



AMAZONE



Orientation Aid for the Start of the Season Precea – mounted models

Contents

1. General information
2. Preparing the implement
3. Calibration of the fertiliser metering
4. Adjusting the application rate for seed
5. Implement settings
6. Adjusting the scraper
7. Start screen of the implement software (ISOBUS)
8. Work menu of the implement software (ISOBUS)
9. Software: Settings menu (ISOBUS)
10. Preparation for the Task Controller in the implement software (ISOBUS)
11. Micropellet spreader (optional)
12. Metering wheels for micropellet spreader

1. General information

- Use of this document requires that the **operating manuals** for the implement and the software have been **read** and **understood**. The corresponding documents are listed on the right side.
- For this reason, it is necessary to refer to the operating manual for additional information. The **operating manual must always be available** when working with the orientation aid for the start of the season.
- The Orientation Aid for the Start of the Season - Precea document serves as a guideline for the user to check the implement for the new season and to put it back into operation. Depending on the equipment, this document is based on software version **NW110-M.012** or **NW356-E.022** and is also only valid for this version.

Designation	Operating manual
Precea ISOBUS software	MG6152
AMASCAN 2 control computer	MG7342
AmaCheck control computer	MG6127
Precea 3000-A/-ACC-AFCC	MG6659
Precea 4500-2/-2CC/-2FCC	MG6149
Precea 3000/4500/6000/-CC/-FCC	MG6660
Precea 6000-2/-2CC/-2FCC	MG6967

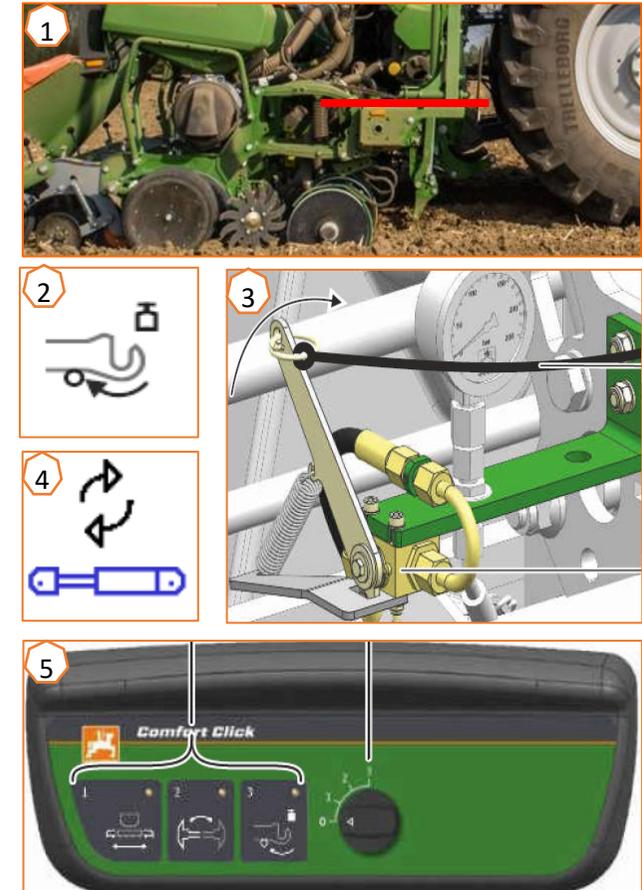
2. Preparing the implement

• Tractor prerequisites

3000(-CC)(-FCC)	3000-A(-ACC)(-AFCC)	4500(-CC)	4500-2(CC)(FCC)
above 70 HP	above 160 HP	above 90 HP	from 100 HP
6000-2	6000-2CC(-2FCC)	6000-CC	6000
from 150 HP	above 180 HP	above 120 HP	above 130 HP

- **Tractor pump capacity:** 20 l/min + hydraulic fan (optional equipment) 30 l/min
- **Connections:** depending on the implement equipment, the following connections are required:
 - Single-acting: track marker (for Precea 6000: double-acting), filling auger, fan drive (pressure line with priority)
 - Double-acting: frame ballasting (2) (special equipment), telescoping frame
 - Pressureless return flow (max. 5 bar): fan drive
- **Coupling the implement:** establish all connections: ISOBUS, lighting, hydraulic system, PTO shaft. Take up and secure the machine with the lower links. Raise the jacks. Align the implement on the field parallel to the ground, the track marker bracket (1) provides a reference for this. The catch roller should be hard to turn by hand (depending on the soil), but it should not bend.
- **Telescoping or folding the implement:**
 - Telescoping: release the transport lock (3) and telescope the implement out until the implement sections have reached the end position.
 - Folding: unfold the implement, the transport lock is automatically released in the process. After the implement sections have reached the end position, actuate the control unit for another 5 seconds to fill the hydraulic accumulators.

With the Comfort hydraulic system, telescoping or folding via the ISOBUS terminal (4) or the ComfortClick (Precea Special) (5) must be pre-selected.



3. Calibration of the fertiliser metering

- **General:** turn the calibration trough (1). Set the calibration flap lever to the down position (2).
- **Precea Super:** prepare for calibration via the software, **Field menu > Calibration > Fertiliser** (3), check the values and change if necessary (4,5), pre-metering (6). Calibrate with the calibration button or TwinTerminal (2). Weigh the quantity and enter the value on the terminal.
- **Precea Special:** set the gearbox to position 50 (7). Depending on the working width and the desired calibration area, read the number of crank turns from the table (8). Turn the crank, multiply the weighed value with 40 or 100, determine the new gearbox position with the calculator disc (9).

1

2

3

4

5

6

7

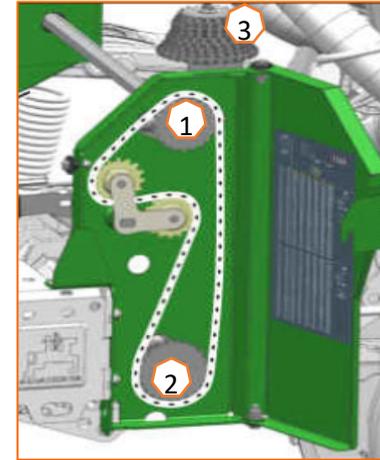
8

[m]	1/40ha	1/100ha
2,7	90 ¼	36 ¼
2,8	87 ¼	35
3,0	81 ¼	32 ½
3,2	76 ¼	30 ½
3,6	67 ¼	27
4,0	61	24 ½
4,2	58 ¼	23 ¼
4,5	54 ¼	21 ¼
4,8	51	20 ½
5,4	45 ¼	18
5,6	43 ¼	17 ½
6,0	40 ¼	16 ¼
6,4	38 ¼	15 ¼

9

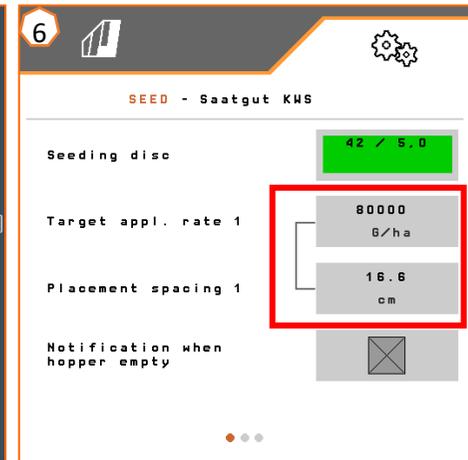
4. Adjusting the application rate for seed

- Precea Special:** to set the placement spacing, two gear wheels (1,2) are changed. Different gear wheels (3) are available for this. If the application rate cannot be reached, the gear wheel (4) can be changed on the leading drive wheel. The table (5) shows which gear wheel pair results in which placement spacing. The table varies depending on whether a leading or trailing drive wheel is installed, and is only valid for the specified pulses/100 m.
- Precea Super:** Settings > Products > Seed menu (6). Here, the target spread rate 1 and the placement spacing 1 can be set. For the calculation, the corresponding singling disc must be selected. Entry of the target application rate 2 is only required if you want to set different spread on different rows, e.g. for seed propagation.



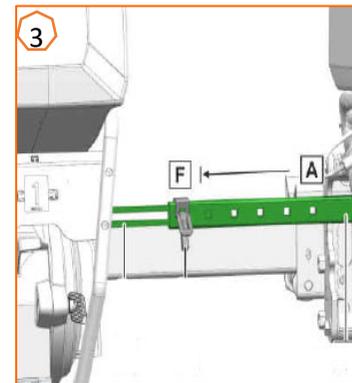
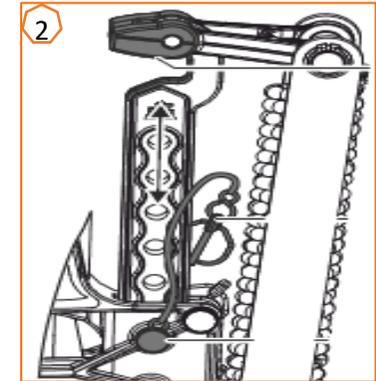
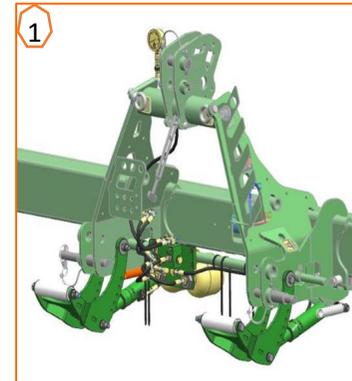
5

A	B	120	80	55	42	34	10
17	25	10,7	16,0	23,3	30,6	37,7	128,3
17	24	10,3	15,4	22,4	29,3	36,2	123,2
17	23	9,8	14,8	21,5	28,1	34,7	118,1
17	22	9,4	14,1	20,5	26,9	33,2	112,9
20	25	9,1	13,6	19,8	26,0	32,1	109,1
19	23	8,8	13,2	19,2	25,2	31,1	105,6
17	20	8,6	12,8	18,7	24,4	30,2	102,7
21	24	8,3	12,5	18,1	23,7	29,3	99,7
17	19	8,1	12,2	17,7	23,2	28,7	97,5
25	27	7,9	11,8	17,1	22,4	27,7	94,3
24	25	7,6	11,4	16,5	21,6	26,7	90,9
21	21	7,3	10,9	15,9	20,8	25,7	87,3
25	24	7,0	10,5	15,2	19,9	24,6	83,8
27	25	6,7	10,1	14,7	19,2	23,8	80,8
19	17	6,5	9,8	14,2	18,6	23,0	78,1
24	21	6,4	9,5	13,9	18,2	22,5	76,4
20	17	6,2	9,2	13,5	17,7	21,8	74,2
23	19	6,0	9,0	13,1	17,2	21,2	72,1
25	20	5,8	8,7	12,7	16,6	20,5	69,8
27	23	5,7	8,5	12,3	16,2	20,0	67,9
25	19	5,5	8,2	12,1	15,8	19,5	66,3
27	20	5,4	8,1	11,8	15,4	19,0	64,6
24	17	5,2	7,7	11,2	14,7	18,2	61,8
25	17	4,9	7,4	10,8	14,1	17,5	59,3
27	17	4,6	6,9	10,0	13,1	16,2	54,9



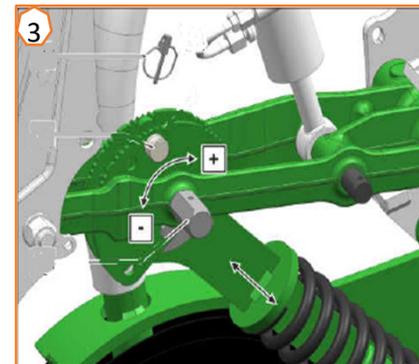
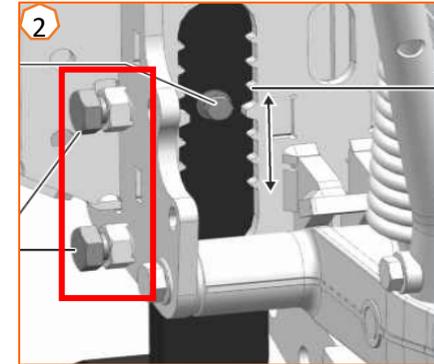
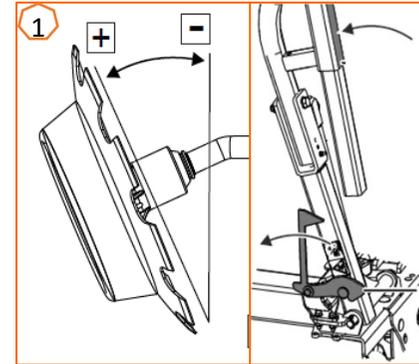
5. Implement settings

- **(1) Frame ballasting (special equipment):** up to 600 kg can be transferred from the tractor to the implement. This allows the coulters to run more smoothly and the placement accuracy is improved. The higher the top link is attached to the tractor, the better the pressure transmission. Actuate the tractor control unit and set the desired pressure (between 130 and 160 bar), taking the soil properties into consideration. The pressure is shown on a pressure gauge.
- **(2) Tractor wheel mark eradicator (special equipment):** release the linch pin and adjust the working depth. A wing coulters, narrow coulters or heart-shaped coulters can be used, depending on the area of application.
- **Fan speed:** depending on the equipment, set the oil quantity on the tractor control unit (take account of the hydraulic oil temperature) or the PTO shaft speed (max. fan speed 5000 rpm).
As a start value for beets, rapeseed or sunflowers: set 35 ± 5 mbar, for maize or soya: set 45 ± 5 mbar when the singling disc is filled and adjust if necessary. The positive pressure is shown on a pressure gauge or on the ISOBUS terminal.
- **(3) Row spacing (only with variably telescopic frame):** telescope the frame completely in and briefly telescope it out again (pull on the pull rope), so that the linch pins are without pressure. Insert the linch pin for the desired row spacing. Telescope the frame back out again.



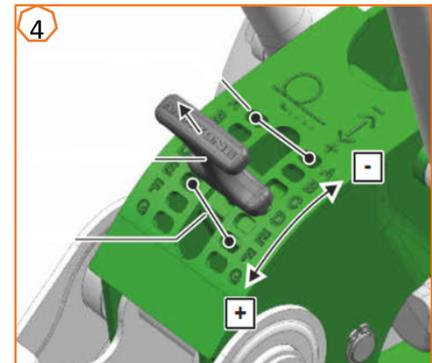
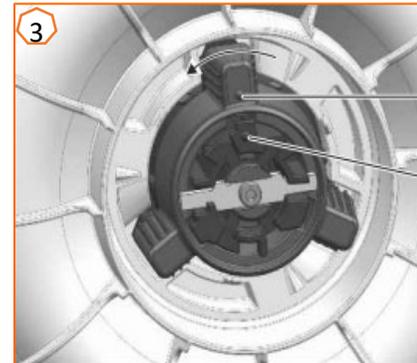
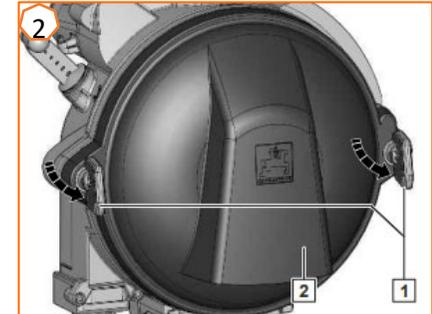
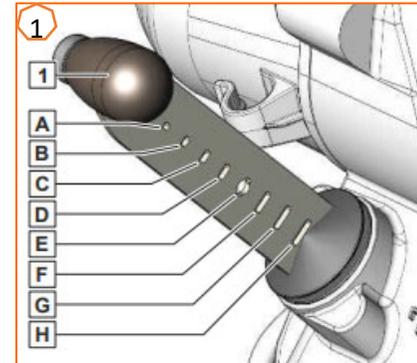
5. Implement settings

- **(1) Track marker:** release the transport lock (if equipped) and adjust the track marker depending on the working width. Adjust the pitch of the disc depending on the soil type.
- **Fertiliser placement depth:** the lateral distance of the fertiliser coulters from the seeding coulters is 60 mm and cannot be adjusted. Depending on the equipment version, enter the setting for the placement depth as follows:
 - **(2) With leaf spring overload safety:** the depth can be adjusted from 3-12 cm. Loosen the locking bolts and adjust the placement depth.
 - **(3) Coupled fertiliser coulters:** the depth of the fertiliser coulters is coupled with the depth of the seeding coulters. When the depth of the seeding coulters is adjusted, the depth of the fertiliser coulters is also automatically adjusted. The depth can be adjusted at 5 levels. Insert the pin in the desired position.



5. Implement settings

- **(1) Sliding shutter:** set according to the seed type, see table on page 12. Only open far enough so that there is enough seed in front of the singling disc but the seed chamber is not overfilled.
- **(2) Singling disc:** for the different seed types, there are suitable singling discs with the corresponding number of holes and hole diameter, see "Installing the singling disc" in the operating manual. To replace the disc, remove the cover (2) and release the lock (3). For every disc, there is a suitable ejector wheel that also needs to be changed.
- **(4) Seed placement depth:** adjust using the setting lever. Half-steps are possible by setting the lever at an incline. The seed placement depth depends on the soil type, coulter pressure and working speed, amongst other things, and can only be determined during field operation.
- **(5) Disc closer (optional):** adjust the disc closers using the setting lever. In Position A, the disc closer is deactivated.
- **(6) V press rollers:** the roller closes the seed furrow. The pitch, spacing and pressure can be adjusted. In addition, the rollers can be arranged offset to one another.



5. Implement settings

The following tables are used to set the grain singling according to the seed. The sliding shutter positions and fan pressures are reference values. Check the grain placement after driving a short distance.

Seed		Seed singling unit							PreTeC mulch seeding couler		
Type	Thousand grain weight	Bore holes	Hole Ø	Farbe	Sliding shutter	Air pressure,	Filling block	Opto-sensor diameter	Feed channel diameter	Furrow former diameter	Seed press roller
Maximum working speed 10 km/h.											
Rapeseed	> 4.5 g	120	1 mm	Light grey	B/C	35 mbar ± 5 mbar	Orange	16 mm	16 mm	12 mm	20 mm
	4.5 g Up to 7 g	120	1.3 mm	Anthracite grey	B/C			16 mm	16 mm	12 mm	20 mm
	> 7 g	120	1.6 mm	Black	B/C			16 mm	16 mm	12 mm	20 mm
Sorghum	25 g Up to 45 g	80	2.5 mm	Bordeaux red	B/C	35 mbar ± 5 mbar	Orange	16 mm	16 mm	16 mm	16 mm
Soybean	<ul style="list-style-type: none"> Silver-grey singling disc: maximum working speed 8 km/h. Violet singling disc: maximum working speed 12 km/h. There can be deviations in the distribution along the row. 45 cm or 50 cm row spacing with max. 50 grains/m². Depending on the seed, the actual application rate can deviate strongly from the target rate. 										
	120 g Up to 265 g	80	4 mm	Silver grey	D/E	45 mbar ± 5 mbar	Green	16 mm	16 mm	16 mm	16 mm
120 g Up to 265 g	120	4 mm	Purple	D/E	20 mm			20 mm to 16 mm	16 mm	16 mm	
Field bean		55	6 mm	Red	D/E	45 mbar ± 5 mbar	Green	20 mm	20 mm	16 mm	16 mm

5. Implement settings

Seed		Seed singling unit						PreTeC mulch seeding coulter			
Type	Thousand grain weight	Bore holes	Hole Ø	Farbe	Sliding shutter	Air pressure,	Filling block	Opto-sensor diameter	Feed channel diameter	Furrow former diameter	Seed press roller
Maize	> 220 g	42	4.5 mm	Beige	E/F/G	45 mbar ± 5 mbar	Green	16 mm	16 mm	16 mm	16 mm
	200 g Up to 300 g	42	5 mm	Green	E/F/G			16 mm	16 mm	16 mm	16 mm
	> 300 g	42	5.5 mm	Purple	E/F/G			16 mm	16 mm	16 mm	16 mm
Sugar beet		34	2.2 mm	Blue	B/C	35 mbar ± 5 mbar	Orange	16 mm	16 mm	12 mm	20 mm
Sunflower	For seeds larger than 15 mm: use an opto-sensor, feed channel, and furrow former with a diameter of 20 mm and preferably the pink singling disc.										
	70 g Up to 85 g	34	3 mm	Orange	E/F/G	35 mbar ± 5 mbar	Green	16 mm	16 mm	16 mm	16 mm
	85 g Up to 95 g	34	3.5 mm	Brown	E/F/G			16 mm	16 mm	16 mm	16 mm
< 95 g	34	4 mm	Pink	E/F/G	16 mm			16 mm	16 mm	16 mm	
Squash		10	4 mm	Opal green	F/G	45 mbar ± 5 mbar *	Green	20 mm	20 mm	20 mm	16 mm

* With a low volume weight, an air pressure of 35 +/-5 mbar can be sufficient

5. Implement settings

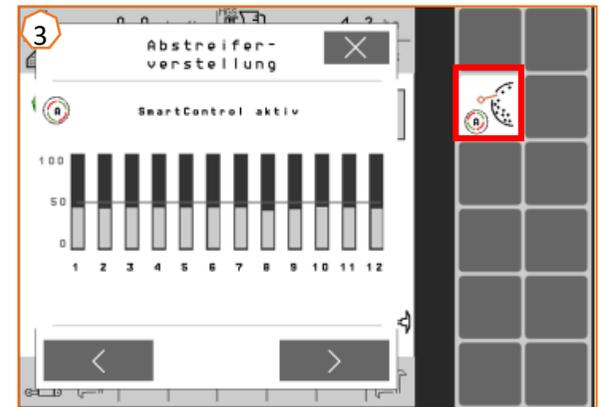
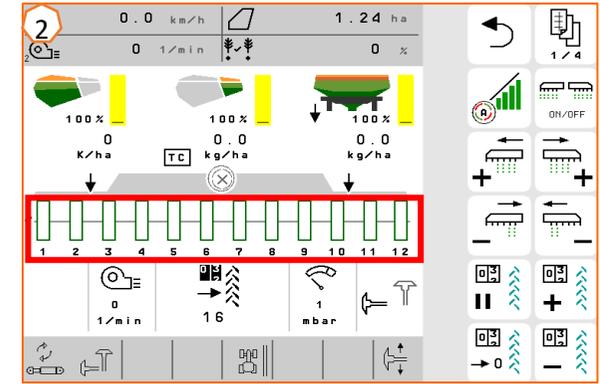
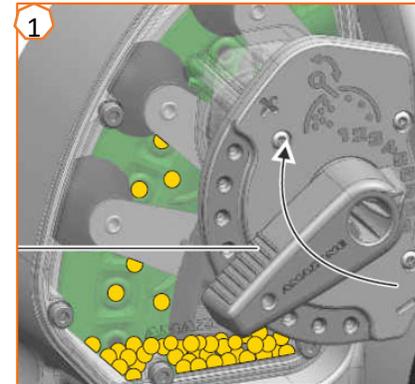
The following table serves as an aid when changing seeds. **Please note:** with the rapeseed singling discs, the hole covering roller must also always be changed in addition to the ejection wheel (also refer to the operating manual).

PreTeC coultter equipment		Field bean	Maize	Cotton	Soya bean ¹⁾		Squash	Sunflower		Sorghum	Sugar beet	Rapeseed
					max. 12 km/h	max. 8 km/h		> 15 mm	< 15 mm			
the singling disc												
220956	Ø 6,0 mm 55	●										
220950	Ø 5,5 mm 42		●									
220949	Ø 5,0 mm 42		●									
220948	Ø 4,5 mm 42		●									
225893	Ø 4,0 mm 120				●							
230208	Ø 4,0 mm 80			●		●						
227686	Ø 4,0 mm 10						●					
220953	Ø 4,0 mm 34							●	●			
220952	Ø 3,5 mm 34								●			
220951	Ø 3,0 mm 34								●			
220957	Ø 2,5 mm 80									●		
220954	Ø 2,2 mm 34										●	
225206	Ø 1,6 mm 120											●
225205	Ø 1,3 mm 120											●
225204	Ø 1,0 mm 120											●
Opto-sensor												
220546	Ø 16 mm		●	●		●			●	●	●	●
220547	Ø 20 mm	●	○			●		●	●			
Feed section												
230590	Ø 16 mm		●	●		●			●	●	●	●
230605	Ø 20 mm	●	○			● ²⁾		●	●			
230604	Ø 20/16 mm		○			● ³⁾						
Furrow former and furrow clearer												
230600	12 mm HM										●	●
230588	16 mm		●	●		● ³⁾			●	●		
230560	16 mm		●	●		● ³⁾			●	●		
230595	16 mm HM		●	●		● ³⁾			●	●		
230603	20 mm HM	●	○			● ²⁾		●	●			
Catch roller												
205113	16 mm	●	●	●	●	●		●	●	●		
234315	16 mm HD	●	●	●	●	●		●	●	●		
205551	20 mm						●				●	●

● Factory recommendation ○ Alternative with limitations in the distribution along the row ¹⁾Seed rate 500,000 G/ha and row spacing 45.50 cm ²⁾TGW > 230 g ³⁾TGW < 230 g

6. Adjusting the scraper

- **Precea Special:** If there are gaps, reduce the value. Increase the value if there are doubles (1).
- **Precea Super:**
 - Automatic scraper function (SmartControl): this function is activated per default and regulates the scrapers automatically, depending on whether the opto-sensor is detecting gaps or doubles. To deactivate SmartControl, click on the bar graph for the singling accuracy (2) and then on the button (3).
 - Adjusting the scraper manually: to adjust the scraper manually, the SmartControl function must be deactivated. Click on the bar graph for the singling accuracy (2). Use the "plus and minus" buttons to adjust all of the scrapers together (4). If you scroll further in the display, each scraper can be adjusted individually.

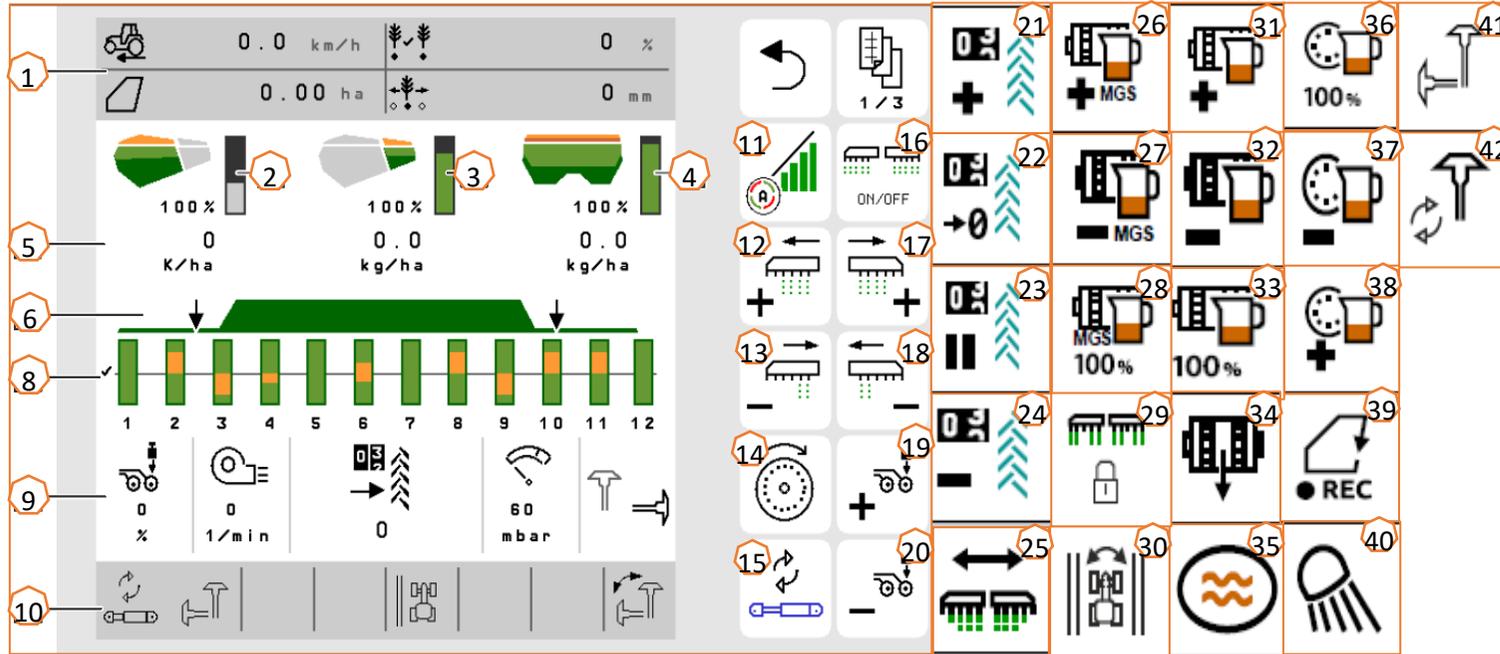


7. Start screen of the implement software (ISOBUS)

- The implement software is divided into the Field menu (1) and the menu for the settings (2).
- By clicking one of the buttons circled in red in the image, you can switch between the menus.
- From the Field menu, you can switch to the submenus Work, Calibration, Documentation, Filling, and Emptying.
- From the **Setting menu**, you can switch to the submenus Implement, Profile, Products, and Info.



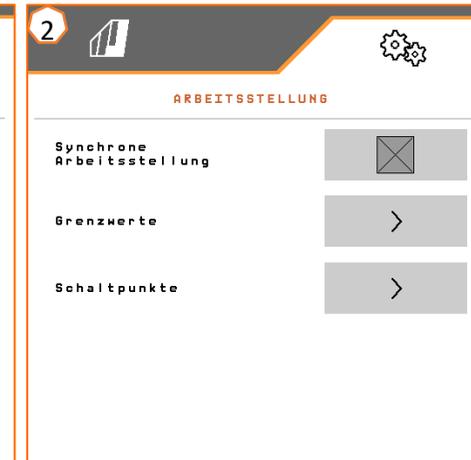
8. Work menu of the implement software (ISOBUS)



- | | | |
|--|--|--|
| (1) Multi-function display (freely configurable) | (15) Change pre-selected hydraulic function | (29) Block rows |
| (2) Seed fill level indicator | (16) Switch all part-width sections and the metering unit on and off | (30) Switch over field edge for tramline calculation |
| (3) Micropellet fill level indicator | (17) Switch on part-width sections to the right | (31) Increase fertiliser application rate |
| (4) Fertiliser fill level indicator | (18) Switch off part-width sections to the left | (32) Reduce fertiliser application rate |
| (5) Application rates | (19) Increase the coulter pressure | (33) Set fertiliser application rate to setpoint |
| (6) Status of the working position and Section Control | (20) Reduce the coulter pressure | (34) Pre-meter fertiliser |
| (8) Bar graphs for the seeding coulter | (21) Advance the tramline counter by 1 | (35) Water hole |
| (9) Implement data | (22) Set the tramline counter to zero | (36) Set seed application rate to setpoint |
| (10) Status bar | (23) Pause and start the tramline counter | (37) Reduce seed application rate |
| (11) Section Control on/off | (24) Reduce the tramline counter by 1 | (38) Increase seed application rate |
| (12) Switch on part-width section to the left | (25) Switch on all part-width sections | (39) Start GPS recording |
| (13) Switch off part-width sections to the right | (26) Increase micropellet application rate | (40) Switch work lights on and off |
| (14) Fill the singling disc | (27) Reduce micropellet application rate | (41) Pre-select left/right track marker |
| | (28) Set micropellet application rate to setpoint | (42) Change track marker function |

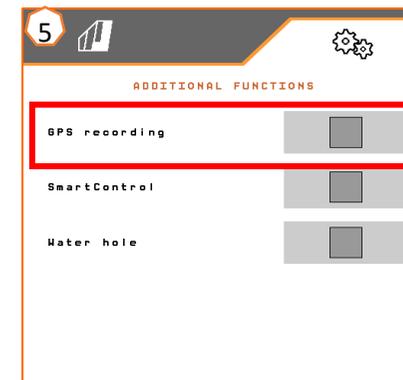
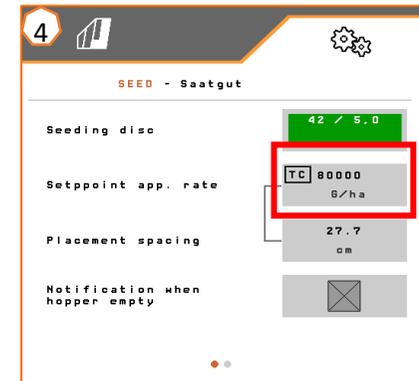
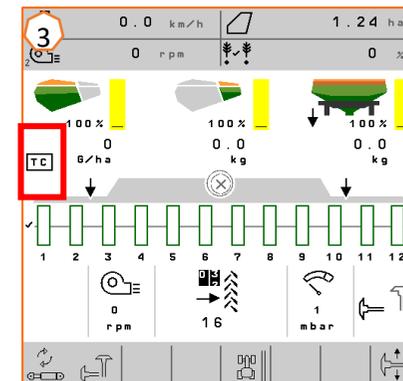
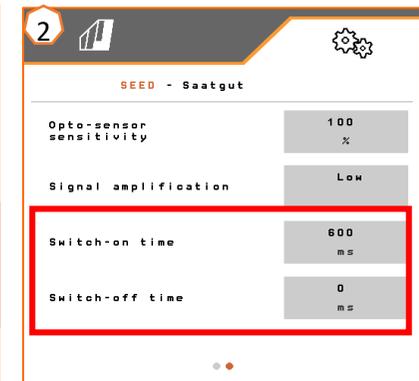
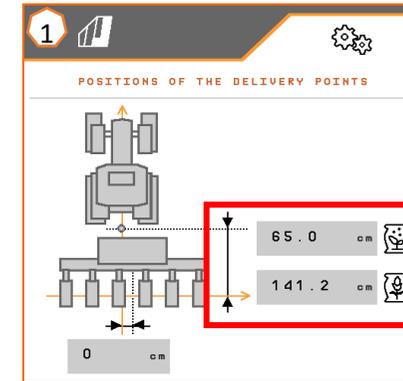
9. Software: Settings menu (ISOBUS)

- **(1) Speed signal source / teach-in pulses per 100 m:** Settings menu > Implement > Speed > Teach-in pulses / source. Here, the source for the speed signal can be selected and the pulses per 100 m can be calibrated. With an electrical drive, the number of pulses is approx. 10000.
- **(2) Source / teach-in working position:** Settings menu > Implement > Working position > Teach-in switch points. Here, the source for the "working position" signal can be selected and the switch points for "metering on" and "metering off" can be taught-in. The limit value must be taught in before teaching in the switch points.
- **(3) Number of rows on the terminal:** Settings menu > Implement > Geometry. Here, check and enter the actual number of rows and the working width to calculate the worked area and grain spacing.



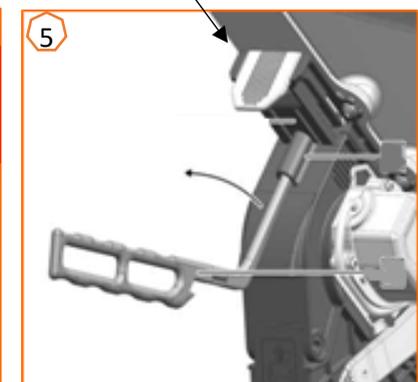
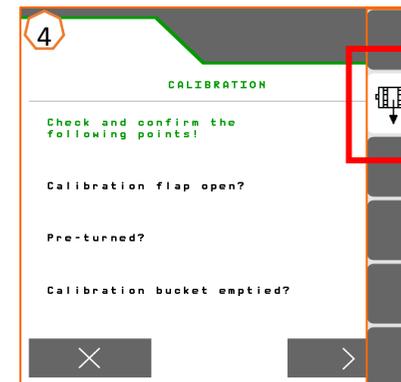
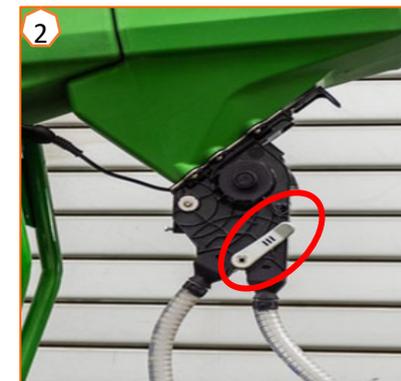
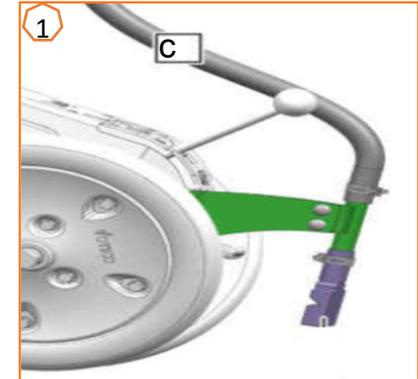
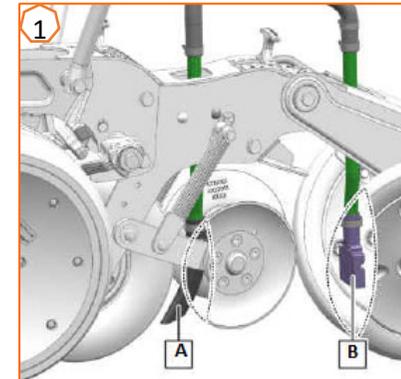
10. Preparation for the Task Controller in the implement software (ISOBUS)

- **Terminal:** the functions of the Task Controllers are controlled through the terminal. The terminal must be prepared accordingly. You can find more information in the operating manual for the respective terminal.
- **(1) Geometry:** **Setting menu > Implement > Geometry** Here, the implement geometry can be checked and adjusted. The implement logs onto the Task Controller with this geometry. If Multi Boom is activated in the implement software, the implement distinguishes between the placement points for fertiliser and for seed.
- **(2) Switch-on and -off time:** **Settings menu > Products > Seed/Fertiliser** The switch-on and -off time defines the delay between the command from the terminal to switch the part-width sections on or off until the seed/fertiliser actually reaches the coulter. Incorrect settings can cause overlaps or gaps.
- **(3,4) Application maps / jobs:** the "TC" icon in the Work menu and Product menu indicates that the implement is receiving the target spread rates from the Task Controller and is therefore receiving an application map or job.
- **(5) GPS recording:** **Settings menu > Implement > Additional functions** With the GPS recording, the spreading can be simulated for the connected control terminal without actually spreading seed. The control terminal marks the driven area as the worked area. The worked area can be used to create a field boundary.



11. Micropellet spreader (optional)

- **(1) Application points:** the fertiliser can be delivered in the seed furrow (A), in the closing seed furrow (B) or on the seed furrow (C). The switchover flap is adjusted with a lever (2).
- **(3) Micropellet calibration:** Field menu > Calibration > Micropellets Check the values and adjust if necessary, pre-meter (4). Use the calibration button to calibrate on the first row. Weigh the quantity. Enter the value on the terminal.
- **(5) Changing the metering wheels:** close the sliding shutter, so that the fastener is released. Use the unlocking tool to open the metering housing. Turn the metering motor counter clockwise and pull it out. Change the metering roller. Reassemble in the reverse sequence.



12. Metering wheels for micropellet spreader

- **Metering wheel 4.0 ccm (MPS small quantities) orange (223537)**
 - Insecticides 5-20 kg/ha
- **Metering wheel 12.0 ccm (MPS large quantities) green (223536)**
 - Micro-fertiliser 10-35 kg/ha
- **Metering wheel 3.0 ccm (slug pellets) silver-grey (223538)**
 - Slug pellets 2-5 kg/ha
- **Metering wheel 8.3 ccm grey (insecticides) grey (230257)**
 - Media size greater than 3 mm, 5-20 kg/ha



Important: when using the 8.3 ccm and 3.0 ccm metering wheel, the blind wheel plates (226212) must also be ordered.



SmartLearning app

The AMAZONE SmartLearning app offers video training courses for the operation of Amazone implements. The video training courses can be downloaded onto your smartphone if necessary, and are therefore available offline. Simply select the desired implement for which you want to watch a video training course.



Info Portal

Our Info Portal provides a wide variety of documents for viewing and downloading at no charge. These can be technical and promotional printed material as an electronic version or also videos, Internet links and contact data. Information can be obtained by mail and subscriptions to new published documents from different categories are available.

www.info.amazone.de/



AMAZONEN-WERKE H. Dreyer GmbH & Co. KG

Postfach 51 · D-49202 Hasbergen-Gaste

Tel. +49 (0)5405 501-0 · Fax: +49 (0)5405 501-147

www.amazone.de · www.amazone.at · email: amazone@amazone.de



MG7162