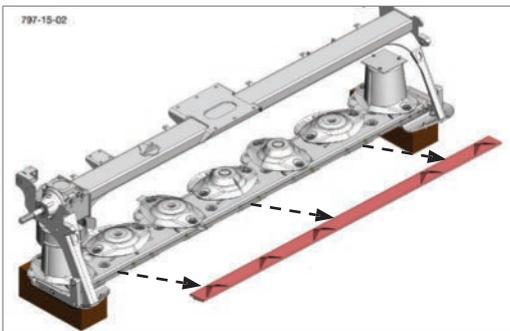
If the swath discs are not to be fitted, the cutter bar reinforcement does not have to be removed.

Removing the cutter bar reinforcement.

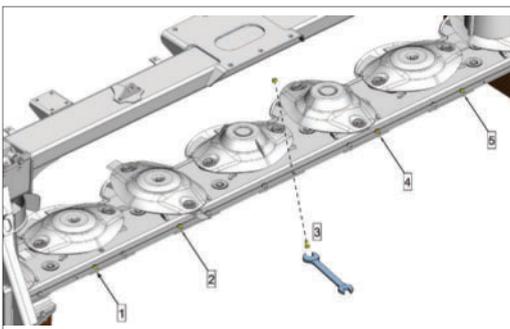
1. Remove screws (2). The number of screws varies according to cutter bar length.



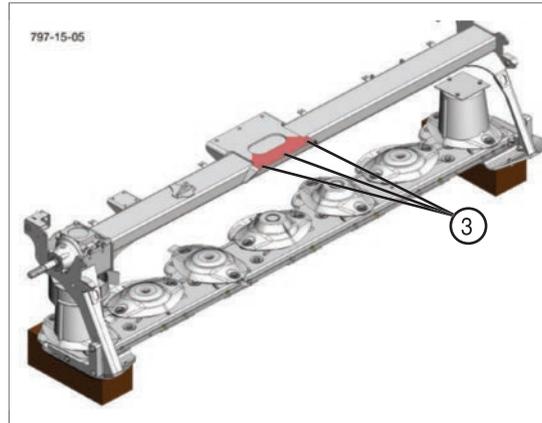
2. Remove the cutter bar reinforcement.



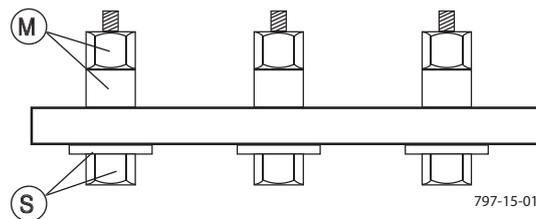
3. Replace the screws removed in step 1 with shorter ones. Re-use the screws that were used on the mower before the conditioner was fitted.



Reverse the three screws in the centre bearing.



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



Maintenance

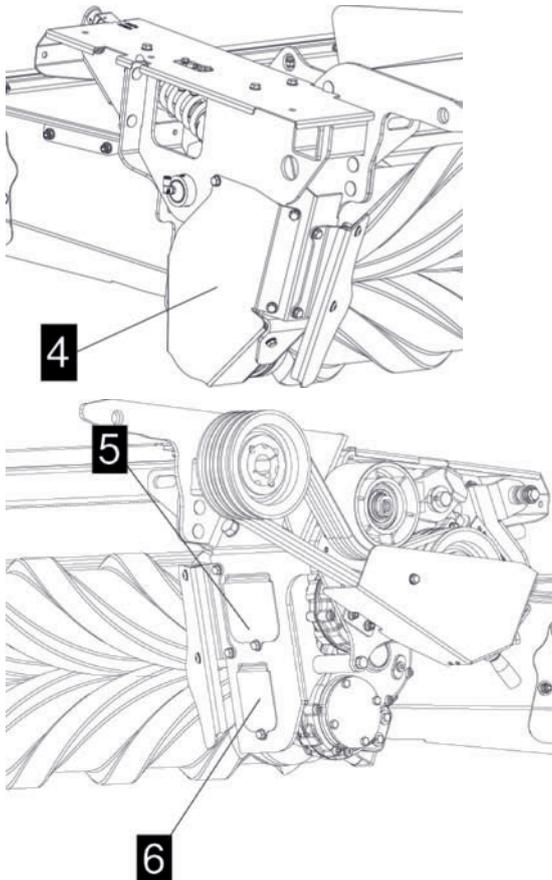
! DANGER
 Life-threatening danger exists through another person starting the tractor and driving off, or switching on the cardan shaft while maintenance work is being carried out.

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

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

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

Cleaning: (every 100 operating hours)



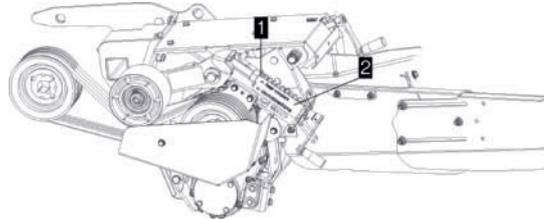
- Unscrew the covers (4, 5, 6) of the maintenance openings.
- Blow out deposited dirt
- Clean rubber rollers
- Replace the covers (4, 5, 6) of the maintenance openings.

Drive belts: internal

See overview (F):

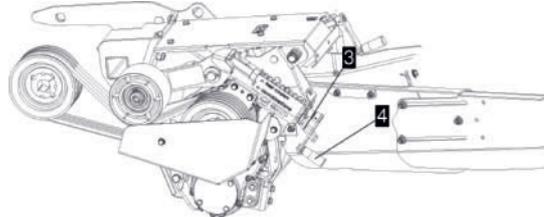
Check belt tension:

- Basic setting: The spring (1) is the same as the pointer (2).



Alter belt tension:

1. Undo safeguard (3)
2. Adjust belt tension using crank (4)
3. Close the safeguard and lock the crank in the process.

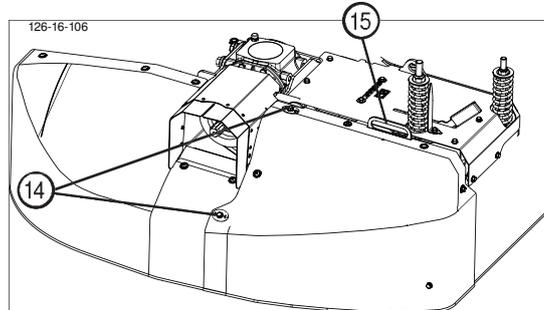


Replacing belts:

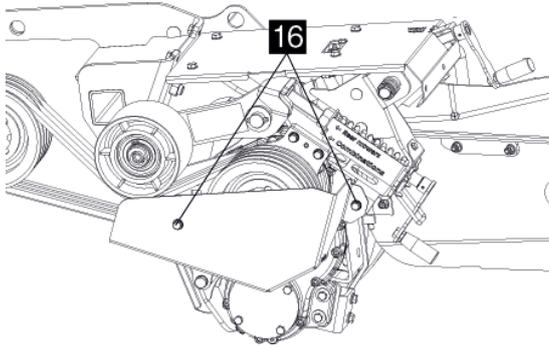
When the driving belts show signs of damage or wear, they must be replaced.

Caution: Always replace the complete belt set!

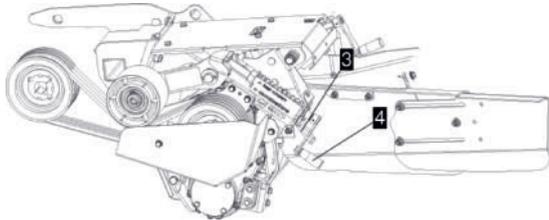
- Remove side protection: Remove 2 screws (14)
 Lift side protection up and away using the grip (15)



- Remove inner cover (2 screws) (16)



- Undo safeguard (3)
- Loosen belt drive using crank (4)

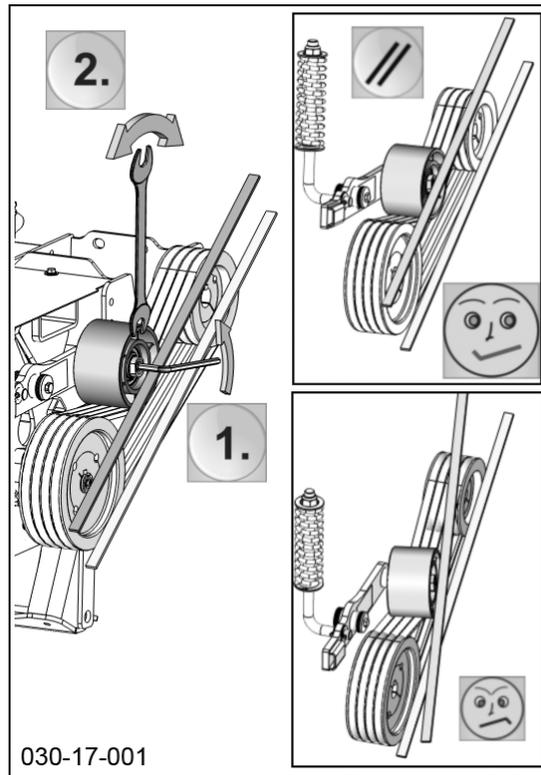


- Replace belts

Reinstallation: Complete the steps in logical reverse order.

Check tensioner pulley running

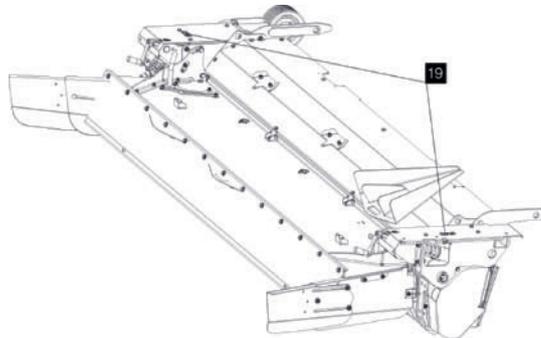
Check the tension pulley running after initial operation and after every change to the drive. The tension pulley must run parallel to the drive belt (see illustration).



Lubrication:

(After every 50 operating hours)

- Grease nipple (19)

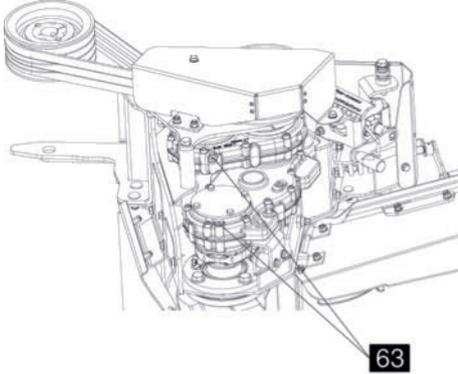


Gear oil:

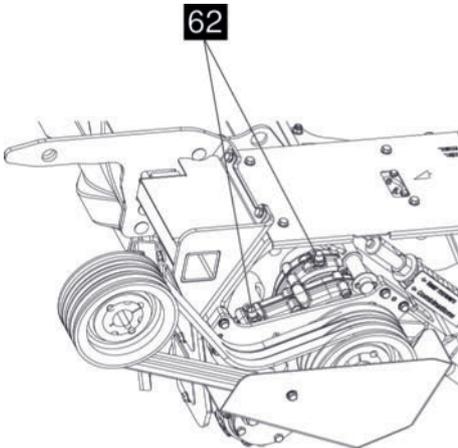
(After every 100 operating hours)

The gearboxes are located on the inside of the conditioner.

- Open drain plug (63) and drain oil.



- Fill gearbox oil at the filling screws (62)



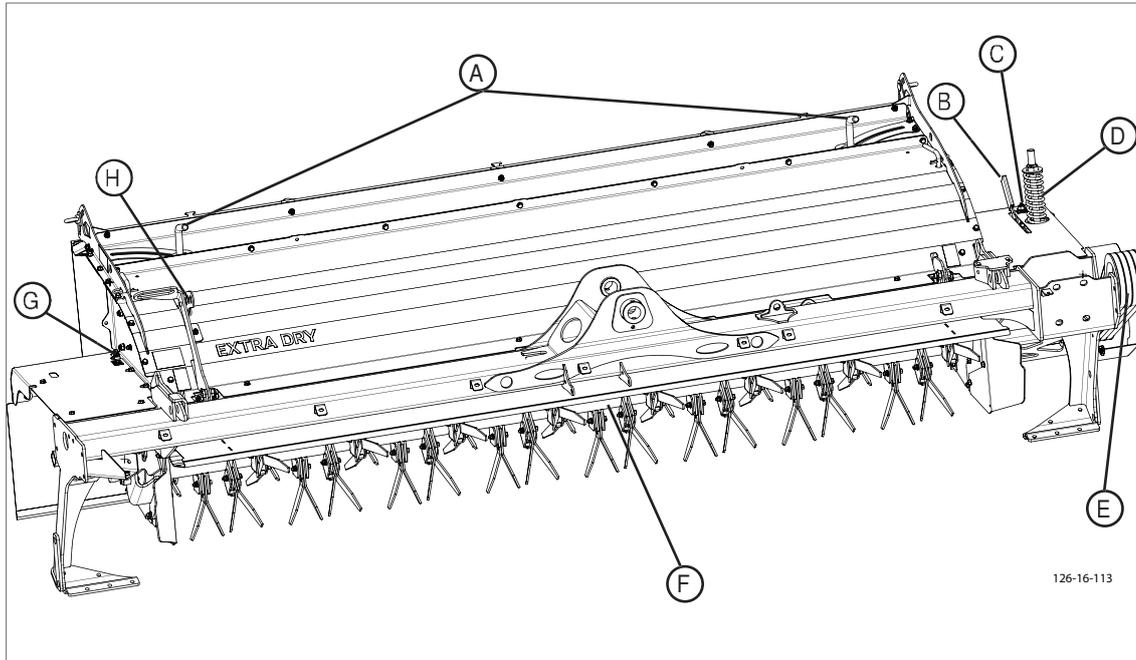
(Fully synthetic lubricating oil for high-temperature lubrication, 75w-90)

Large gearbox: 0.4 l

Small gearbox: 0.26 l

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:

- | | |
|--------------------------------------|--|
| (A) Adjustment lever for swath width | (B) Lock-activation lever |
| (C) Inner grease nipple | (D) V-belt tensioner |
| (E) V-belt | (F) Tine conditioner |
| (G) Outer grease nipple | (H) Adjustment lever for conditioning effect |

Possible settings

! DANGER

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

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

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

Set conditioning effectiveness: (H)

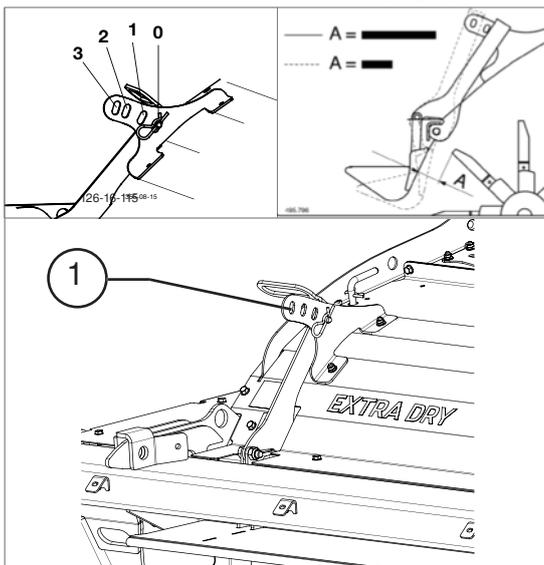
! NOTE

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 wider

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.

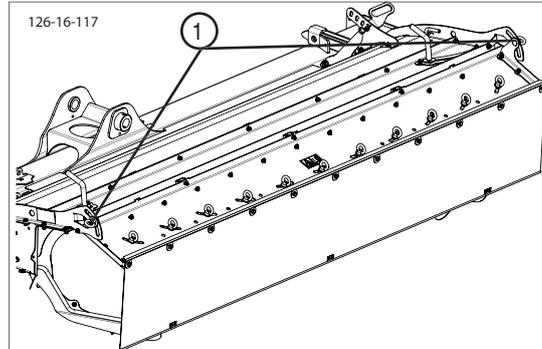


Among other things, the right setting depends on the quantity of cut material, driving speed and tractor capacity. Therefore, a binding recommendation cannot be provided regarding the correct lever setting.

Impact plate:

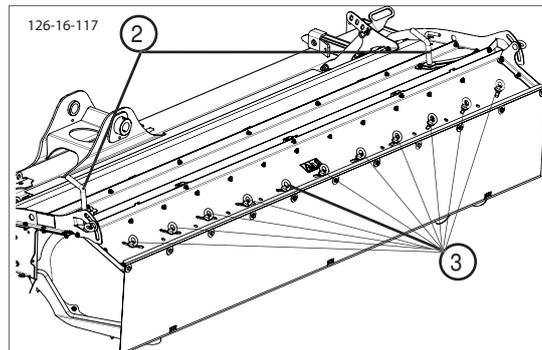
The angle of the impact plate can be adjusted for the desired throw distance for cuttings:

- Loosen clamping screw (1)
- Set impact plate
- Tighten clamping screw (1)



Adjust the swath width:(A)

The swath boards form the cut and conditioned fodder into the desired swath width. Adjust the left and right swath plates identically by unscrewing and adjusting the setting screw (2)



Crop spreader:

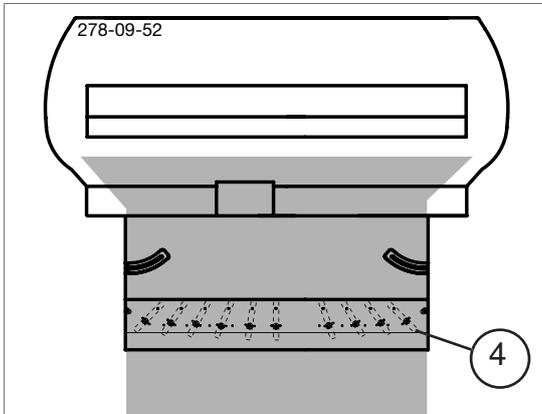
individually adjustable guide plates (3) serve to support the desired form of swath deposit.

Setting the position of swath and guide plates

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.

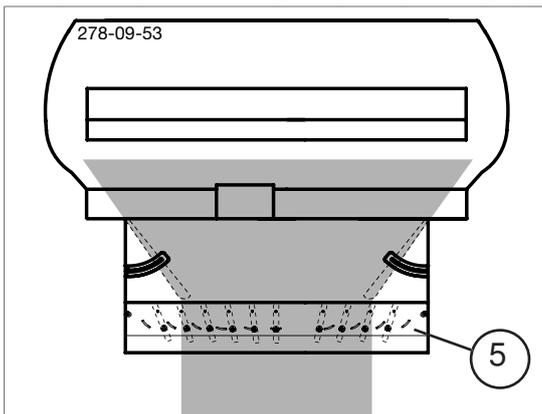
Crop spreading

- Swing swath discs (2) completely out
- Adjust the position of the guide plates (see image (4))



Swaths

- Swing swath plates (2) in
- Adjust the position of the guide plates (see image (5))



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.

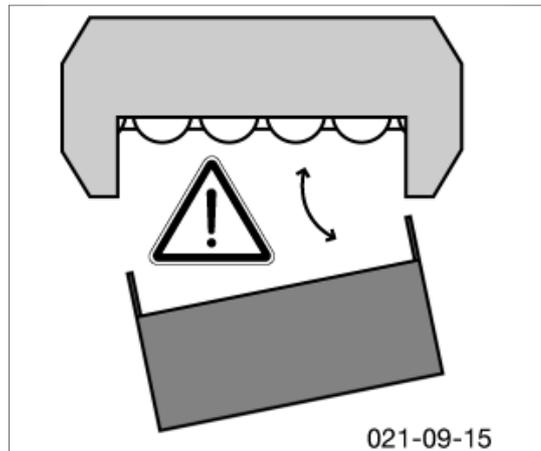
Driving speed:

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.

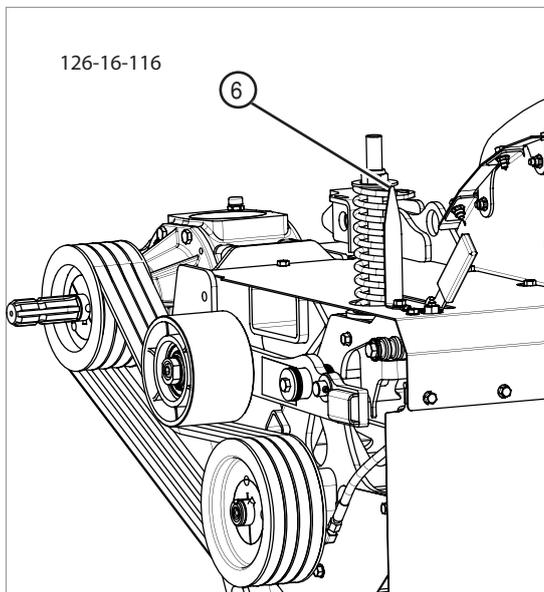
! DANGER

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.

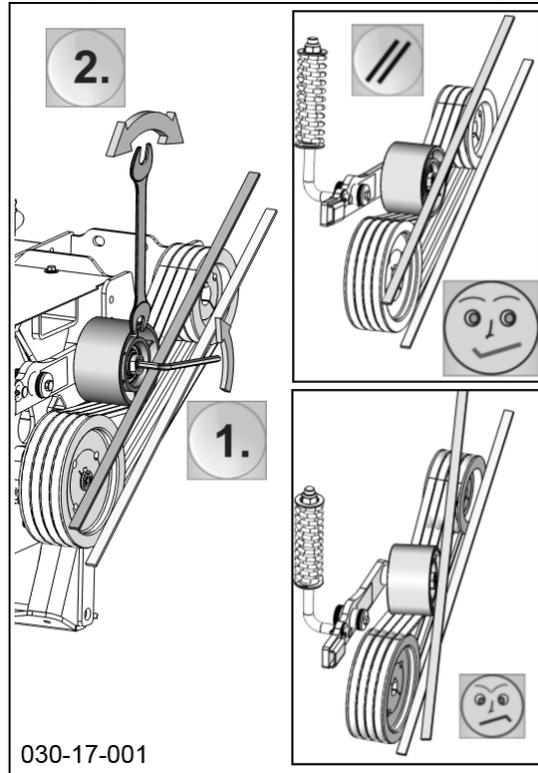
Correct belt tension: (D)

The marker point (6) must be flush with the shim, then the belt tension is correct.



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).



Rotor tines: (F)

1. Replacing tine fixings

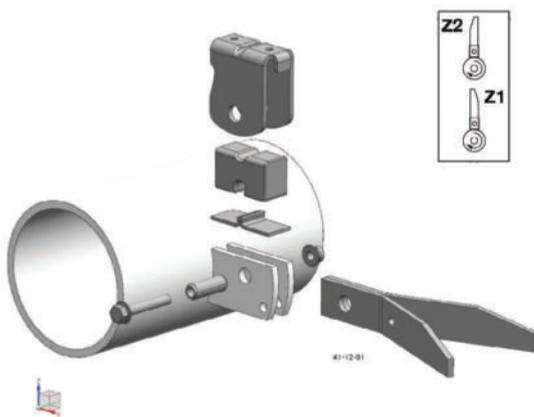
If signs of wear are found on the tine fixings, then the affected component(s) must be replaced. (tines, bolt, slotted spring pin ...)

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.



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"

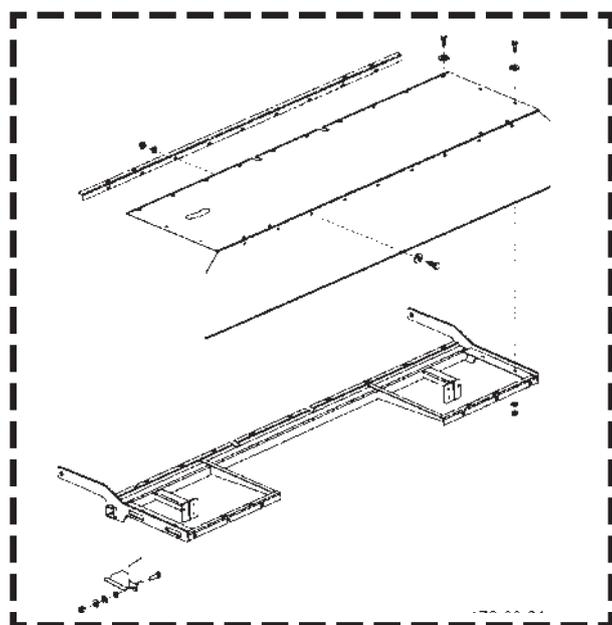
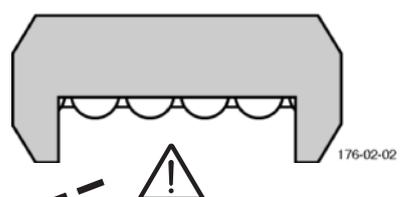
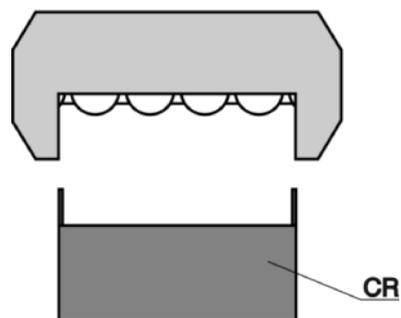
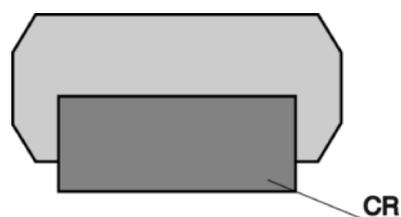
Mowing without conditioner

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

DANGER

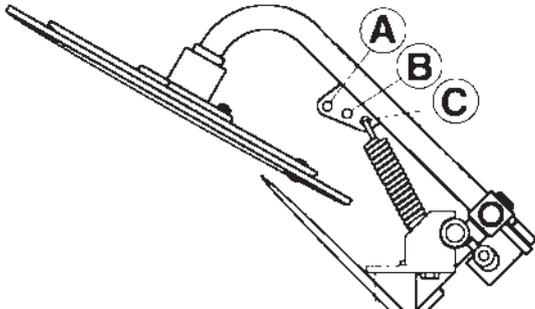
Life hazard - when detaching the conditioner. If the conditioner is detached, the cutting blades are freely accessible. There is life hazard.

- 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")..



Optional equipment:

Additional swath disc



Setting both tension springs:

A = For tall, dense fodder crops.

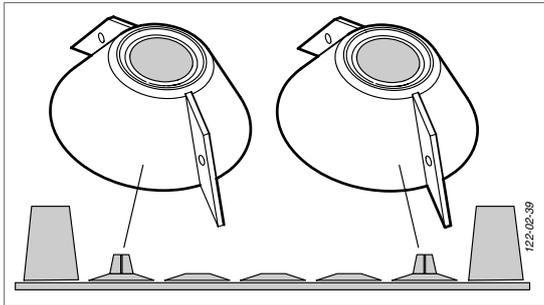
B = Basic setting.

C = For short fodder crops.

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



Removal and installation of the swath former

The mower unit is compatible for the optional attachment of a tine, roller conditioner or swath former. Special work steps are necessary for the conversion depending on the unit to be attached.

For details see the Section "REPLACE CONDITIONER"

Maintenance

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

! DANGER

Life hazard - somebody else puts the tractor into operation and drives off or switches on the articulated shaft while you are busy with maintenance work.

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

General safety information

DANGER

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

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

CAUTION

Risk of injury through ejected parts

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

TIP

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

Mode of operation

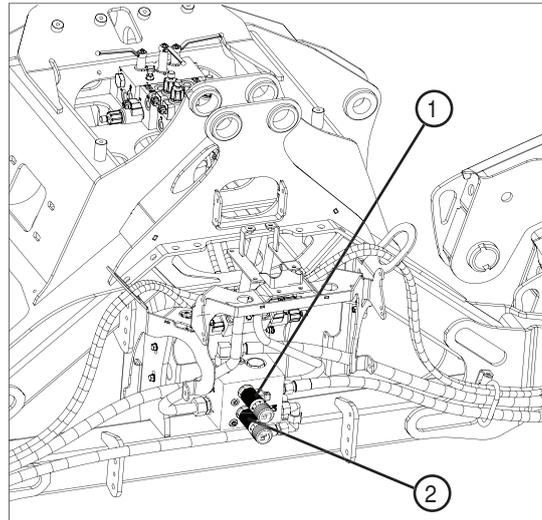


A variable swath deposit is possible using a cross conveyor belt (single swath, broad deposit or triple swath). The cross conveyor is swivelled out or in, and the belt speed per unit infinitely adjusted using the operator terminal.

Swath deposit

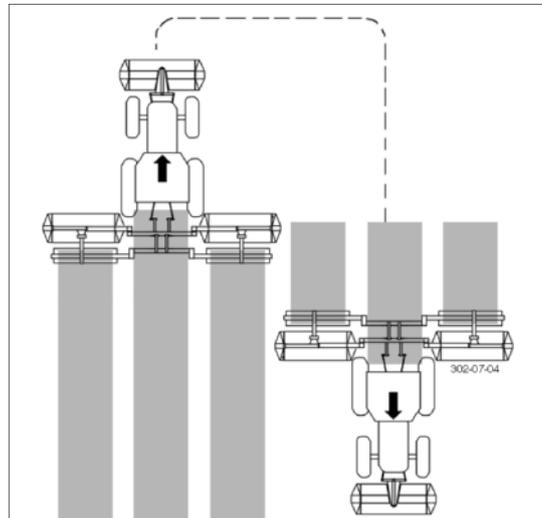
A variable swath deposit is possible using a cross conveyor belt (single swath, broad deposit or triple swath). Using the operating terminal (ISOBUS, PowerControl), the cross conveyor belt is swung out or in and the belt speed per unit infinitely adjusted.

In the Select Control version, the speed adjustment is carried out via control valves (1, 2) on the hydraulic block.



Mowing without a cross conveyor

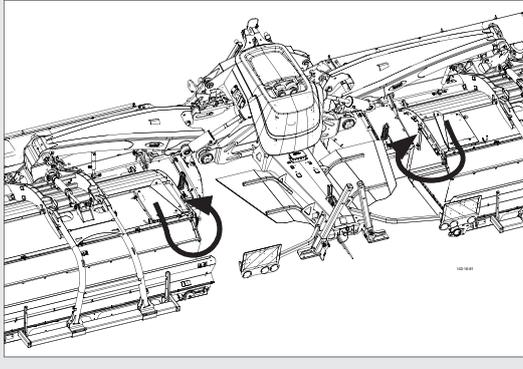
- The mowed material is deposited in the swath width of the conditioner (= single swath).



- For a better swath it is possible to install swath boards inside when mowing without a cross conveyor. They are mounted at the top of the swath formers. Reposition them as is shown in the illustration.

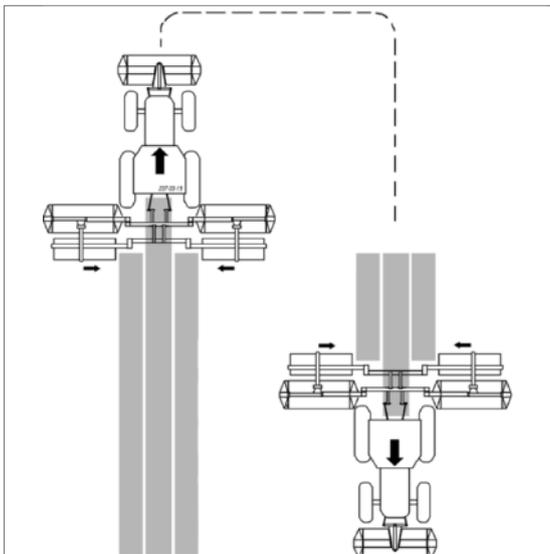
TIP

When using a mower with cross conveyor, these swath boards must be removed! Otherwise this could cause blockages with the inner swath.



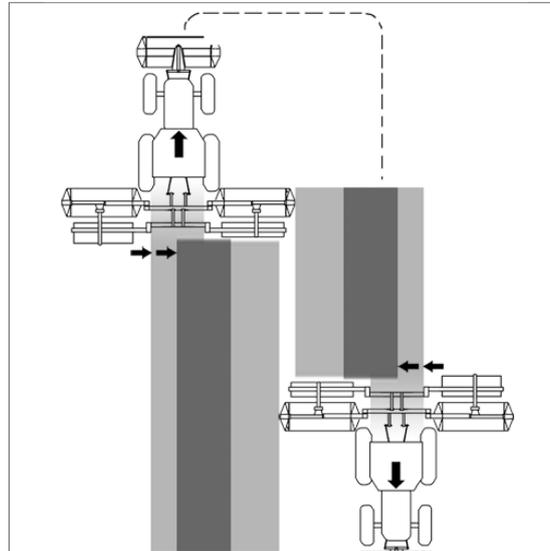
Cutting with a cross conveyor

- Both cross conveyors are transporting the mowed material in the middle and generate a "3rd swath".
The swath width can be narrowed using the additional roller.



Mowing with only one cross conveyor

- If operating with only one cross conveyor, there is a chance of depositing a swath row over the other two swath rows.



Advantage:

The total swath width is optimally prepared for a rake with a minimum working width of 10m.

TIP

Fit the swath comb in the highest position for this operation.

Operation

NOTE

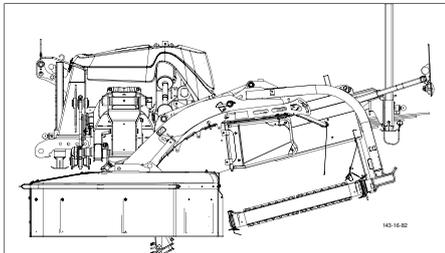
Property damage through the collision of the cross conveyor belts with other components.

- Swivel the cross conveyor belts in before changing between working and transport position.

TIP

Check and clean belt run regularly to prevent premature wear and tear (see chapter "Maintenance")

Swinging the cross conveyor in:



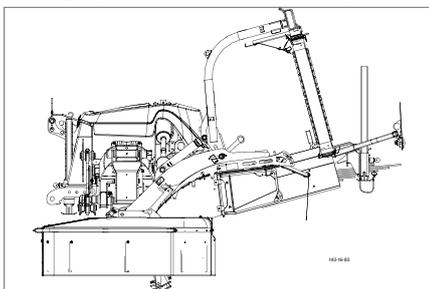
When swivelling the rear mower units from transport to working position, the cross conveyor belts are always in this position (danger of collision).

- Swinging cross conveyor belts in and out takes place via the operating console.

TIP

The cross conveyor belts are permanently connected to the mower units, so they always move with them when swivelling from transport to working position, and vice versa.

Swinging out the cross conveyors:



If the swath is not to be manipulated, the cross conveyor belts can be swivelled out.

- Swivelling cross conveyor belts in and out is carried out via the operating console.

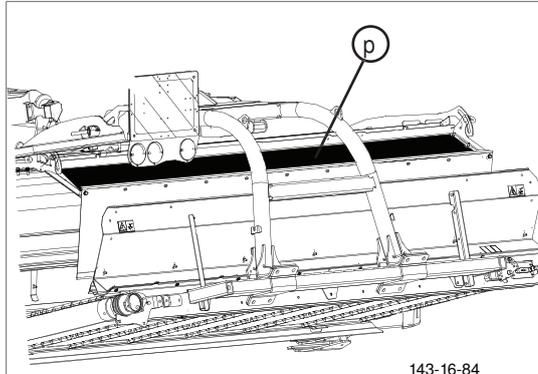
TIP

Remove the cross conveyor belts when they are not needed for a longer period of time. This reduces the load on the tractor. (see chapter "Removing the cross conveyor belt")

Possible settings

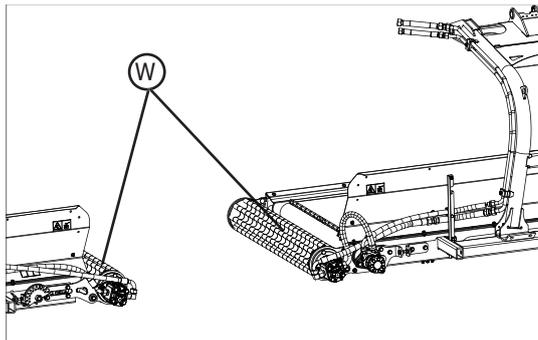
Impact plate (P):

Set the impact plate (P) so that the cut forage can be thrown to the middle of the cross conveyor belt.



Accelerating roller (Optional):

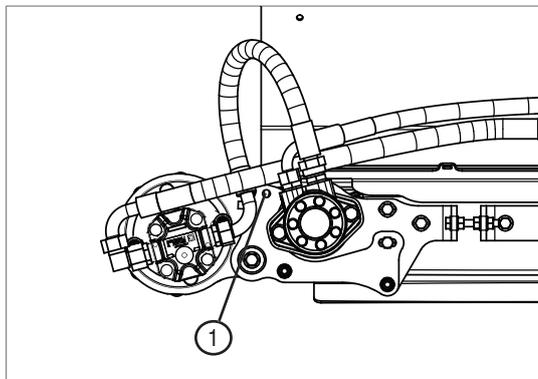
Accelerator rollers (W) are used to transfer the cut forage further into the middle.



Setting:

The height of accelerating rollers can be adjusted to alter the throw distance.

- Remove screw (1) (front and rear)
- Move roller to the desired position
- Re-insert screw (1) in the appropriate slot and tighten.



TIP

Equally pin the rollers at all points.



Note!

The roller must be pinned equally at all points.

Cross conveyor belt maintenance

! DANGER

Life-threatening danger exists through moving or rotating parts

Do not undertake any maintenance works on the machine before :

- it has been parked securely on level, firm ground.
- it has been secured against rolling away.
- 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 standstill. (Hearing test!)
- the tractor's ignition key is taken out.

Life-threatening danger exists when under the machine.

- Support the subsections you are under in an adequate way.

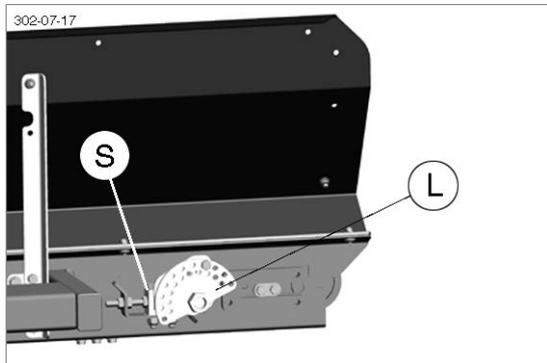
1. Check the belt run every 5, 10, 20 hours. Then every 20 hours thereafter.

- The belt may not run to the side.
- The belt must be centred on both rollers.

Possible causes for high belt wearing:

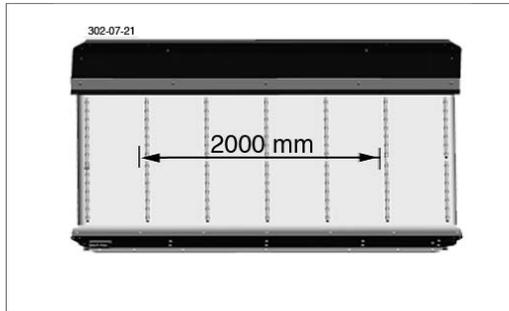
- Belt tension to loose
- Belt not running centred

Setting belt tension



1. Tension the belt so that it does not slip down when it is swung out.

2. Tension the belt by approx. 0.4 - 0.5 %.
 - a. Mark 2000 mm on the belt (see the sketch)



- b. Tension the belt using the perforated disc (L) until the marked distance reaches 2008 - 2010 mm.

Adjust the belt length

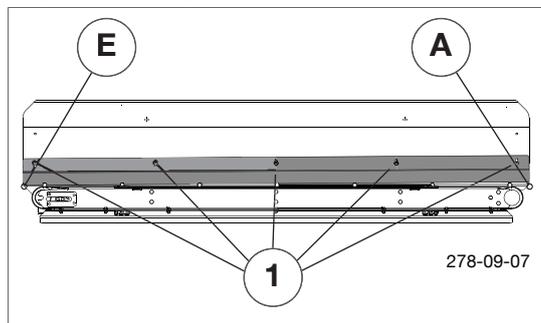
Adjust the position of the rollers by moving the tensioning block (S).

- Adjust the roller so that the belt runs centrally on the rollers and does not touch the machine.

Carry out a 5-minute trial run

When doing so, check the belt tension and the belt position.

Adjust the feed plate

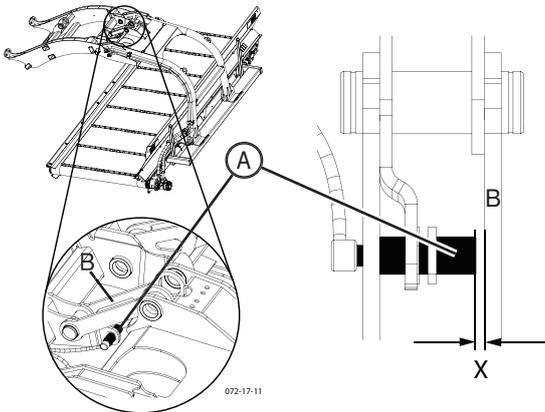


Always adjust the distance between the feed plate and the conveyor belt with the screws (1) so that the gap on the discharge side (A) of the conveyor belt is larger than the gap on the intake side (E). Minimum distance: 5mm

TIP

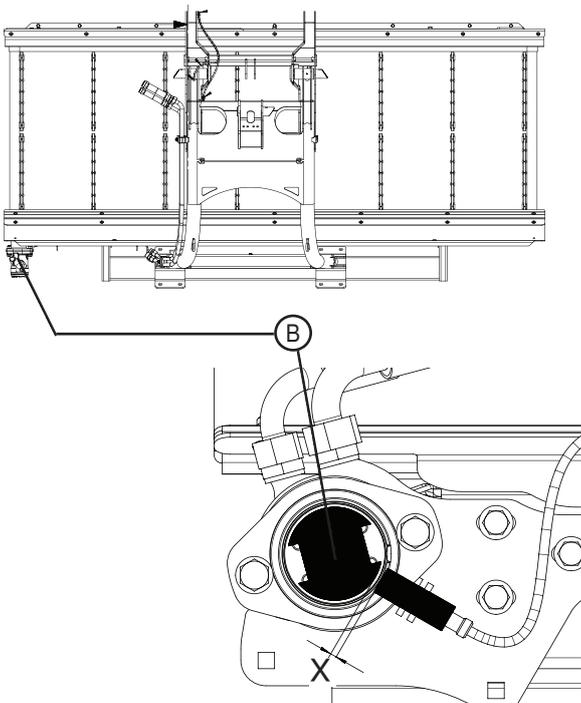
Set the feed plate correctly from the beginning. Doing so prevents blockages and reduces cleaning costs.

Set cross conveyor belt sensor



The cross conveyor belt sensor (A) indicates the swivel state of the belt. The sensor distance (x) to tab B must be set between 3..5 mm.

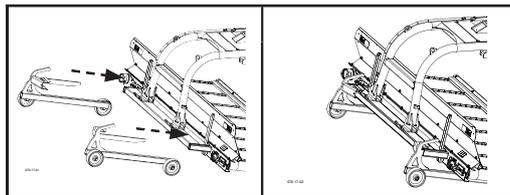
Hydraulic motor set sensor



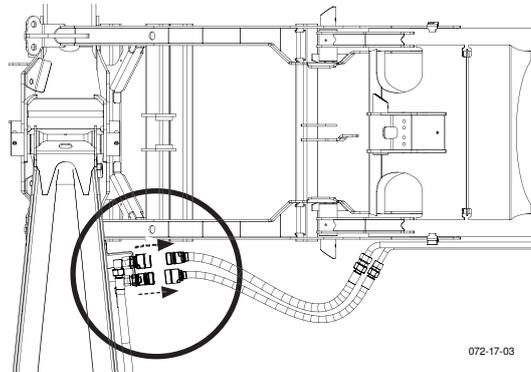
The hydraulic motor sensor (B) indicates the swivel status of the belt. The sensor distance (x) must be set between 3..5 mm. In order to set the hydraulic motor sensor, remove the hydraulic motor.

Before dismantling, the cutter bars and the cross conveyor belt must be in working position.

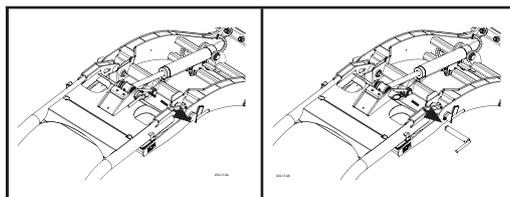
1. Use the control unit to move the cross conveyor belt to the working position. The hydraulic cylinder is now extended.
2. Fit the cross conveyor belt running gear by pushing it into the moulded pipe as far as it will go.



3. Disconnect all lines and cable connections. Disconnect speed sensor but do not uncouple cross conveyor belt position sensor!

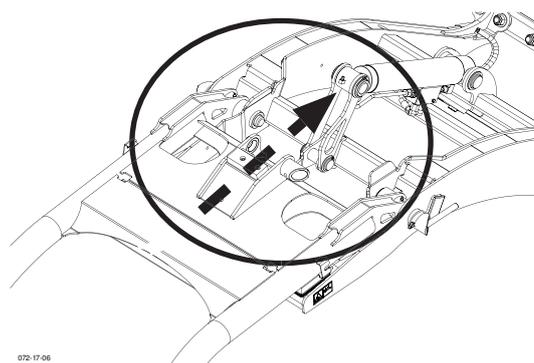


4. Remove the hydraulic cylinder connecting pin



5. Use the control unit to retract the hydraulic cylinder. (until "Cross conveyor belt swung out" is displayed on the terminal.)

(The hydraulic cylinder connecting pin has already been removed so only the hydraulic cylinder moves, but not the cross conveyor belt.)



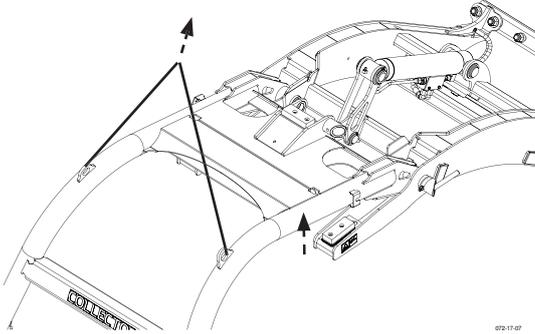
Removing the cross conveyor

(only with optional equipment "Chassis dismantling Collector")

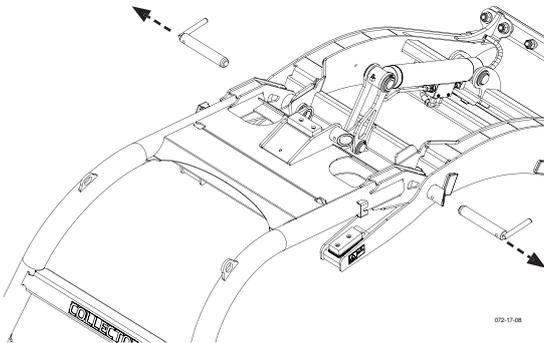


After a change in weight, such as the assembly or disassembly of the cross conveyor belts, check the relief pressure and readjust it if necessary.

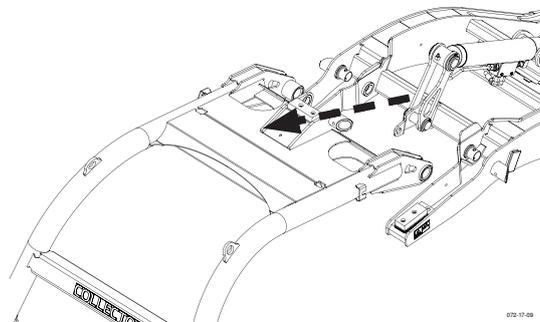
6. Using a sling and crane, lift the cross conveyor belt so that it no longer rests on the rubber buffers.



7. Remove both cross conveyor belt retaining pins



8. Extend the cross conveyor belt to the rear.

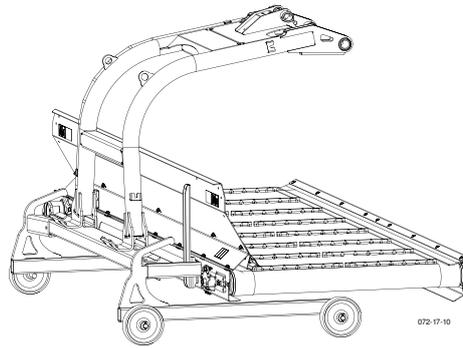


9. Park the cross conveyor belt in a suitable place and secure it with chocks.

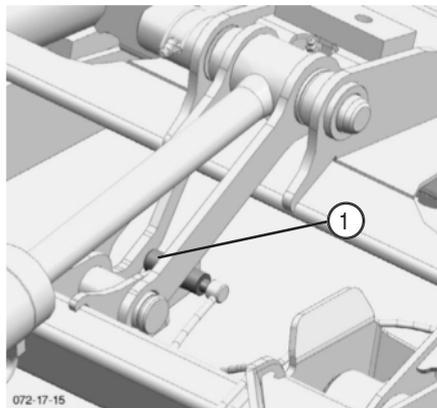
WARNING

Risk of injury through parked cross conveyor belt.

- Only place the cross conveyor belt in suitable places with a level, firm base.
- Brake the cross conveyor belt with wheel chocks.
- Do not step onto the cross conveyor belt or climb around on it.



10. Extend the hydraulic cylinder until the cross conveyor belt (1) position sensor is covered so that the cutter bars can be swivelled later. (The cross conveyor belt is not mounted, so only the hydraulic cylinder is moving.)



Mounting the cross conveyor belt

(only with optional equipment "Chassis dismantling Collector")

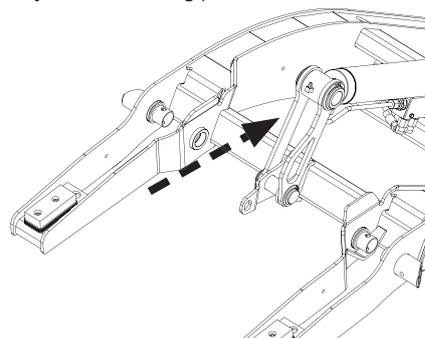
TIP

After a change in weight, such as the assembly or disassembly of the cross conveyor belts, Check the relief pressure and readjust it if necessary.

Before mounting, the cutter bars must be in working position.

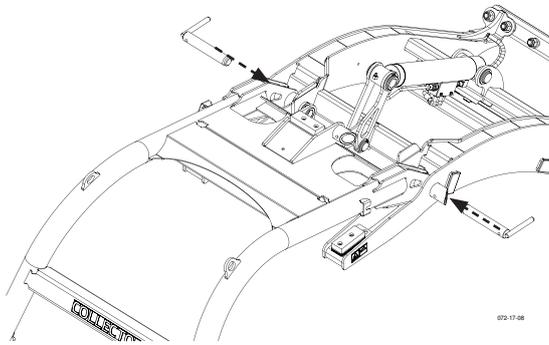
1. Use the control unit to retract the cross conveyor belt hydraulic cylinder (until "Cross conveyor belt swung out" is displayed at the terminal).

(The cross conveyor belt is not mounted, so only the hydraulic cylinder is moving.)

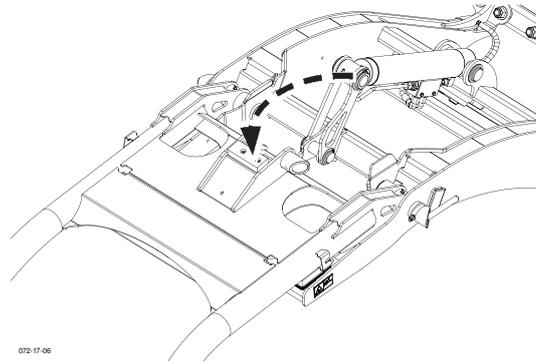


2. Move the cross conveyor belt to the mounting position using a sling and crane.

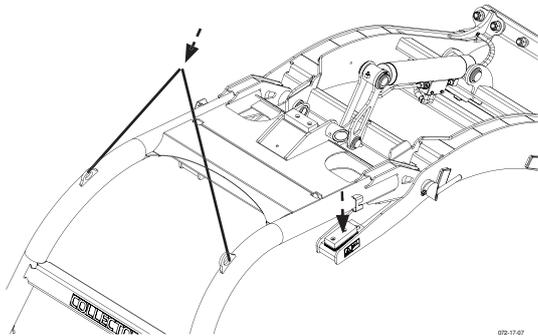
3. Fit and lock both of the cross conveyor belt retaining bolts



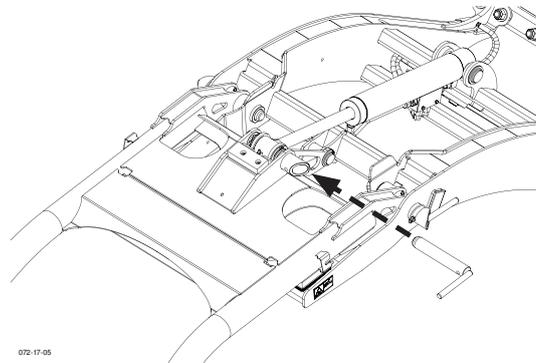
7. Extend hydraulic cylinder using the control unit in order to fit the hydraulic cylinder connecting pin.



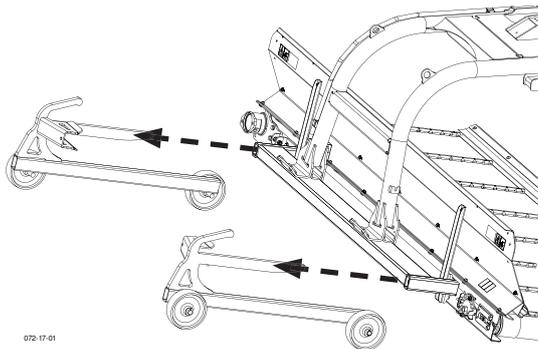
4. Lower the cross conveyor belt using a sling and crane until the cross conveyor belt lies on the rubber buffers.



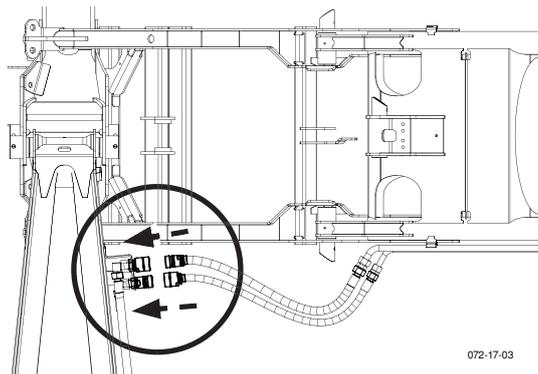
8. Fit the hydraulic cylinder connecting pin



5. Remove cross conveyor belt chassis.



6. Connect all lines and cable connections.



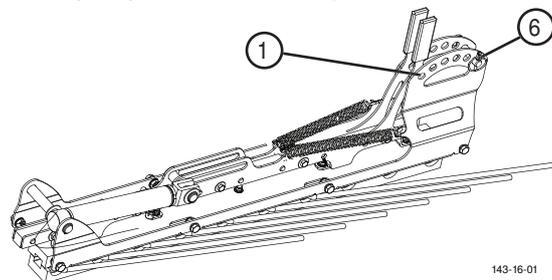
Swath comb

The swath comb prevents the swath from overlapping and therefore ensures a clean deposit.

It is hydraulically lowered together with the cross conveyor and also hydraulically raised as soon as the cross conveyor comes into the headland position.

Setting the tine height

Using the hole pattern, adjust the tine height so that the tines do not pull apart the swath coming from the front mower.

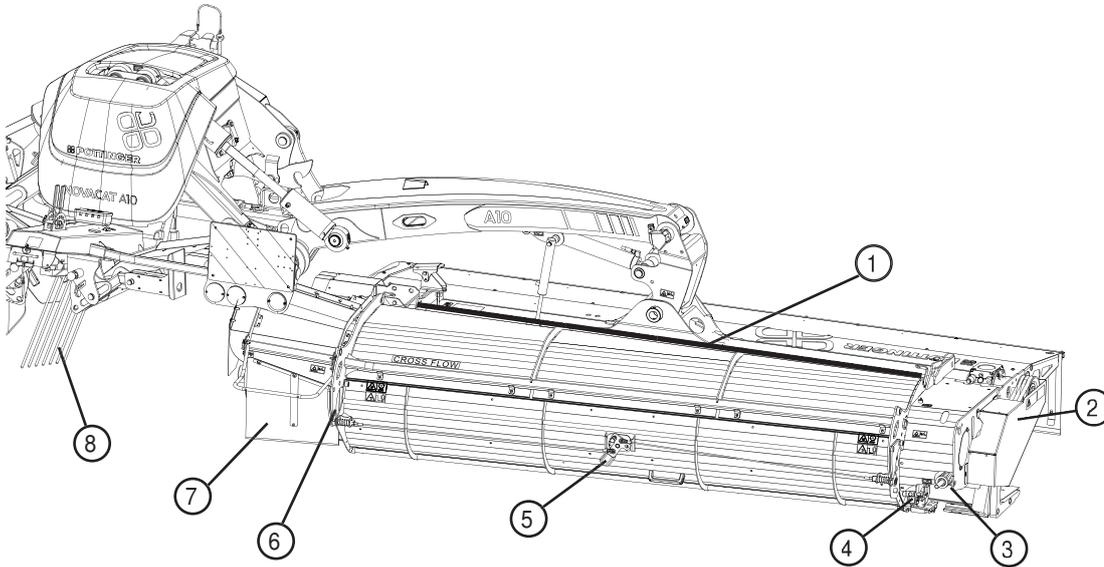


Hole 1 - highest position

Hole 6 - lowest position

- Insert the bolts in the desired hole and secure with spring pin.

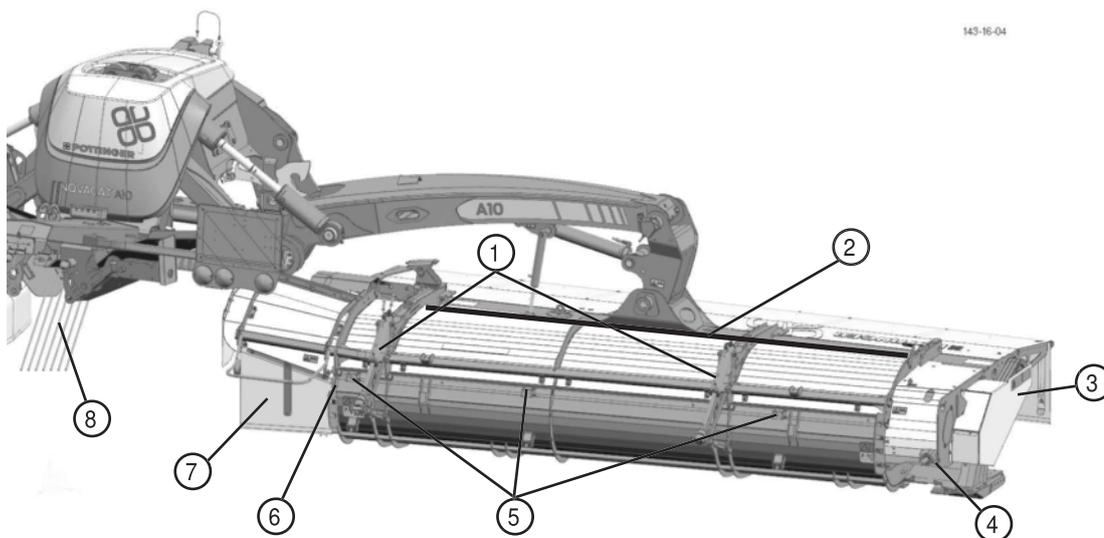
Overview - Machine with mechanical tailgate opening



Designations:

- | | |
|---|--|
| (1) Additional scraper bar (parking position) | (5) Tailgate locking lever (Position closed) |
| (2) Drive unit | (6) Spare belt position |
| (3) V-belt tensioner | (7) Protective cloth for ejector |
| (4) Tailgate locking lever (Position open) | (8) Swath comb |

Overview - Machine with hydraulic tailgate opening



Designations:

- | | |
|---|-----------------------------------|
| (1) Hydraulic tailgate opening cylinder | (5) Scraper bar adjustment screws |
| (2) Additional scraper bar (parking position) | (6) Spare belt position |
| (3) Drive unit | (7) Protective cloth for ejector |
| (4) V-belt tensioner | (8) Swath comb |

Safety advice

WARNING

Risk of serious injury through clothing, hair or body parts being drawn in.

- Never open or remove safety equipment while the motor is running!

CAUTION

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

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

CAUTION

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

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

CAUTION

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

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

Mode of operation

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

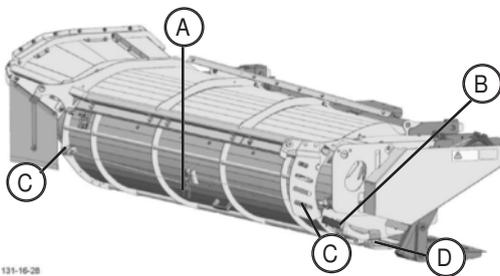
CF unit operation

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

Mechanical tailgate

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

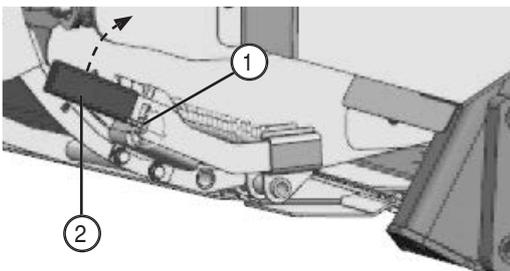
Overview:



- A Middle position of the unlocking lever: to unlock the pins (C)
- B Lateral position of the unlocking lever: For unlocking and locking the locking shaft, parking position of the unlocking lever
- C Tailgate locking bolts
- D Locking shaft

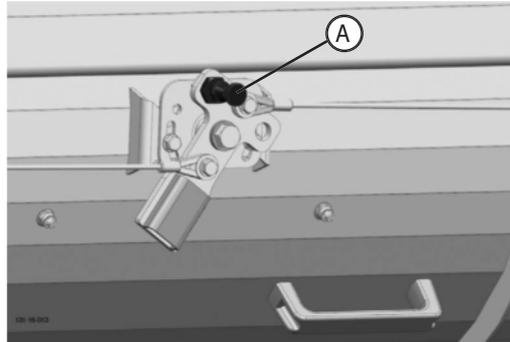
Opening the tailgate:

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



2. Open tailgate

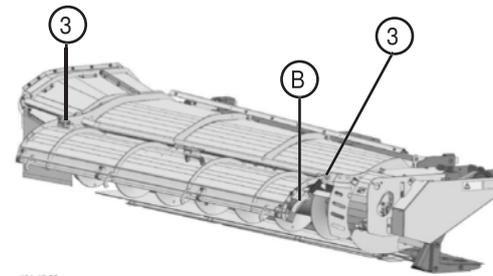
- Hold tailgate by the lever
- Loosen centre (A) locking bolt.



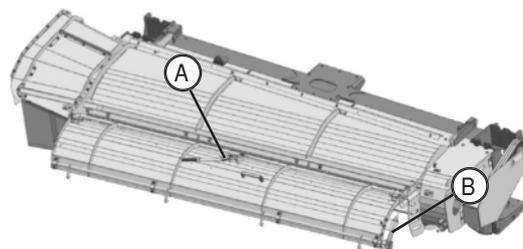
- Pull the tailgate all the way up until the side locking bolts (3) engage.

3. Store the release lever:

- Put the release lever (2) in the side position (B).
- Secure release lever (2) with spring pin (1).



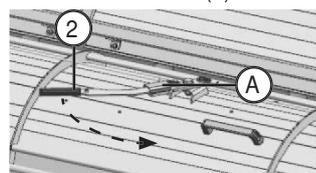
Close tailgate:



1. Fit the release lever in the middle position

At the side position (B):

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

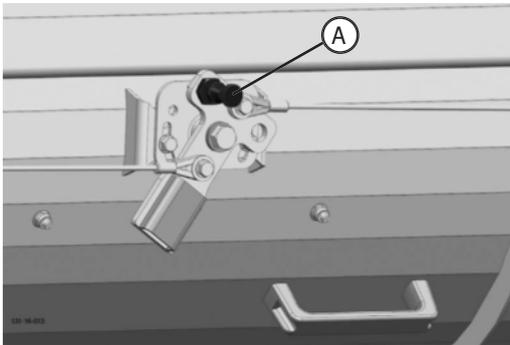


2. Loosen locking pins

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

3. Close tailgate

- Central locking bolt (A) must be free

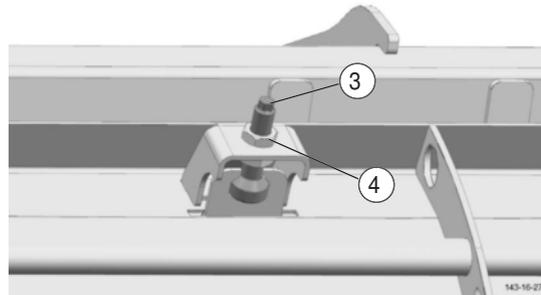
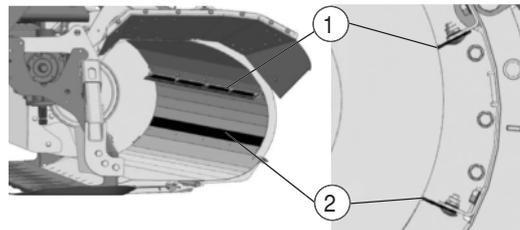


- Carefully close tailgate
- Check side locking mechanism

4. Lock the locking shaft at the side

- Insert release lever (2) into the side position (B).
- Secure release lever (2) with spring pin (1).

Scraper bar



Adjust the scraper bar:

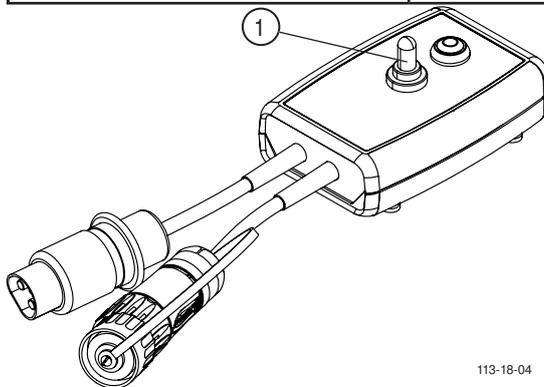
Adjust the scraper bar so that as much fodder as possible is scraped off. Leave only a minimal gap between the scraper bar and the cross-feed auger.

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

Hydraulic tailgate (option)

Use the "comfort control" to operate the hydraulic tailgate.

Select the "Tailgate of cross-feed auger" function on the left toggle switch (1) to operate the tailgate with the control device.



113-18-04

TIP

The tailgate of the cross-feed auger can only be operated in the headland position.

Attempts to operate the cross-feed auger while the mower is in the working position will have no effect.

TIP

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

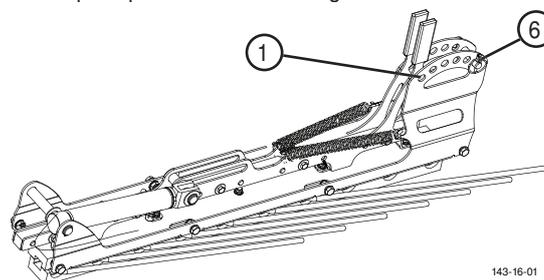
Swath comb

The swath comb prevents the swath from overlapping and therefore ensures a clean deposit.

It is hydraulically swivelled up and down together with the mower unit, as soon as both mower units reach the headland position.

Configuring the tine height:

Using the hole pattern, adjust the tine height so that the tines do not pull apart the swath coming from the front mower.



143-16-01

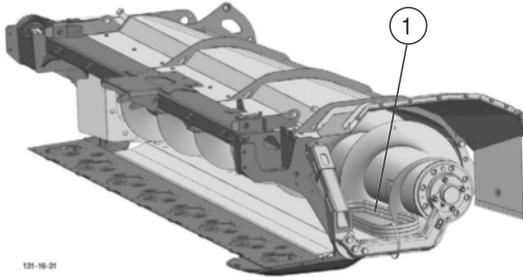
Hole 1 - highest position

Hole 6 - lowest position

1. Insert the bolts in the desired hole and secure with spring pin.

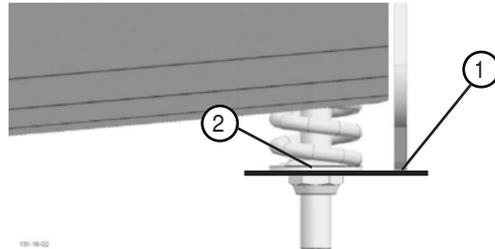
Spare belt

The spare belt (1) is stored in the ejector on the auger. Remove the spare belt before initial operation.



Check V-belt tension (if necessary)

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



Replacing driving belts:

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

- Relieve belt tension by loosening the nut.
- Replace belts
- Retension the belts

Maintenance

! 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,
- the tractor engine is turned off and the pto shaft is stationary
- and 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.

Cleaning (every 20 hrs)

- Open the coverings and service accesses to the belt drive.
- Remove accumulated dirt
- Clean cross-feed auger.

! NOTE

Damage to property caused by dirt in the lubrication system

- Pay attention to cleanliness when lubricating

Clearing blockages

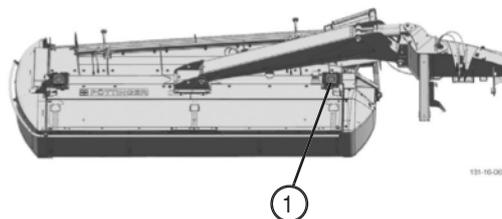
! DANGER

Life-threatening danger exists when under the machine

- Support the sections where you will be under accordingly.
- Lock the control unit for the machine's lifting cylinders.
- Do not crawl under the machine

Lubricate angular gear (1)

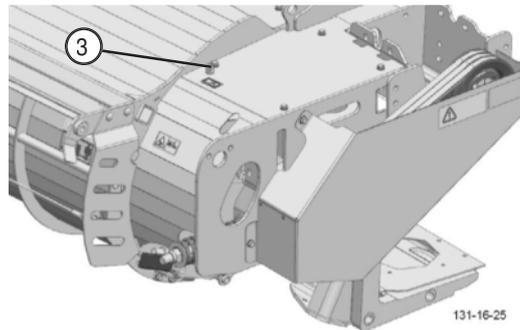
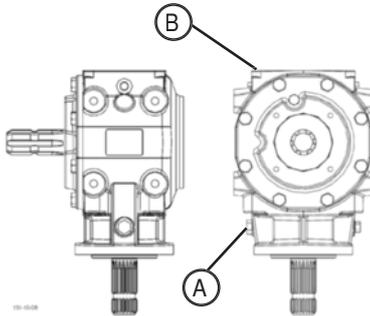
after 50hrs, then after every 100 operating hours



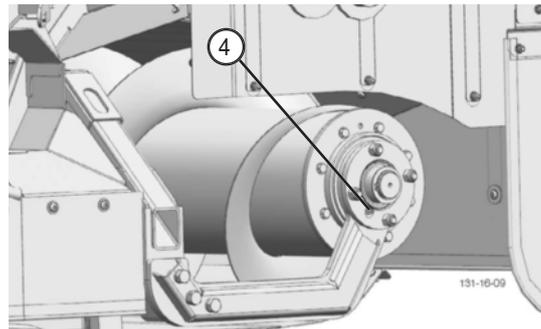
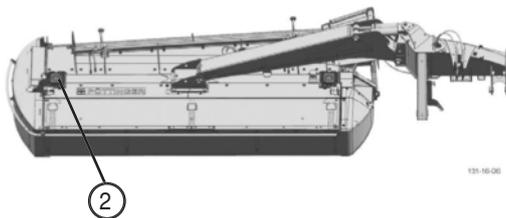
- Undo drain plug (A) and drain oil
- Refill 1.2 l gear oil 75W-90 GL5 through the filling inlet (B)

A blockage can probably be found in the ejector. Open the tailgate to easily clear the blockage.

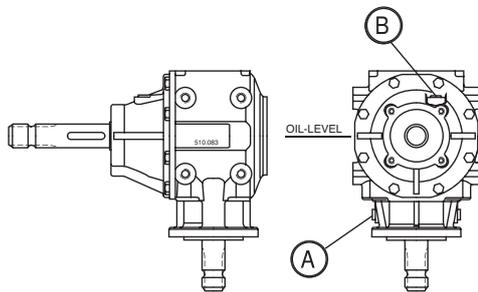
- Check oil quantity at oil level



Lubricate angular gear (2) every 100 operating hours

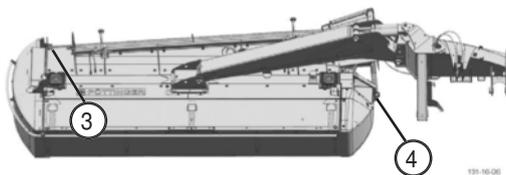


- Undo drain plug (A) and drain oil
- Refill 0.8 l SAE 90 gear oil through the filling inlet (B)
- Check oil quantity at oil level



Lubricate cross-feed auger every 50 operating hours

Lubricate grease nipples (3) and (4) on the cross-feed auger bearing with grease (IV) .



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

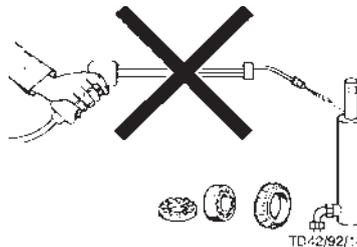
Spare parts

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

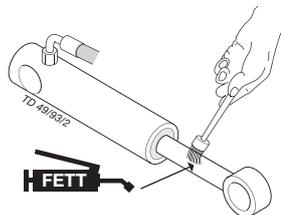
Be advised! Do not use high-pressure cleaners for the cleaning of bearing and hydraulic parts.

- 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!

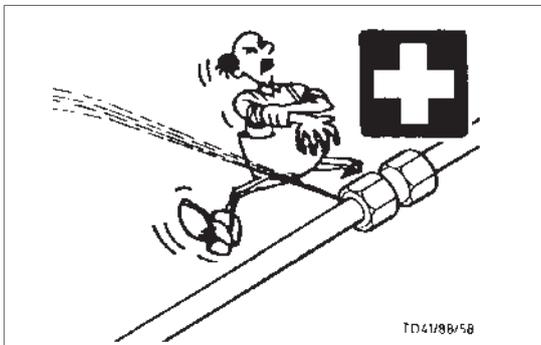
The directions in these Operating Instructions apply.

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.

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 every 100hrs of operation and then annually, at least.
- Lift cutter bar on the outer side.
- Remove oil drain plug (62), let oil drain and then dispose of waste oil correctly.

Oil quantity: 3.5 litre SAE 90

Check cutter bar oil level

- Under normal operating conditions, oil should be replenished once a year.

! 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.
- Wait for the mower discs to come to a standstill

! DANGER

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

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

TIP

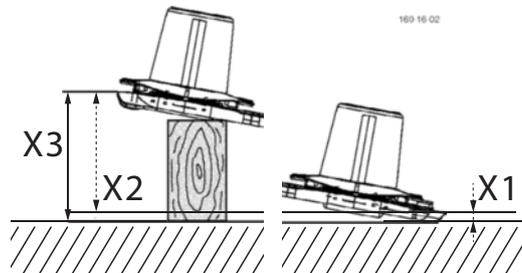
- Carry out oil change at operating temperature
- The oil is too thick when cold. Too much old oil remains stuck to the gearwheels and prevents the removal of any suspended matter present in the gearbox.
- It can take some time until the oil has completely drained.

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

$$X3 = X2 + X1$$

X1 = Distance from ground to upper skid edge.

X2 = Distance from the left upper skid edge to the right upper skid edge.



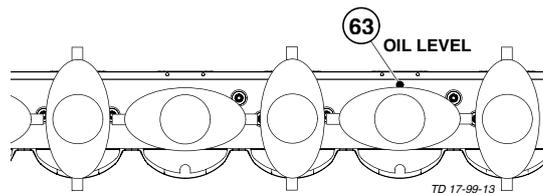
$$X2 = 300 \text{ mm}$$

- 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.
- Make sure that the cutter bar is jacked to a longitudinal side.

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

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

3. Remove oil fill screw (63).

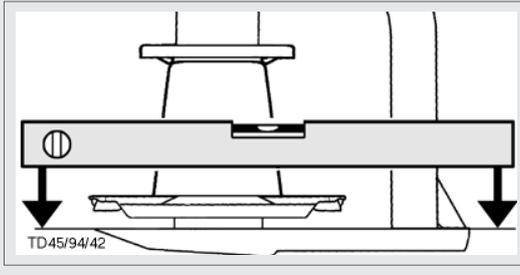


4. Oil level check

! NOTE

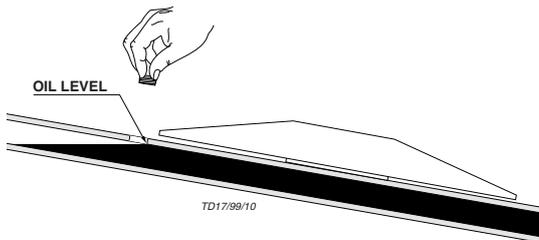
Property damage due to too much or too little oil.

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



Measure oil level through the opening (63).

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



5. Topping up oil

Add the amount of oil lacking.

! NOTE

Property damage due to too much or too little oil.

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

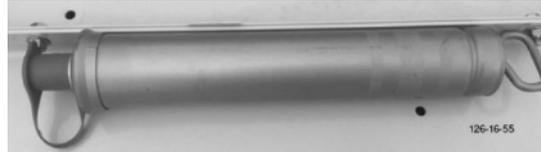
Too little oil does not guarantee the necessary lubrication.

- Be precise when adding oil!

Refilling the automatic grease lubricating unit.

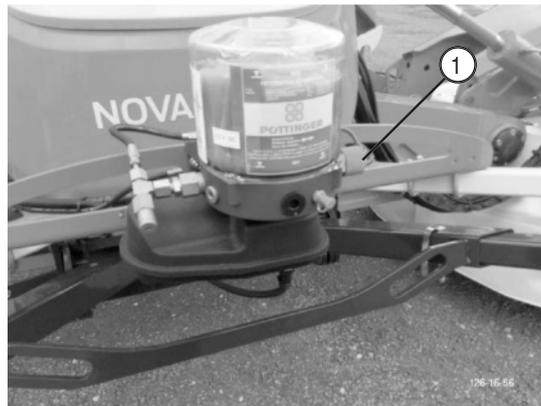
Fill the automatic grease lubrication unit tank using the filling gun if the tank threatens to empty.

Filling gun:



Tank position:

Filling nozzle (1)



TIP

- Remember to refit the protection caps to the filling nozzle and filling gun.

Maintaining the gearbox



TIP

- Under normal operating conditions, oil is to be replenished annually (OIL LEVEL).

Input gearing (1)

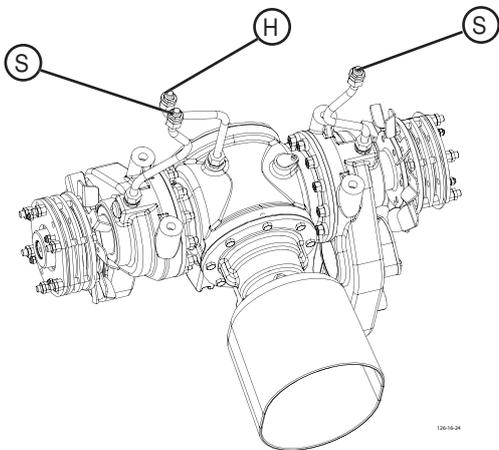
- Change oil after the first 50 operating hours.
- Change oil after 100 operating hours, at the latest.

Oil quantity:

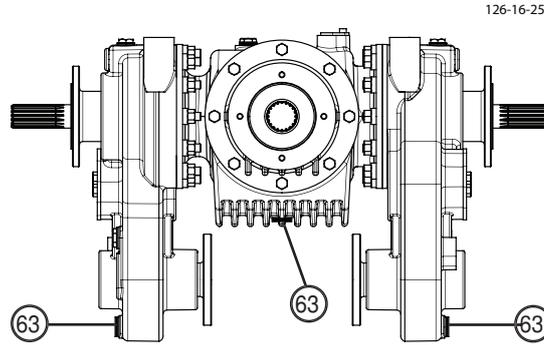
Main housing (H): 2.5l Liter

Side housing (S): 0.7 litres

Oil type: 75W-90 GL5 fully synthetic oil



126-16-24



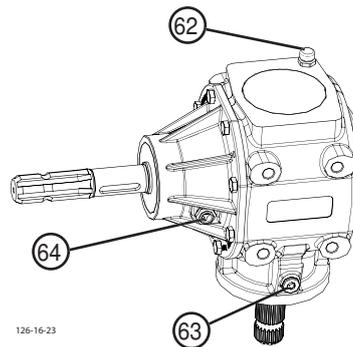
126-16-25

Angular gearing (2)

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

Oil quantity: 1.2l Liter

Oil type: 75W-90 GL5 fully synthetic oil

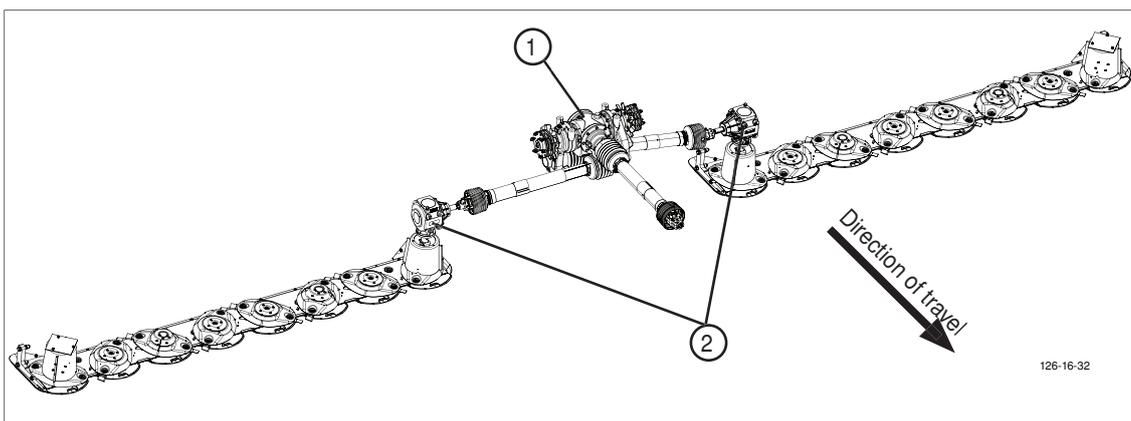


126-16-23

Fill opening (62)

Drain opening (63)

Oil level check (OIL LEVEL) (64)

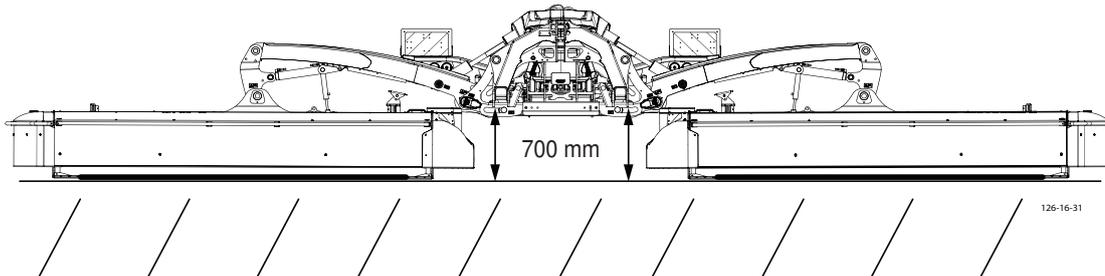


126-16-32

Maintenance of the mower's articulated shafts

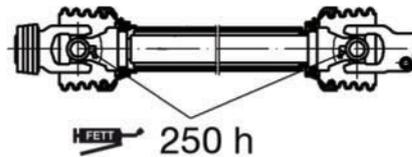
For the maintenance of the two articulated shafts on the mower, select the following mower setting:

- Set lower link height at approx. 700 mm
- Set the mower units at "Working position, narrow"

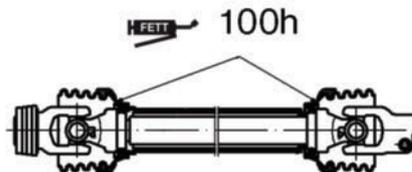


Greasing points:

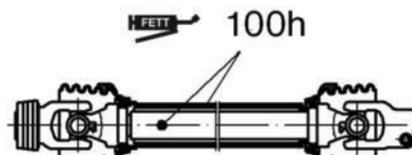
- Lubricate the 2 universal joints in the cap bottom every 250 operating hours,
Grease quantity: until grease escapes from the seals.



- Lubricate the 2 protective slide bearings (outside on the guard cones) every 100 operating hours
Quantity of grease: 3 strokes



- Lubricate the 2 profile pipe lubrication nipples and the related inner protective slide bearings every 50 operating hours (180° opposite)
Quantity of grease: Profile pipe lubrication nipples including the inner protective slide bearings: 5 strokes



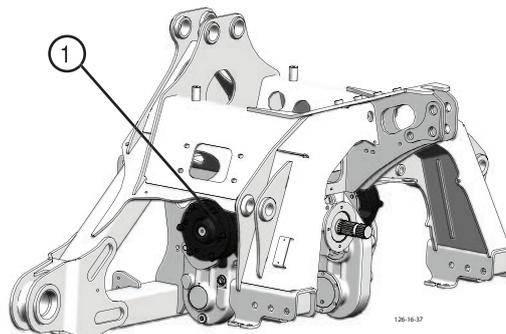
TIP

- The lubrication nipples are by 180° offset. Both grease nipples must be lubricated.

Friction-free coupling (1)

Ventilate the clutch:

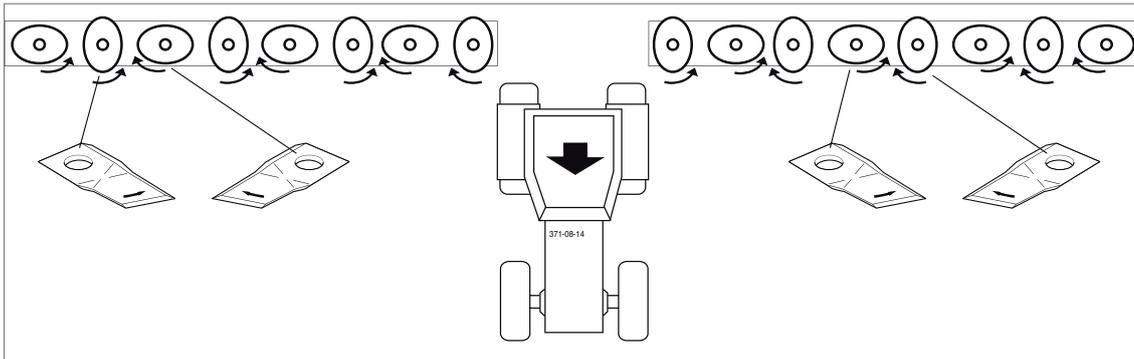
1. at least once a year (ideally after the winter break, before initial operation in spring)
2. after the machine has been at a standstill for longer intervals
3. after frequent washing of the machine



Installing cutter blades

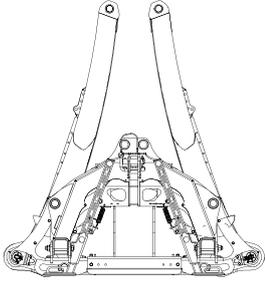
TIP

- 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.



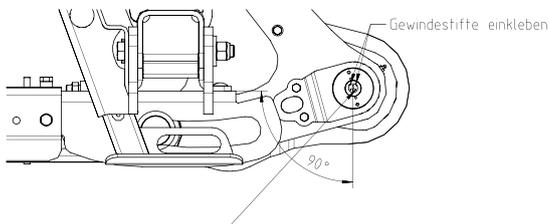
Adjusting the sensors

1. jib position sensor



169-16-08

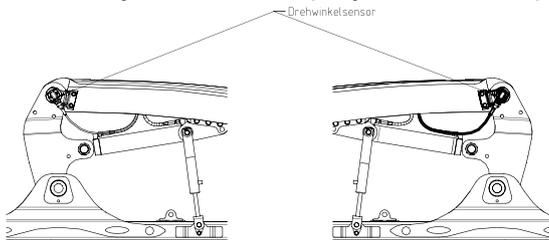
169-16-12



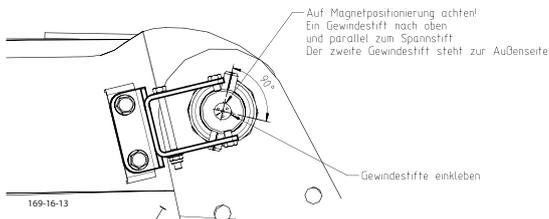
Magnet adjustment;

If both jibs are in transport position, the arrows on the magnet must point downwards.

2. Rocker position sensor (only NOVACAT A10)



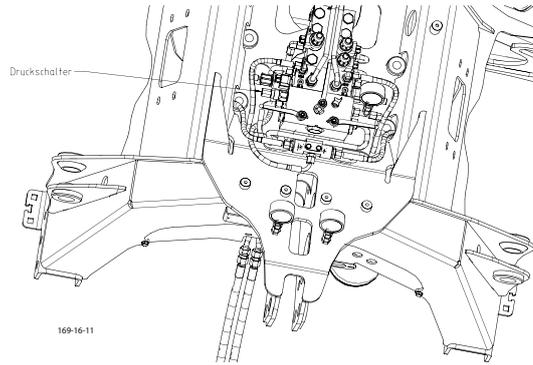
169-16-10



169-16-13

Pay attention to the position of the magnet. A grub screw positioned upwards and parallel to the roll pin. The second grub screw protrudes outward.

4. Pressure sensor



169-16-11

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

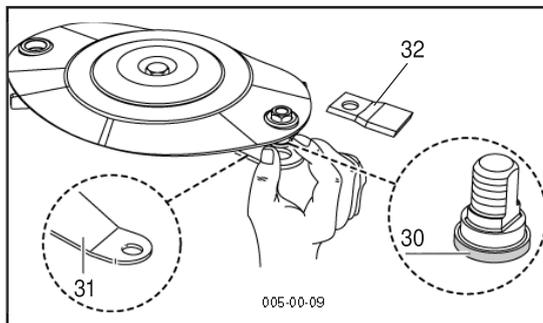
Check the blade holder, blade bolts and mowing blades regularly. Replace the worn parts!

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)

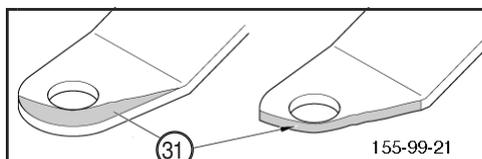


Control intervals:

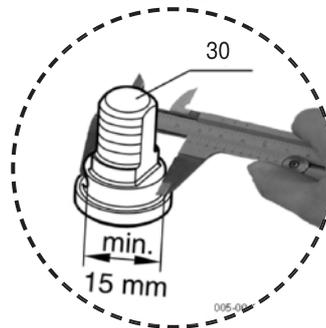
- Before each start-up
- When mowing on stony terrain, carry out further checks during work.
- Immediately after hitting an obstacle
- Immediately in case of abrasive noises in the area of the cutter bar

Control criteria:

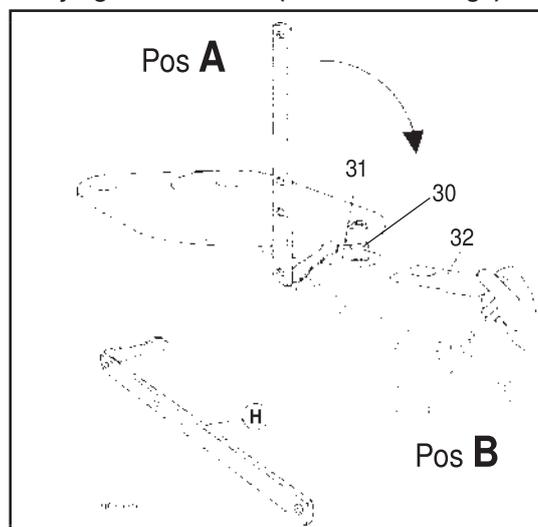
- Uneven wear of mowing blades (32) (danger of unbalance)
- Bent or damaged mowing blades (32)
- Bent, damaged or worn blade holder (the wear area of the blade holder has reached the edge of the hole) (31)



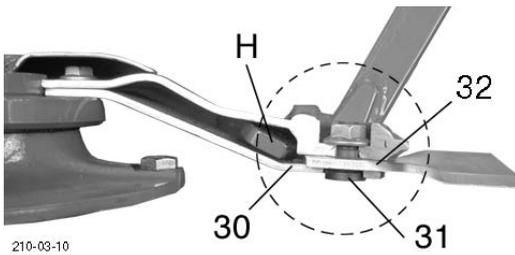
- Bent, damaged or worn blade bolts (middle area of the bolt: Diameter < 15 mm>; wear in the lower area of the bolt) (30)



Carrying out the check (with blade change):



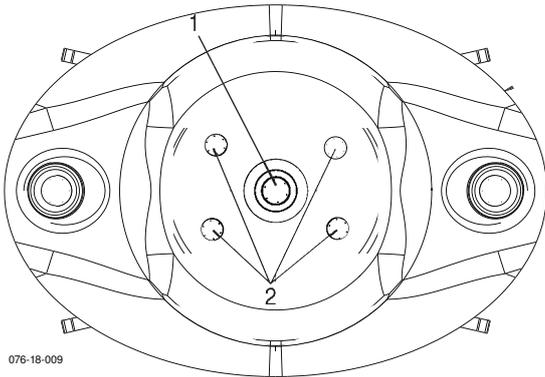
1. Insert lever (H) at a right angle to the ground (Pos A) between mower disc and blade holder.
2. Turn the lever (H) until it appears in line with the mower disc (Pos B). This will push the blade holder (31) downwards.
3. Remove the mowing blade (32).
4. Cleaning: Remove chuck residues and dirt from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

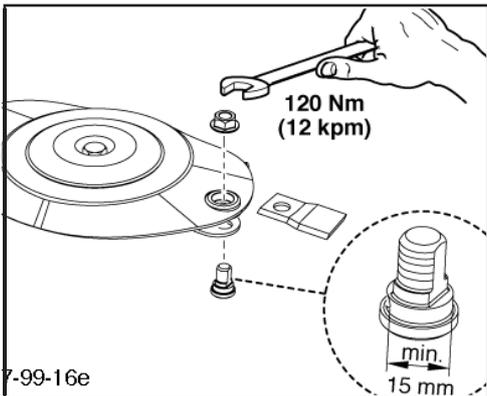
Bolt exchange passage:

1. Removing the mower disc



076-18-009

- 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.



7-99-16e

- 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.

Technical data

Description	NOVACAT A9	NOVACAT A9 ED	NOVACAT A9 RCB
	(Type 3849)	(Type 3849)	(Type 3849)
3-point mount	Cat III	Cat III	Cat III
No. of mowing discs	2 x 8	2 x 8	2 x 8
Number of blades per disc	2	2	2
Working width [m]	8.76 - 9.98	8.76 - 9.98	8.76 - 9.98
Transport width [m]	2.95	2.95	2.95
Ground clearance in transport position:	narrow	≥ 180	≥ 180
	wide mm	≥ 310	≥ 310
Transport height m	3.99	3.99	3.99
Transport length m	2.62	2.62	2.62
Power requirements [kW/ hp]	99 / 135	110 / 150	110 / 150
Coverage capacity [ha/h]	12.0	12.0	12.0
p.t.o. speed [rpm ⁻¹]	1000	1000	1000
Cardan shaft overload safeguard [Nm]	1100	1,100	1,100
Weight ¹⁾ [kg]	2260	2980	3060
Continuous sound emission level [db(A)]	93.6	93.6	93.6

All data subject to alteration without notice

Description	NOVACAT A10 (Type 3850)	NOVACAT A10 ED (Type 3850)	NOVACAT A10 RCB (Type 3850)	NOVACAT A10 ED Collector (Type 3850)	NOVACAT A10 RCB Collector (Type 3850)
3-point mount	Cat III	Cat III	Cat III	Cat III	Cat III
No. of mowing discs	2 x 8	2 x 8	2 x 8	2 x 8	2 x 8
Number of blades per disc	2	2	2	2	2
Working width	8,80 - 10,02 [m]	8,80 - 10,02 [m]	8,80 - 10,02 [m]	8,80 - 10,02 [m]	8,80 - 10,02 [m]
Transport width with - 3.0 m frame - 3.5 m frame	2.70 3.15 [m]	2.70 3.15 [m]	2.70 3.15 [m]	2.70 3.15 [m]	2.70 3.15 [m]
Ground clearance in transport position:	≥ 280 [mm]	≥ 280 [mm]	≥ 280 [mm]	≥ 280 [mm]	≥ 280 [mm]
Transport height	3.99 m	3.99 m	3.99 m	3.99 m	3.99 m
Transport length	2.62 m	2.62 m	2.62 m	2.62 m	2.62 m
Power requirements	118 / 160 [kW/hp]	132 / 180 [kW/hp]	132 / 180 [kW/hp]	132 / 180 [kW/hp]	132 / 180 [kW/hp]
Coverage capacity	12.0 [ha/h]	12.0 [ha/h]	12.0 [ha/h]	12.0 [ha/h]	12.0 [ha/h]
p.t.o. speed	1000 [rpm ⁻¹]	1000 [rpm ⁻¹]	1000 [rpm ⁻¹]	1000 [rpm ⁻¹]	1000 [rpm ⁻¹]
Cardan shaft overload safeguard	1100 [Nm]	1,100 [Nm]	1,100 [Nm]	1,100 [Nm]	1,100 [Nm]
Weight ¹⁾	2350 [kg]	3080 [kg]	3160 [kg]	3780 [kg]	3830 [kg]
Continuous sound emission level	88.5 [db(A)]	89.6 [db(A)]	89.6 [db(A)]	93.6 [db(A)]	93.6 [db(A)]

All data subject to alteration without notice

Necessary connections

- Hydraulic plug connection
 - see chapter "Attaching to Tractor"
 - Min. operating pressure: 160 bar
 - Max. operating pressure: 200 bar
- 7-pin connection for the lighting (12 volt)
- 3-pin connection for electro-hydraulic control (12 volt)

Type plate position

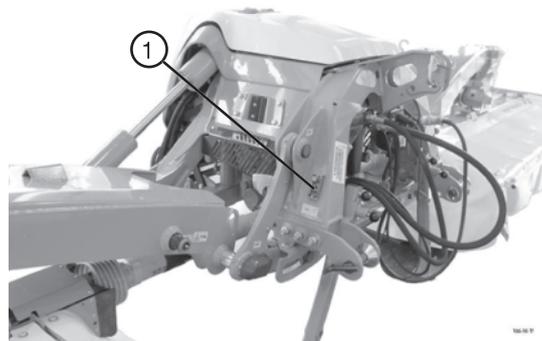
The chassis number is engraved on the type plate shown opposite. Guarantee claims, enquiries and spare parts orders cannot be processed without the chassis number. Please enter the chassis number on to the operating instructions' title page immediately upon taking delivery of the vehicle / implement.



TIP

The type plate only specifies the basic weight. Deviations are possible, depending on the machine's fittings.

The type plate (1) is placed in the area of the headstock, in driving direction, on the right side.



The defined use of the mower unit

The mower "NOVACAT A9 (Type 3849)", „NOVACAT A10 (Type 3850)“ is solely intended for customary use in agricultural work.

- 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 accepts no liability for any damage arising as a result thereof; the user accepts sole responsibility.
- Use as intended also includes complying with the manufacturer's stipulated maintenance and repair conditions.

SUPPLEMENT

Things will run better with
genuine Pöttinger parts

Original
inside



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

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

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


PÖTTINGER

**TIP**

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

1.) Operating instructions

- a. The operating instructions are an important part of the machine. Make sure that the operating instructions are always on hand when operating the machine.
- b. Keep the operating instructions as long as the machine is in your possession.
- c. Pass the operating instructions on to the buyer when selling the machine or changing the operator.
- d. Make sure that all safety and warning symbols remain attached on the machine and keep them readable. The hazard warnings provide important information for a safe operation and, thus, your safety.

2.) Qualified personnel

- a. Only persons of legal age who are mentally and physically able and have been trained or familiarized accordingly is allowed to operate this machine.
- b. Persons not yet trained, familiarized or under training or in a general education must only operate this machine under the supervision of an experienced person.
- c. Inspection, setting and repair work must only be performed by authorized persons.

3.) Performing maintenance work

- a. These instructions only refer to service, maintenance and repair operations the user is able to carry out without assistance. Any work beyond this scope has to be carried out at authorized workshops only.
- b. Repairs on the electrical and hydraulic system, preloaded springs, pressure accumulators, etc. require sufficient knowledge, correct tools and protective clothing and, thus, must only be performed at authorized workshops.

4.) After maintenance work on brakes

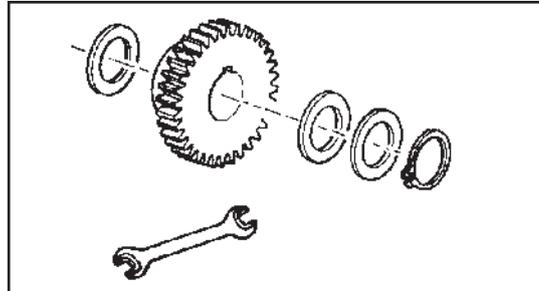
- a. After each repair of the brakes, a functional check or a test drive must be carried out to ensure that the brakes function properly. New drums or brake linings only have optimum braking effect after a few braking operations. Violent braking should be avoided.

5.) Modification work

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

6.) Appropriate use

- a. see technical data
- b. Intended use also includes compliance with the manufacturer's stipulated operating, maintenance and service conditions.

**7.) Spare parts**

- a. **Original parts and accessories** are specially designed for the machines and their equipment.
- b. We expressly draw your attention to the fact that genuine parts and accessories not supplied by us, have not been tested and approved by us.
- c. Under certain circumstances, the installation and/or use of such products may negatively modify or impair the specified structural properties of the machine. The manufacturer accepts no liability for any damage caused through the use of non-genuine parts and accessories.
- d. Unauthorised changes as well as the use of components or attachments on the machine lead to the exclusion of manufacturer's liability.

8.) Safety devices

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

9.) Before starting work

- a. Before commencing work, the operator must familiarise with all of the operating devices and functions. The learning of these is too late after having already commenced operation!
- b. Before every putting into operation check the vehicle or the implement for traffic and operating safety.

10.) Asbestos

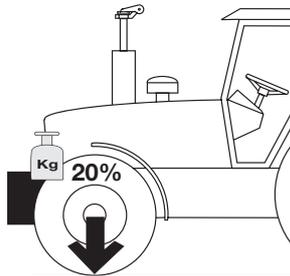
- a. Certain sub-supplied components of the vehicle may contain asbestos due to technical reasons. Please observe the marking of spare parts.

**11.) Transport of people prohibited**

- a. The transport of people on the machine is not permitted.
- b. The machine may only be driven on public roads when in the position stipulated for road transport.

12.) Driving ability with auxiliary equipment

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



- b. The driving ability is influenced by the road and auxiliary equipment. The driving must be adapted to the corresponding terrain and ground conditions.
- c. When driving through curves with a connected implement, observe the radius and swinging mass of the implement!
- d. When travelling in a curve with attached or semi-mounted implements, take into account the working range and swing mass of the implement!

13.) General

- a. Before attaching implements to the three-point linkage, move system lever into a position whereby unintentional raising or lowering is ruled out!
- b. Danger of injury exists when coupling implements to the tractor!
- c. Danger of injury through crushing and cutting exists in the three-point linkage area!
- d. Do not stand between the tractor and the implement when using three-point linkage external operation!
- e. Attach and detach drive shaft only when motor has stopped.
- f. When transporting with raised implement, secure operating lever against lowering.
- g. Before leaving tractor, lower attached implement to the ground and remove ignition key!
- h. Nobody is allowed to stand between tractor and implement without the tractor being secured against rolling using parking brake and/or wheel chocks!
- i. For all maintenance, service and modification work, turn driving motor off and remove the universal drive.

14.) Cleaning the implement

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

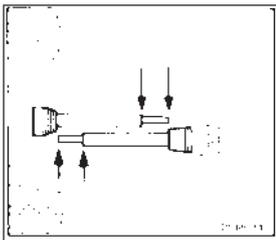
Adapting cardan shaft to tractor

NOTE

Material damage - due to inferior spare parts

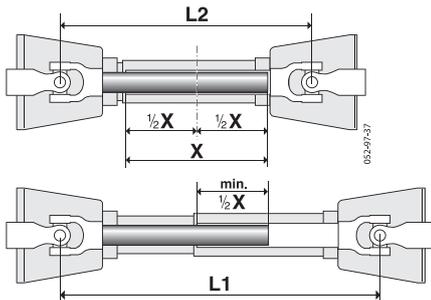
- Only use the cardan shaft supplied or stated; otherwise the warranty claims for any damage are not valid.

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



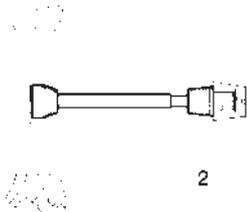
Cutting to length procedure

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



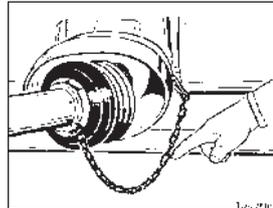
Caution!

- Note the maximum operating length (L1)
 - Try for the greatest possible tube overlap (min. 1/2 X)
- Trim the inner and outer protective tube equally
- Attach overload protection (2) to the machine!
- Always check that drive shaft locks are securely engaged before starting work.



Safety chain

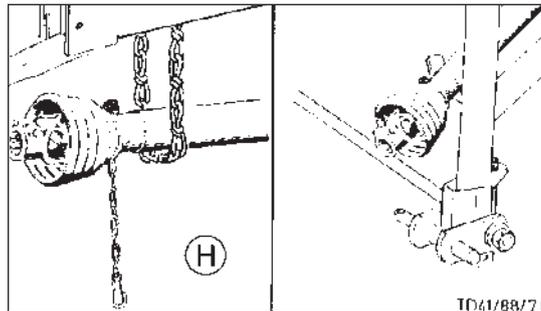
- Use chain to prevent tube guard from rotating. Ensure sufficient swivel space for the cardan shaft!
- Trim the safety chain so that it cannot wind around the cardan shaft.



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.



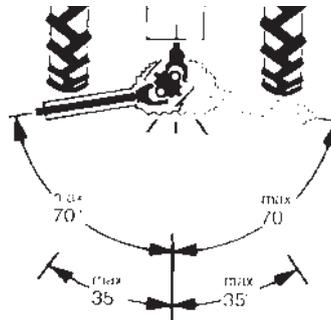
Wide-angle joint:

Maximum angle for operation and at standstill 70°.

Standard joint :

Maximum angle at standstill 90°.

Maximum angle for operation 35°.



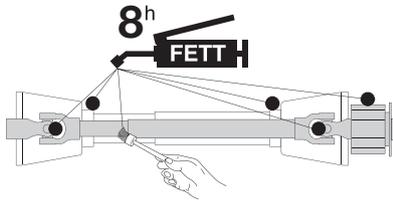
DANGER

Mortal danger - due to worn covers

- Replace the worn covers immediately

- Lubricate with a brand-name grease before starting work and every 8 hours worked.
- Before any extended period of non-use, clean and lubricate driveshaft.

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



Important for driveshafts with friction clutch

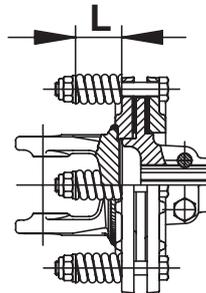
Torque is limited with overloading and brief torque peaks and evenly transferred during slipping.

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

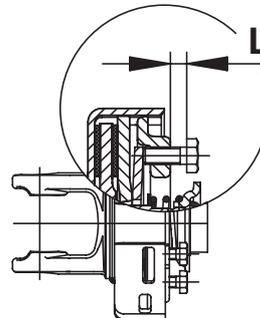
- Measure dimension „L“ at compression spring of K90, K90/4 and K94/1 or at set screw of K92E and K92/4E.
- Loosen screws to release the pressure on the friction disk.
Slip the clutch.
- Tighten set screws to dimension "L".

Clutch is ready for use.

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



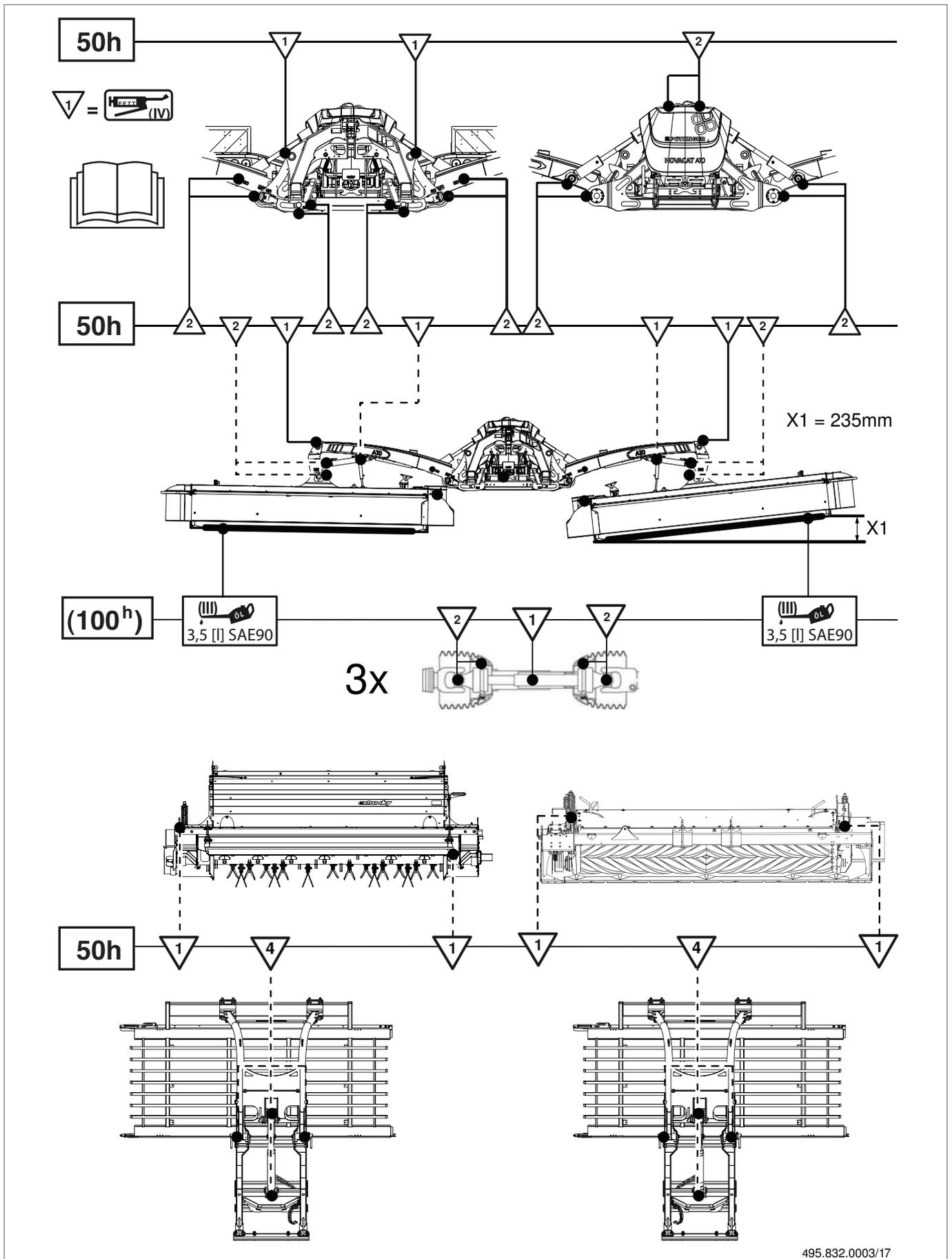
See manufacturer's instructions



Rotations per minute



Always screw in measuring stick up to stop.



495.832.0003/17

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.

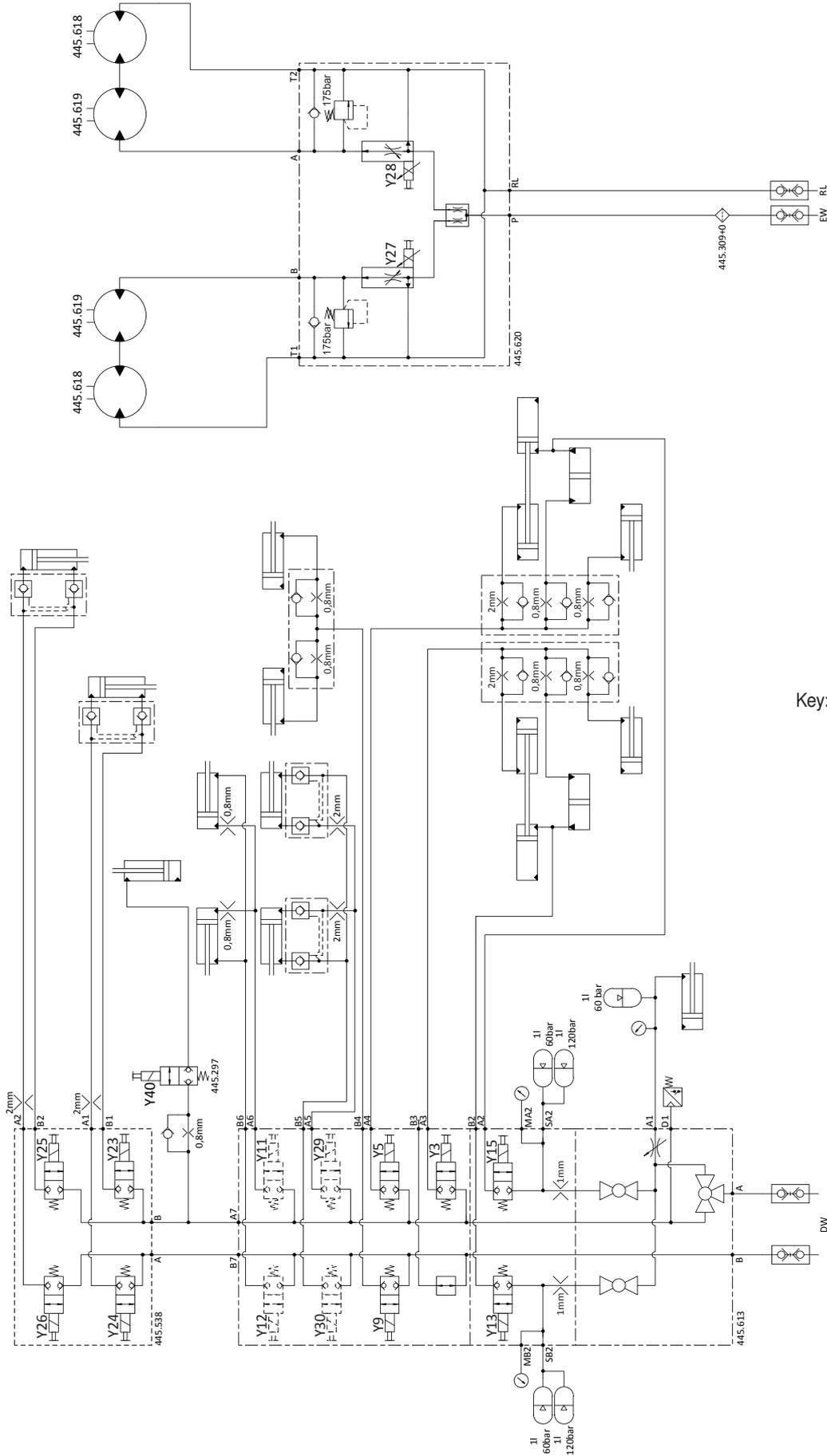
Corrosion protection: Fluid 466

Lubricant indicator	I	(II)	III		V	VI	VII
required quality / level niveau	HYDRAULIKÖL-HLP DIN 51524 Teil 2	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
	See notes: * ** ***						

Company	I					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	ARALUB FDP 00	ARALUB FK 2	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	ARALUB FK 2	GETRIEBEÖL HYP 90 GETRIEBEÖL HYP 85W-140 EP	
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	A V I A GETRIEBEFLEISSFETT	A V I A L U B SPEZIALFETT LD	A V I A L U B SPEZIALFETT LD	GETRIEBEÖL HYP 90 EP MULTIHYP 85W-140 EP	** HLP-(D) + HV hydraulic oils *** HLP + HV hydraulic oils with a vegetable oil basis, biodegradable and therefore environmentally friendly.
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	GETRIEBEFLEISSFETT NLGI 0 RENOLIT DURAPLEX EP 00 PLANTOGEL 00N	RENOPLEX EP 1	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	OLEX PR 9142	HYPOGEAR 90 EP HYPOGEAR 85W-140 EP	
CASTROL	HYSPINAW/S32/46/68/HYSPIN AWH 32/46	RX SUPER DIESEL 15W-40 POWERTRANS	EPX 80W-90 HYPOY C 80W-140	CASTROL GREASE LM	IMPERVIA M/MO	CASTROL GREASE LMX	CASTROL GREASE 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 AUSTRORAC 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	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	PLUSMOTORÖL 20W-30 UNIFARM 15W-30	GEAR OIL GP 80W-90 GEAR OIL GP 85W-140	MULTI PURPOSE GREASE H	FIBRAX EP 370	NEBULA EP 1 GP GREASE	NEBULA EP 1 GP GREASE	GEAR OIL GX 80W-90 GEAR OIL GX 85W-140	
EVVA	ENAK HLP 32/46/68 ENAK MULTI 46/68	SUPER ENAK HD/BSAE 30 UNIVERSAL TRACTOROIL SUPER	HYPOID GA 90 HYPOID GB 90	HOCHDRUCKFETT LT7 SC 280	GETRIEBEFETT MO370	EVVA CA 300	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	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 AGRIFARM 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	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	GETRIEBEFLEISSFETT PLANTOGEL 00N	RENOPLEX EP 1	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	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	MEHRZWECKGETRIEBEÖL SAE 90 HYPOID EW 90	MEHRZWECKFETT RENOLIT MP DURAPLEX EP	RENOSOD GFO 35	RENOPLEX EP 1	RENOPLEX EP 1	HYPOID EW 90	

Company	I				V	VI	VIII	NOTATIONS
SHELL	TELLUSS32/S46/S68 TELLUS T 32/46	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 SIMMIA GREASE O	AEROSHELL GREASE 22 DOLIUM GREASE R	SPIRAX HD 90 SPIRAX HD 85W-140 TOTAL EP B 85W-90	* 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 ZS32,46,68 EQUIVVIS 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*** HYDROFLUID*	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	

Hydraulic plan Select Control with collector

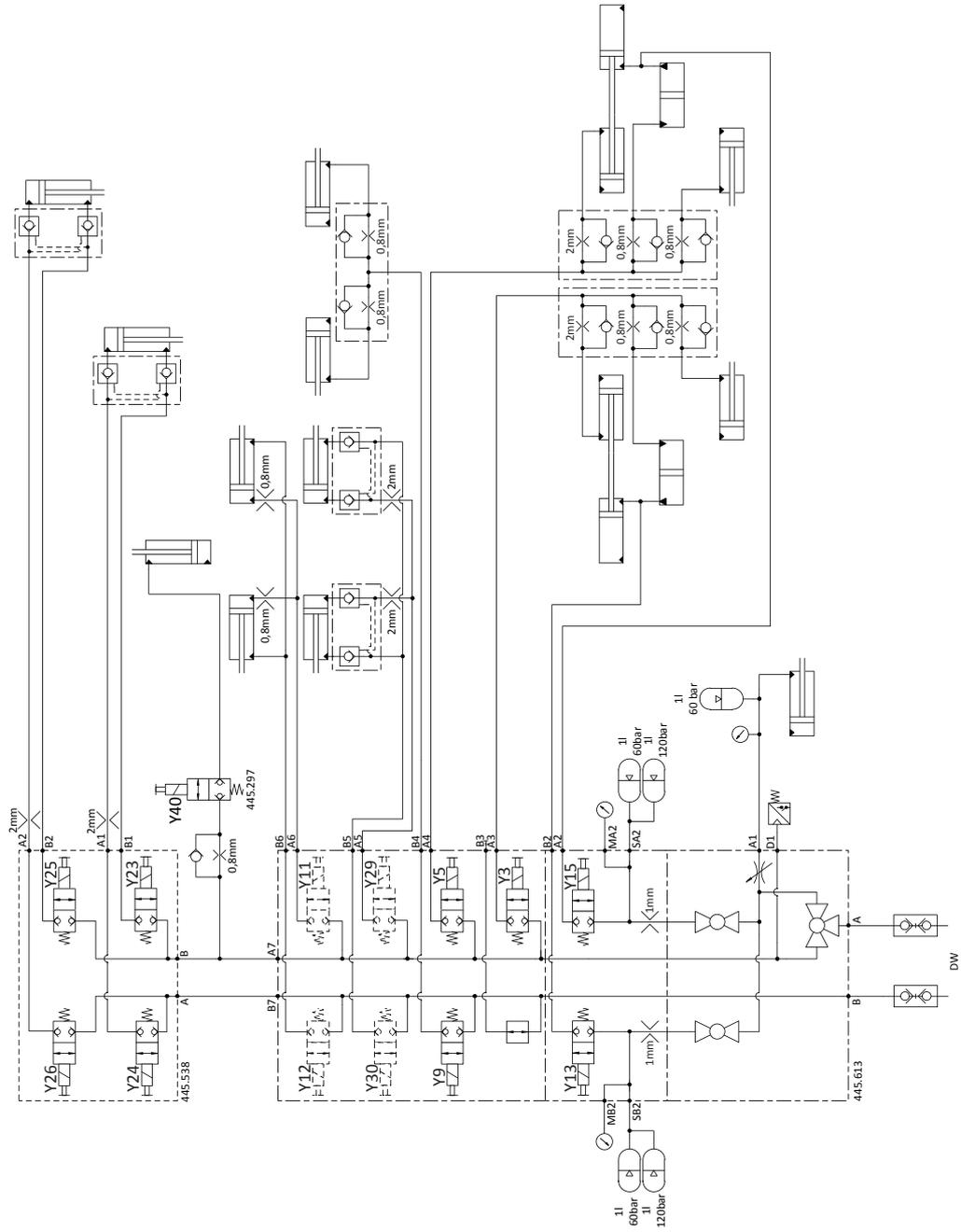


Key: see next page

Key:

Y3	Seat valve - Right mower unit
Y5	Seat valve - Mower unit, links
Y9	Locking system
Y11	Seat valve - Side protection
Y12	Seat valve - Side protection
Y13	Seat valve - Right hydraulic relief
Y15	Seat valve - Left hydraulic relief
Y23	Seat valve - Right cross conveyor
Y24	Seat valve - Right cross conveyor
Y25	Seat valve - Left cross conveyor
Y26	Seat valve - Left cross conveyor
Y27	Current control valve - right cross conveyor
Y28	Current control valve - left cross conveyor
Y29	Seat valve - Side shifting
Y30	Seat valve - Side shifting
Y40	Swath comb

Select Control hydraulic diagram



Select control - Emergency operation

When there is an electrical system interruption, then the desired hydraulic function can be carried out using an emergency action.

! DANGER

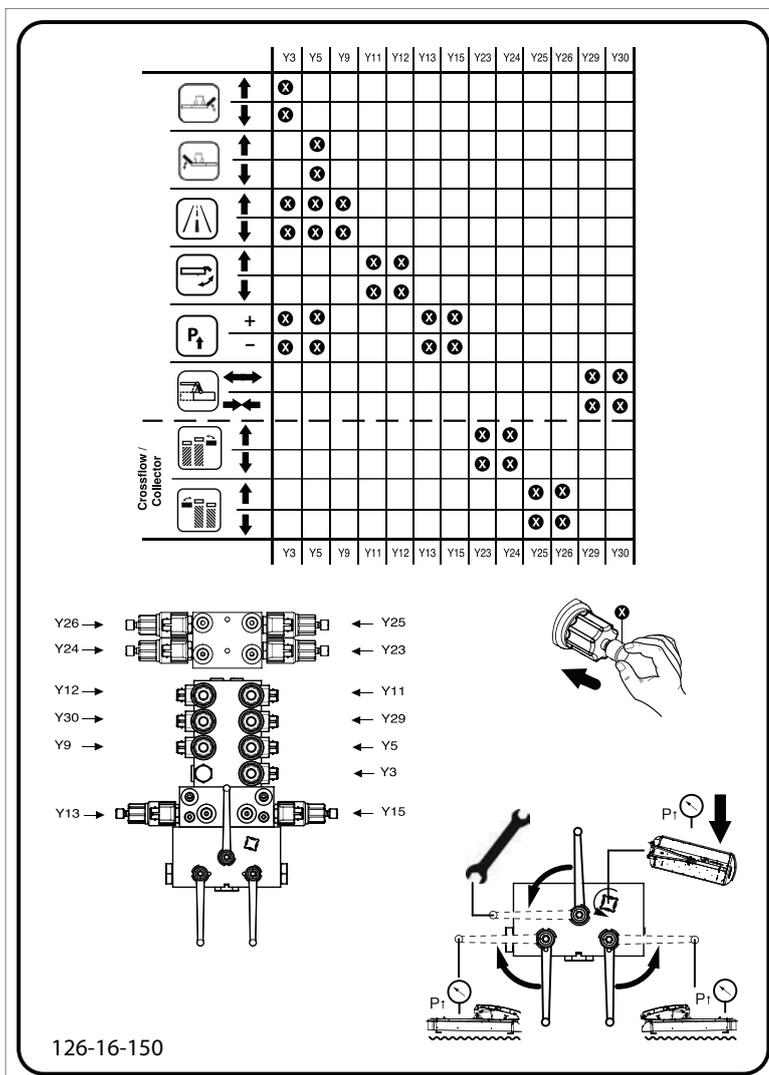
Life-threatening danger exists when entering the danger zones

- Be aware of the danger clearances for all lifting and lowering operations, or switching on and off procedures.

The hydraulic block is located under the front protective cover.

To carry out the desired hydraulic function

- Screw in the allocated valve knob
- Actuate servo-valve on tractor
- The hydraulic function is carried out
- Finally, unscrew the allocated valve knob.



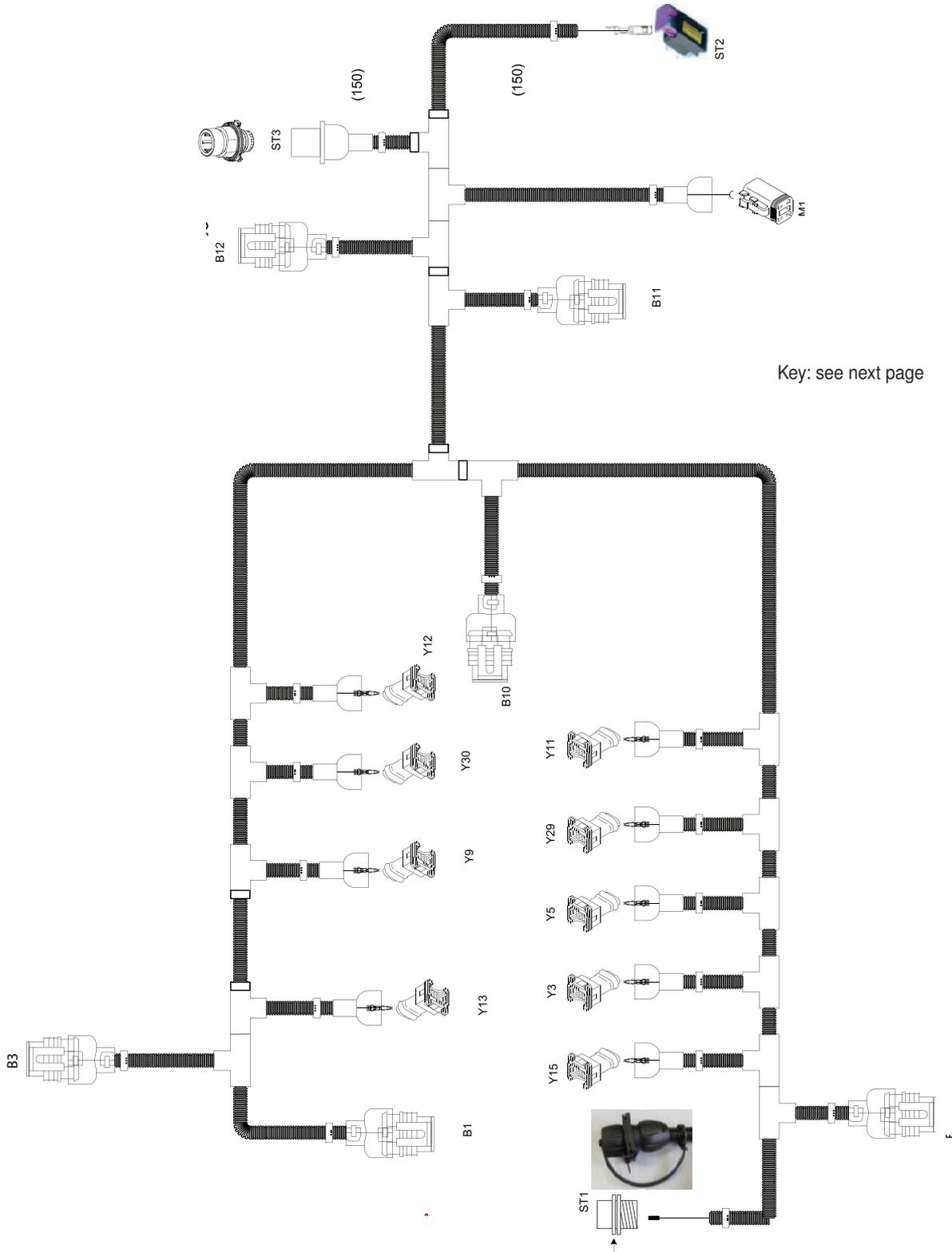
Key:

- | | | | |
|-----|-------------------------------------|-----|-----------------------------------|
| Y3 | Seat valve - Right mower unit | Y23 | Seat valve - Right cross conveyor |
| Y5 | Seat valve - Left mower unit | Y24 | Seat valve - Right cross conveyor |
| Y9 | Seat valve - Locking system | Y25 | Seat valve - Left cross conveyor |
| Y11 | Seat valve - Side protection | Y26 | Seat valve - Left cross conveyor |
| Y12 | Seat valve - Side protection | Y29 | Seat valve - Side shifting |
| Y13 | Seat valve - Right hydraulic relief | Y30 | Seat valve - Side shifting |
| Y15 | Seat valve - Left hydraulic relief | | |

Select control - Control panel



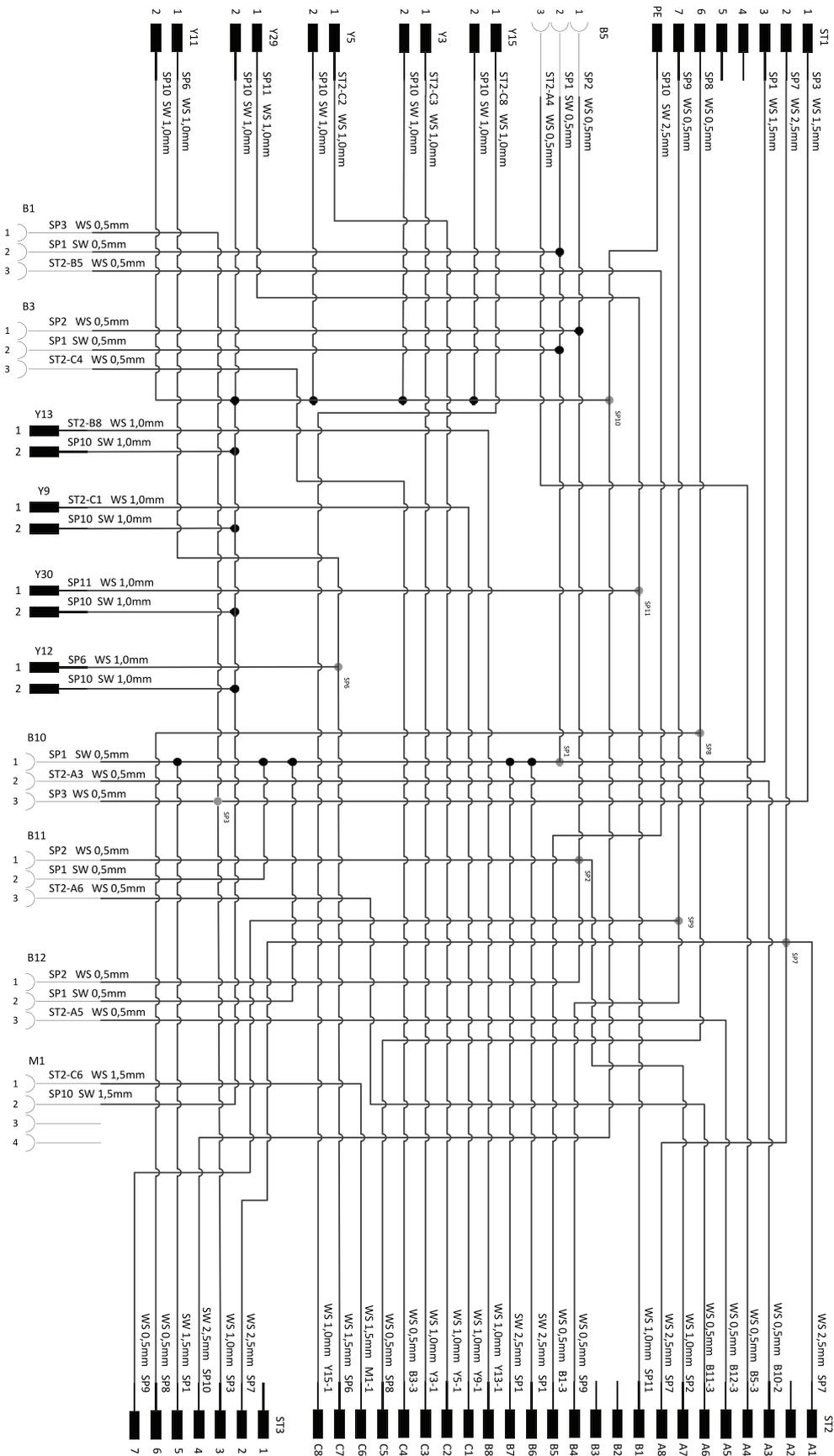
Select Control - Cable harness



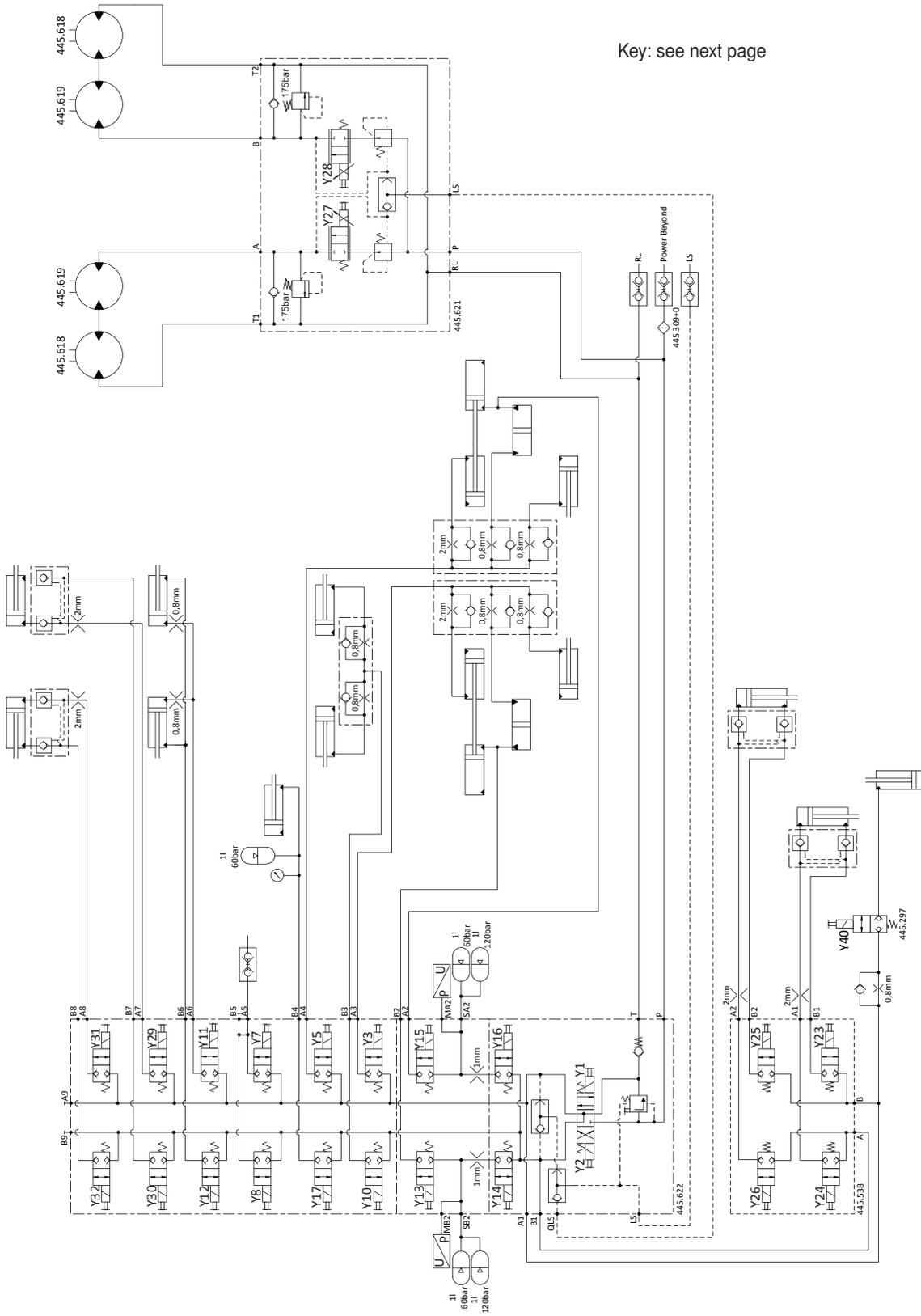
Key:

B1	Pressure switch, auto
B3	Right raising angle
B5	Left raising angle
B10	PTO speed input
B11	Right side angle
B12	Left side angle
M1	Optional electric lubrication pump
ST1	Plug connection to operating panel
ST2	Plug connection to CAN/IO
ST3	Connecting plug to CC or cross flow
Y3	Seat valve - Right mower unit
Y5	Seat valve - Left mower unit
Y9	Seat valve - Locking system
Y11	Seat valve - Side protection
Y12	Seat valve - Side protection
Y13	Seat valve - Right hydraulic relief
Y15	Seat valve - Left hydraulic relief
Y25	Seat valve - Left cross conveyor
Y26	Seat valve - Left cross conveyor
Y29	Seat valve - Side shifting
Y30	Seat valve - Side shifting

Select Control - Circuit diagram



Hydraulic plan Power Control with collector

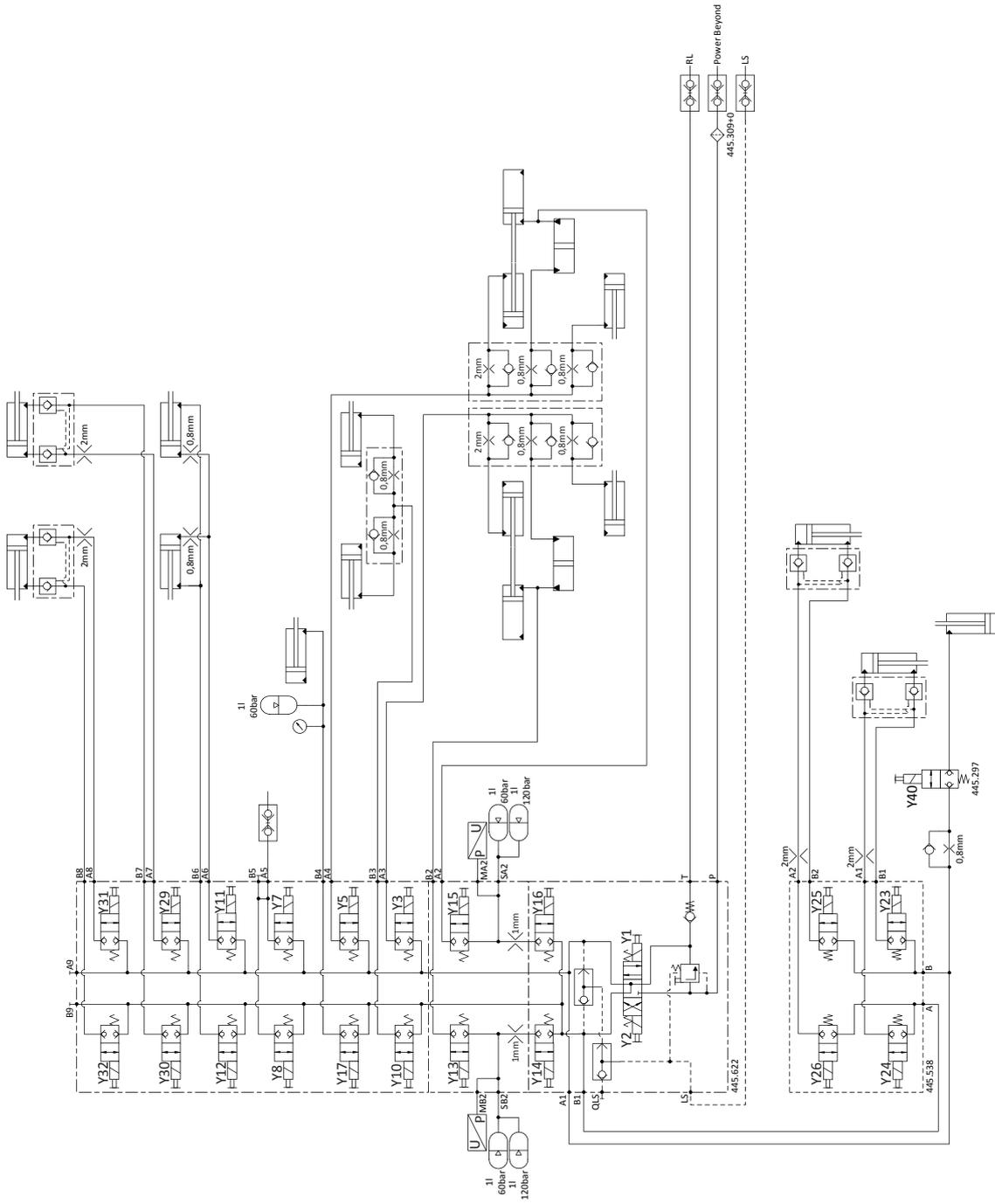


Key: see next page

Key

Y1	Lower directional control valve
Y2	Raise directional control valve
Y3	Seat valve - Right mower unit
Y5	Seat valve - Left mower unit
Y7	Seat valve - Middle mower unit
Y8	Seat valve - Middle mower unit in neutral
Y10	Seat valve - Locking
Y11	Seat valve - Side protection
Y12	Seat valve - Side protection
Y13	Seat valve - Right hydraulic relief
Y14	Seat valve - Filling right hydraulic relief
Y15	Seat valve - Left hydraulic relief
Y16	Seat valve - Filling left hydraulic relief
Y17	Collision protection
Y23	Seat valve - Right cross conveyor
Y24	Seat valve - Right cross conveyor
Y25	Seat valve - Left cross conveyor
Y26	Seat valve - Left cross conveyor
Y27	Flow control valve - right cross conveyor
Y28	Flow control valve - left cross conveyor
Y29	Seat valve - Side shift, left
Y30	Seat valve - Side shift, left
Y31	Seat valve - Side shift, right
Y32	Seat valve - Side shift, right
Y40	Swath comb

Power Control hydraulic diagram



Power Control - Emergency operation

When there is an electrical system interruption, then the desired hydraulic function can be carried out using an emergency action.

! DANGER

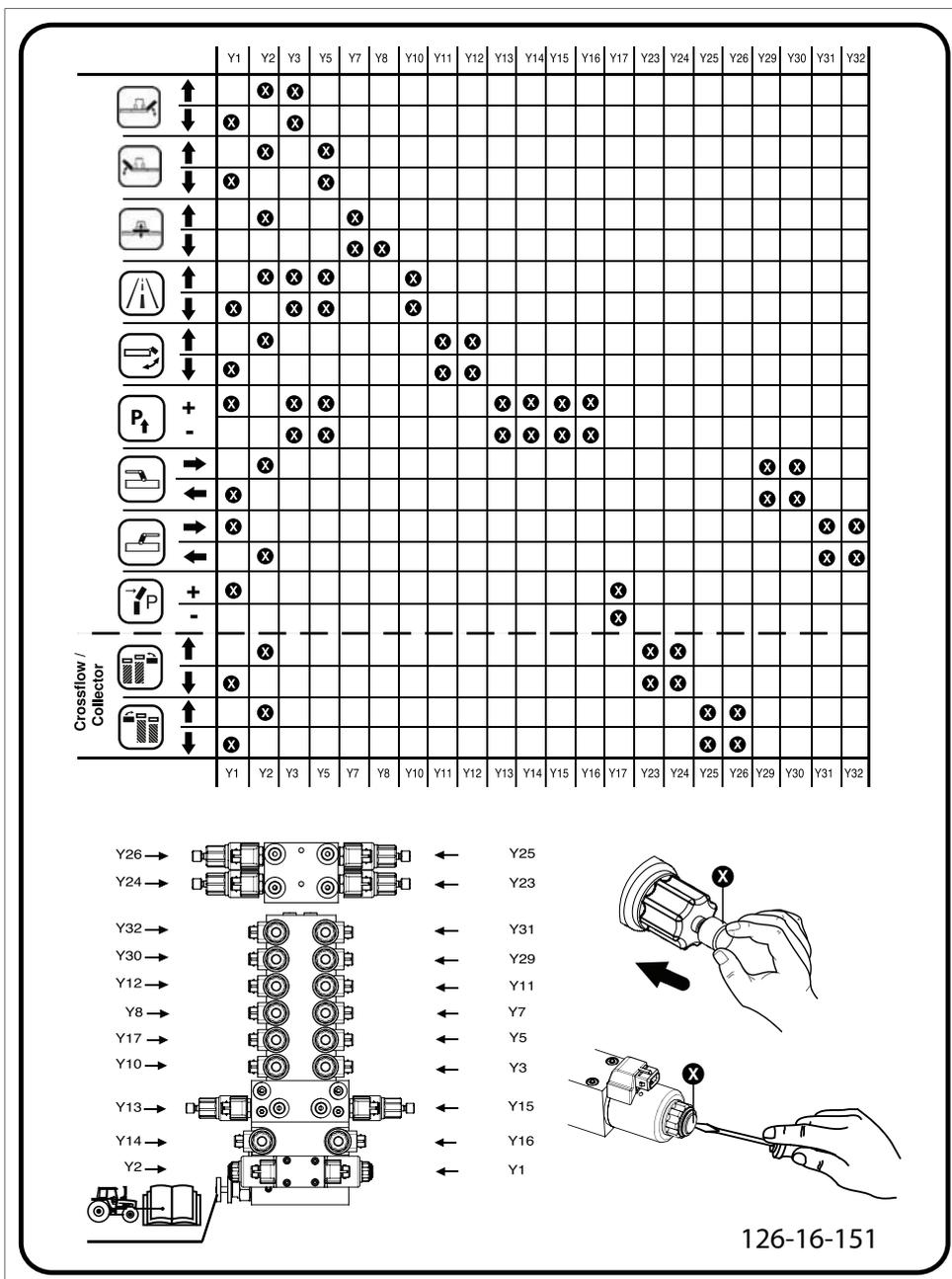
Life-threatening danger exists when entering the danger zones

- Be aware of the danger clearances for all lifting and lowering operations, or switching on and off procedures.

The hydraulic block is located under the front protective cover.

To carry out the desired hydraulic function

- Screw in the allocated valve knob
- Actuate servo-valve on tractor
- The hydraulic function is carried out
- Finally, unscrew the allocated valve knob.



Key: see next page

Key

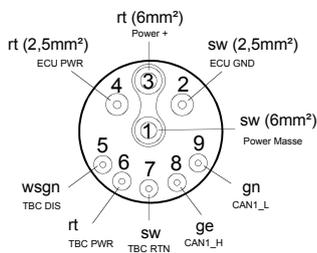
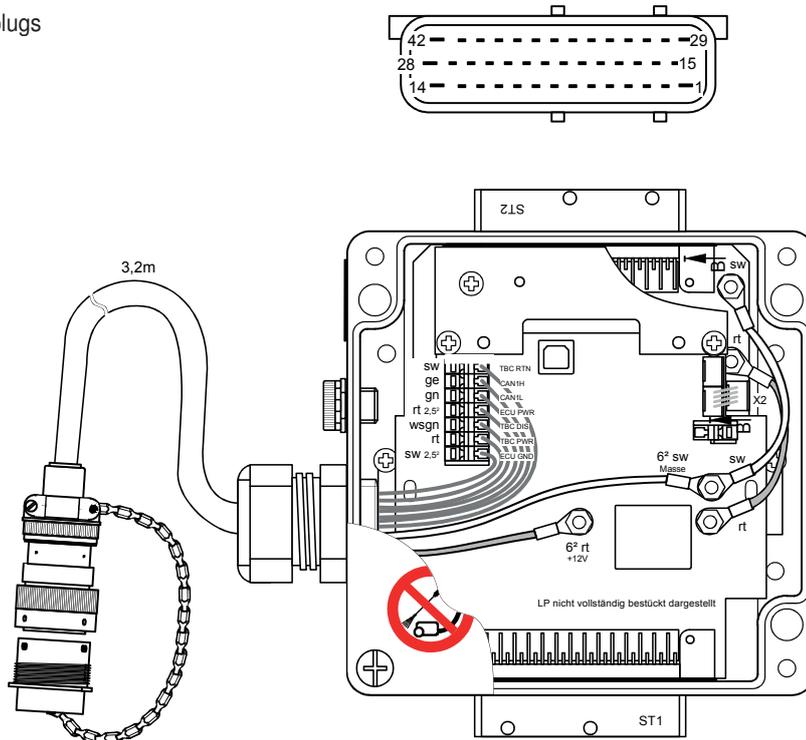
Y1	Lower directional control valve
Y2	Raise directional control valve
Y3	Seat valve - Right mower unit
Y5	Seat valve - Left mower unit
Y7	Seat valve - Middle mower unit
Y8	Seat valve - Middle mower unit in neutral
Y10	Seat valve - Locking
Y11	Seat valve - Side protection
Y12	Seat valve - Side protection
Y13	Seat valve - Right hydraulic relief
Y14	Seat valve - Filling right hydraulic relief
Y15	Seat valve - Left hydraulic relief
Y16	Seat valve - Filling left hydraulic relief
Y17	Collision protection
Y23	Seat valve - Right cross conveyor
Y24	Seat valve - Right cross conveyor
Y25	Seat valve - Left cross conveyor
Y26	Seat valve - Left cross conveyor
Y29	Seat valve - Right side shift
Y30	Seat valve - Right side shift
Y31	Seat valve - Left side shift
Y32	Seat valve - Left side shift

Power Control - Control panel



Power Control - Job calculator

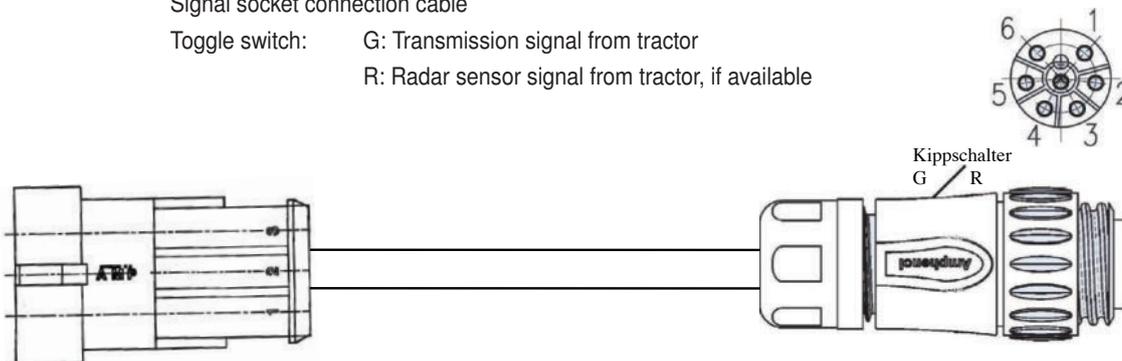
External view of the plugs



Signal socket connection cable

Signal socket connection cable

Toggle switch: G: Transmission signal from tractor
R: Radar sensor signal from tractor, if available

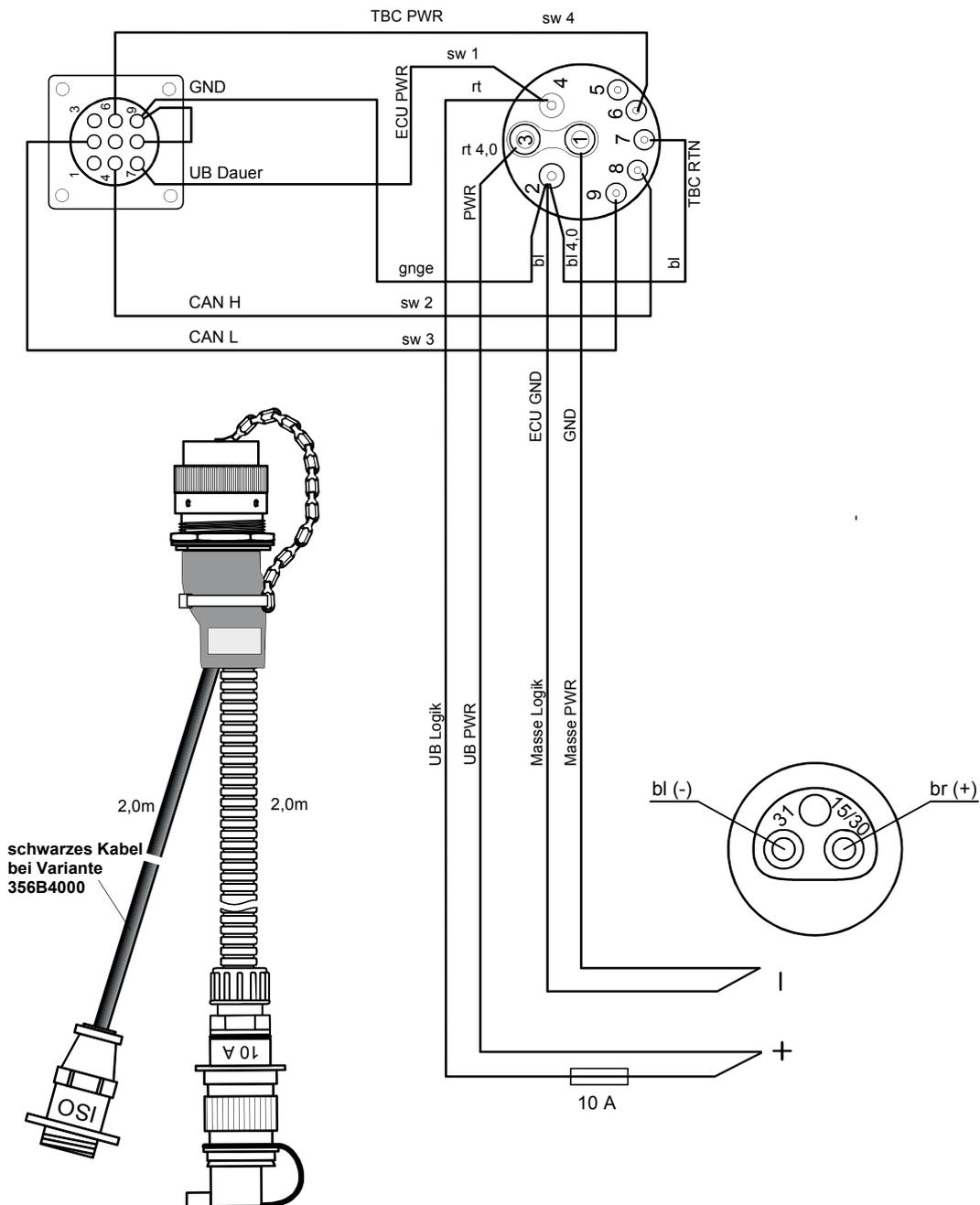


- 1 - n.c.
- 2 - Litze Nr. 1
- 3 - Litze Nr. 2

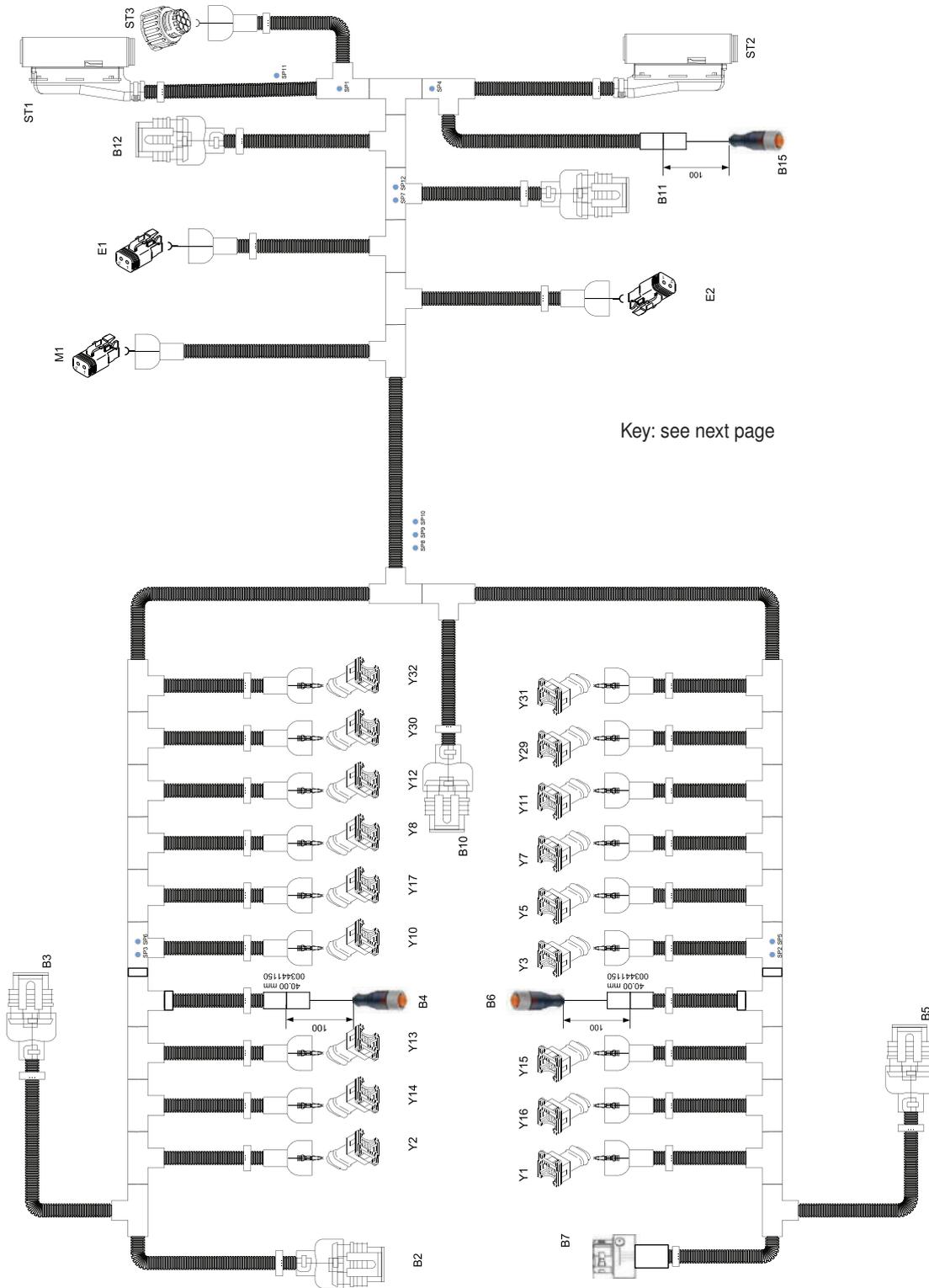
- 1 - Litze Nr. 2- Schalterstellung R
- 2 - Litze Nr. 2 - Schalterstellung G

Tractor cable

External view of plugs and plug-in connections



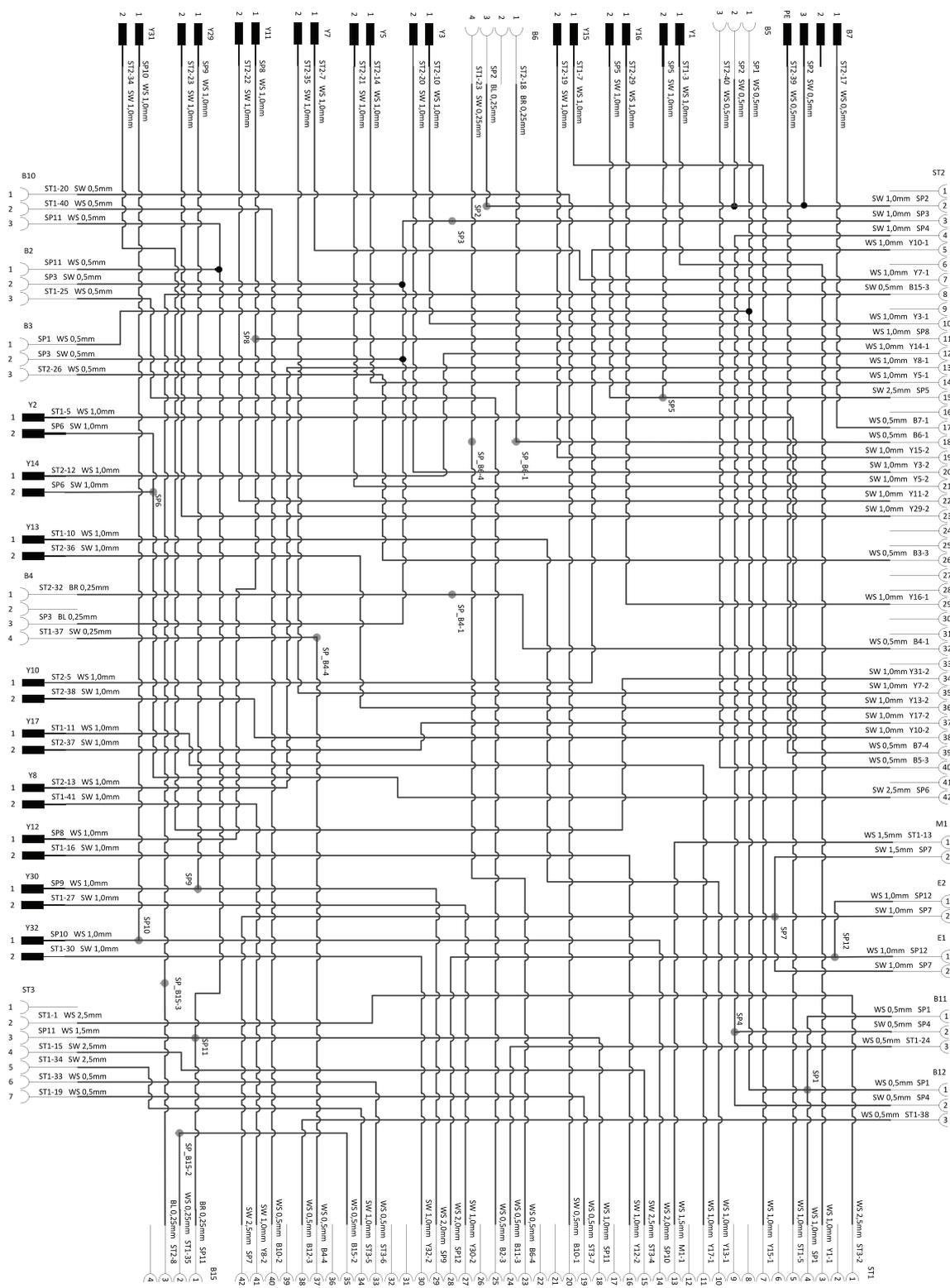
Power Control - Cable harness



Power Control cable harness key

B2	Signal socket kph	ST1	Plug connection to Job calculator
B3	Right MW position	ST2	Plug connection to Job calculator
B4	Right relief pressure	ST3	Connecting plug to CC or cross flow
B5	Left MW position		
B6	Left relief pressure	Y1	Lower directional control valve
B7	Middle MW position	Y2	Raise directional control valve
B10	PTO speed input	Y3	Seat valve - Right mower unit
B11	L e f t s i d e a n g l e	Y5	Seat valve - Left mower unit
		Y7	Seat valve - Middle mower unit
		Y8	Seat valve - Middle mower unit in neutral
B12	Right side angle	Y10	Seat valve - Locking
B15	Slope sensor	Y11	Seat valve - Side protection
B16	Anti-collision safeguard pressure	Y12	Seat valve - Side protection
B20	Left CC position	Y13	Seat valve - Right hydraulic relief
B21	Right CC position	Y14	Seat valve - Filling right hydraulic relief
B22	Left CC speed	Y15	Seat valve - Left hydraulic relief
B23	Right CC speed	Y16	Seat valve - Filling left hydraulic relief
B24	Left cross flow rpm	Y17	Collision protection
B25	Right cross flow rpm	Y29	Seat valve - Right side shift
		Y30	Seat valve - Right side shift
M1	Optional electric lubrication pump	Y31	Seat valve - Left side shift
		Y32	Seat valve - Left side shift
E1	Left work lights		
E2	Right work lights		

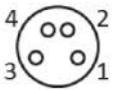
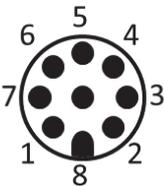
Power Control - Circuit diagram

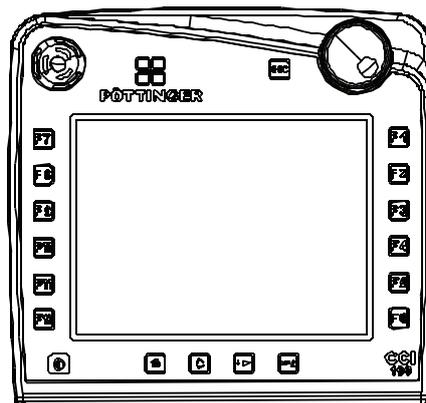


Terminal assignment of CCI terminal:

The multi-connector power board is on the back of the terminal. In addition, the terminal USB connection is located on the back under a flap
(external plug views)

Symbol	PIN	Signal	Colour	Function
CAN1 - IN / M12 x1 - 8-pin plug with switchable terminal resistance				
	1	+U _B	white	Supply voltage
	2	EMERGENCY STOP B	brown	Emergency-Stop input
	3	+U _{ON}	green	ECU- or external on/off signal
	4	EMERGENCY STOP V	yellow	Emergency-Stop supply
	5	CAN0L	grey	CAN 1 Low
	6	GND	pink	GND
	7	CAN0H	blue	CAN 1 High
	8	Screen	red	Screen disconnected from GND
CAN1 - OUT / M12 x1 - 8-pin connector with switchable terminal resistance				
	1	+U _B	white	Supply voltage
	2	EMERGENCY STOP B	brown	Emergency-Stop output
	3	+U _{ON}	green	ECU- or external on/off signal
	4	EMERGENCY STOP V	yellow	Emergency-Stop supply
	5	CAN0L	grey	CAN 1 Low
	6	GND	pink	GND
	7	CAN0H	blue	CAN 1 High
	8	Screen	red	Screen disconnected from GND
RS232 / Signal / M12 x1 - 12-pin connector for signal socket according to ISO 11786				
	1	+U _{B SW}	brown	Supply power interconnected
	2	GND	blue	GND
	3	SMFQ IN 2	white	ISO 11786 "Power-take-off speed"
	4	SAN_IN0	green	ISO 11786 "Lifting gear position"
	5	SMFQ_IN3	pink	ISO 11786 "Wheel speed"
	6	SMFQ_IN4	yellow	Direction of travel
	7	SMFQ_IN1	black	ISO 11786 "Slip-free speed"
	8	COM0_RxD_IN	grey	RS232 1 RxD (Input)
	9	COM0_TxD_OUT	red	RS232 1 TxD (Output)
	10	IGN	violet	Ignition signal (Terminal 15)
	11	COM1_RxD_IN	grey / pink	RS232 2 RxD
	12	COM1_TxD_OUT	red / blue	RS232 1 TxD
Video / M12 x1 - 8-pin connector				
	1	VIDEO_IN	white	Video signal
	2	RS485_B	brown	EIA RS-485 B
	3	RS485_A	green	EIA RS-485 A
	4	+U _{B SW}	yellow	Supply voltage interconnected
	5	RS485_A	grey	EIA RS-485 A
	6	+U _{B SW}	pink	Supply voltage interconnected
	7	VGND	blue	Video GND
	8	Screen	red	Screen disconnected from GND

Symbol	PIN	Signal	Colour	Function
LIN / M18 x1 - 4-pin connector				
	1	+U _{B SW}	brown	Supply voltage interconnected
	2	N.C.	white	N.C.
	3	GND	blue	GND
	4	LIN	black	LIN bus
USB - Host 2.0 - connector - with bayonet catch for the protection cap				
	1	+5 V	red	USB supply voltage 5 V
	2	D -	white	data
	3	D +	green	data +
	4	GND	black	GND
CAN2 - IN / M12 x1 - 8-pin plug				
	1	+U _B	white	Supply voltage
	2	EMERGENCY STOP B	brown	Emergency-Stop input
	3	+U _{ON}	green	ECU- or external on/off signal
	4	EMERGENCY STOP V	yellow	Emergency-Stop supply
	5	CAN1L	grey	CAN 2 Low
	6	GND	pink	GND
	7	CAN1H	blue	CAN 2 High
	8	Screen	red	Screen disconnected from GND
Ethernet / M12x1 4-pin connector				
	1	TX+	yellow	D-coded IEC 61076-2-101
	2	RX+	white	
	3	TX-	orange	
	4	RX-	blue	



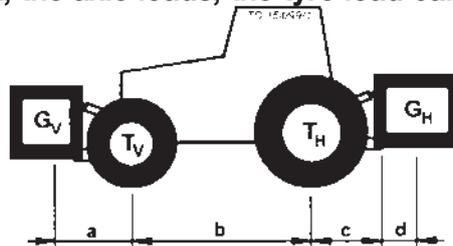
Combination of tractor and mounted implement

⚠ 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 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 $G_{V \min}$

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

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.

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

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

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

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

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_V) does not reach the minimum required ballasting Rear ($G_{H\text{min}}$), the weight of the rear hitched implement must be increased to the minimum ballasting Rear!)

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

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 $T_{H\text{tat}}$

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

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

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!

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 A10 CF	A10 ED	A10 RC	A9	A9 ED	A9 RCB
Type	3850	3850	3850	3849	3849	3849
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 12100:2010
 EN ISO 4254-12:2012

EN ISO 4254-1:2015
 EN ISO 4254-12:2012/A1:2017

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

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