Quick Start

903174-en
01.03.2017-1

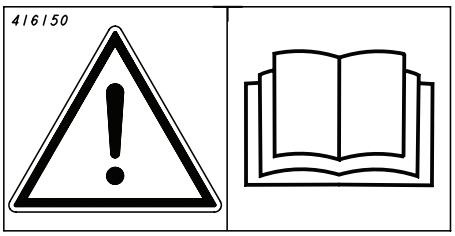
Spirit

Series
600-900S
S/N ST00001740-

VÄDERSTAD

This QuickStart does NOT replace the instruction manual that contains much more detailed information!

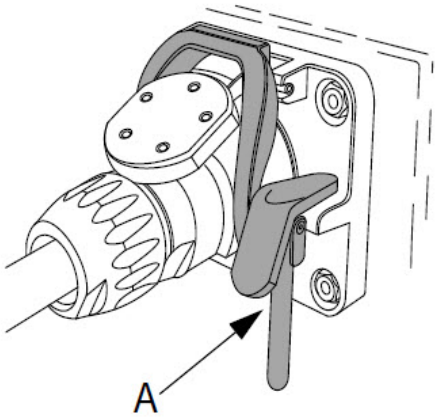
Table of contents



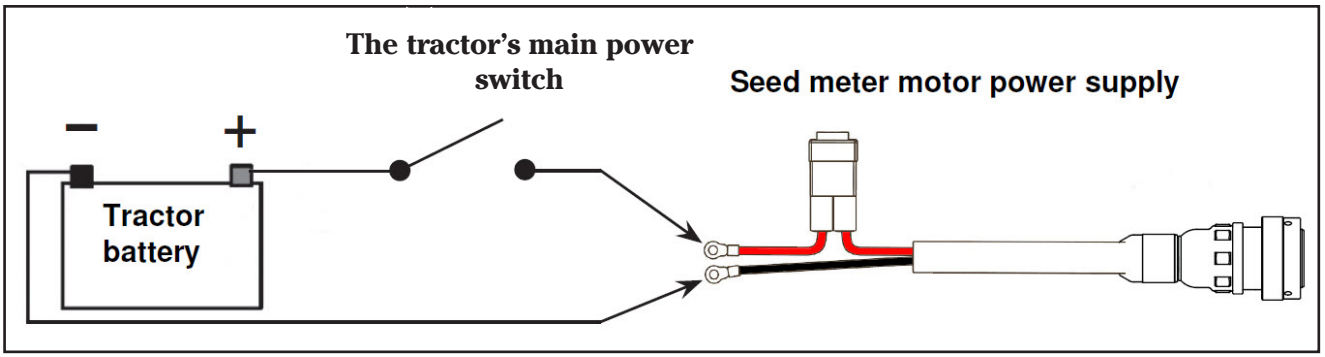
This Quickstart does not replace the instruction manual!

1. Electrical installation in tractors

Connect the GateWay cable if the tractor has an ISOBUS terminal.
Lock the terminal using the locking bolt (A).



If the tractor is not equipped with an ISOBUS switch, tractor cabling is available (Accessories, parts no. 172447).
Use the heavy cables and connect in and after the main power switch.



2. Installation of hydraulics

Circuit	Function	Requirements
1. Yellow circuit –	The main circuit for lifting, lowering, bout marker arms and operation of front tool.	Approx. 50 l/min
2. Black circuit - row pressure.	Circuit for fan operation, drill coulter pressure and following har	approx. 40–30 l/ min with variable flow. (Preferably prior-itised)
3. Red circuit –	Wing extending/retracting and operation of CrossBoard.	approx. 20 l/min
4. White circuit –	Hydraulic support leg (accessory)	approx. 10 l/min
4. 3/4" hose -	Free return	NOTE: Max. 5 bar in counterpres-sure.

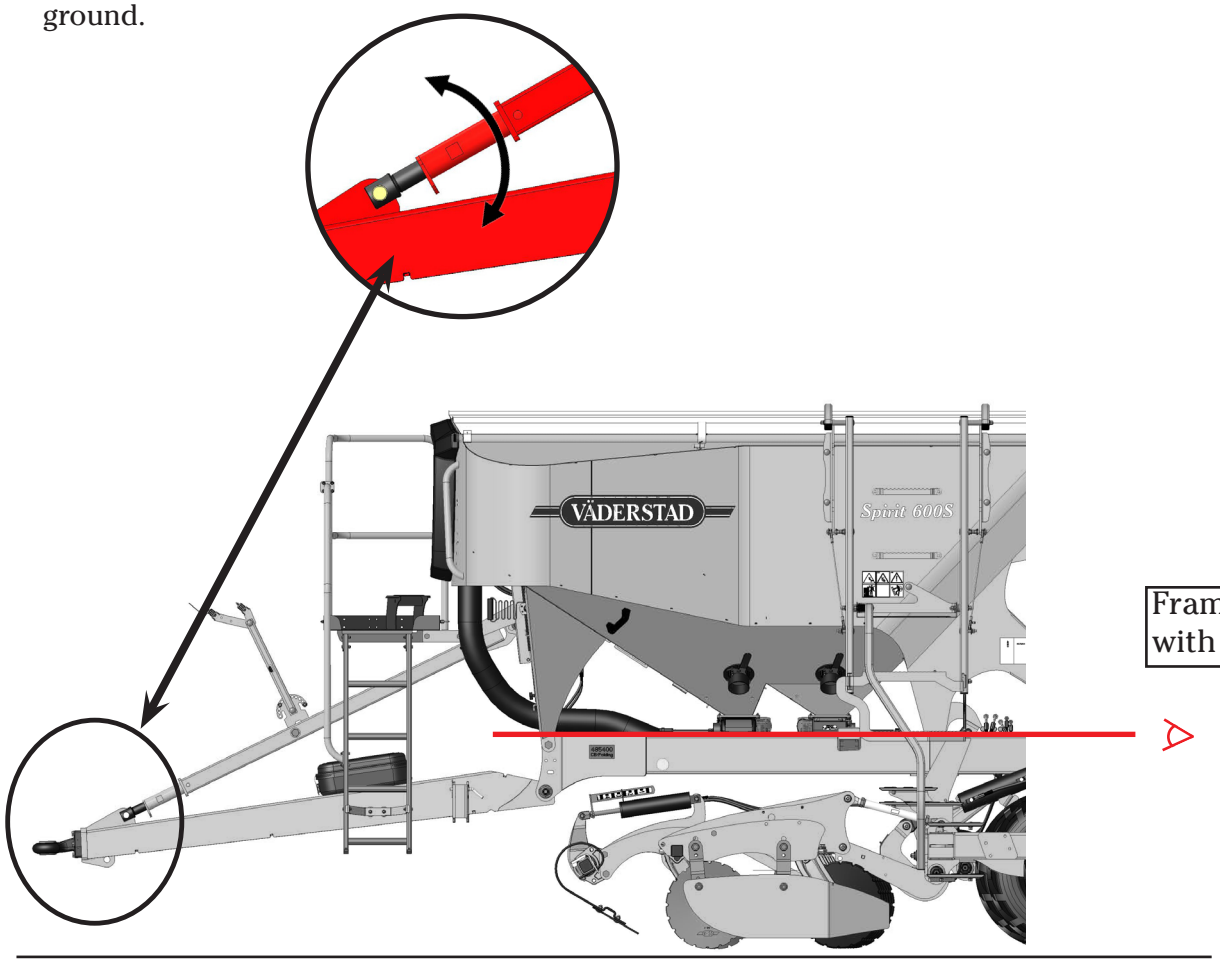
Settings

NOTE: It is possible to make approximate basic settings on a flat, solid floor, but you can only perform final checks of your settings when sowing in the field!

1. Set the frame to the horizontal

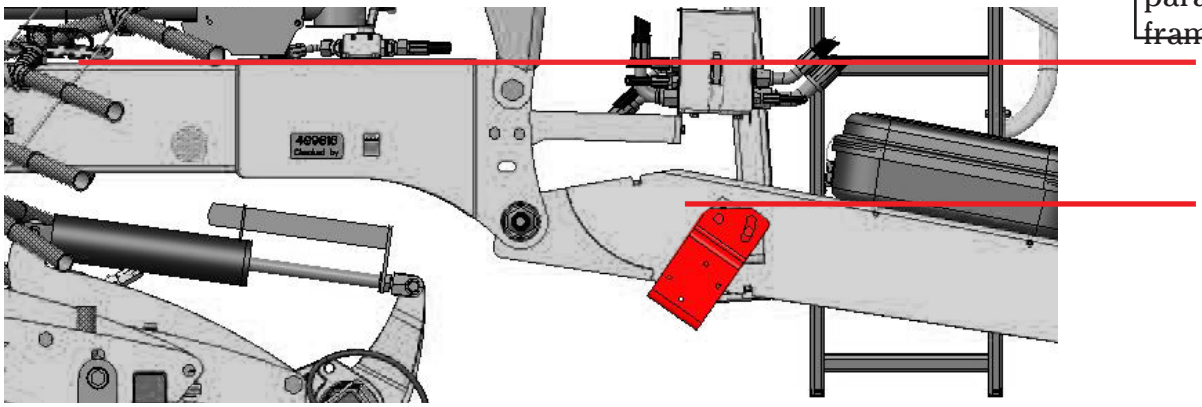
With the tractor connected, the seed drill frame must be absolutely horizontal with the ground.

- If this is not the case, adjust the top rod of the draw bar to bring the machine parallel with the ground.



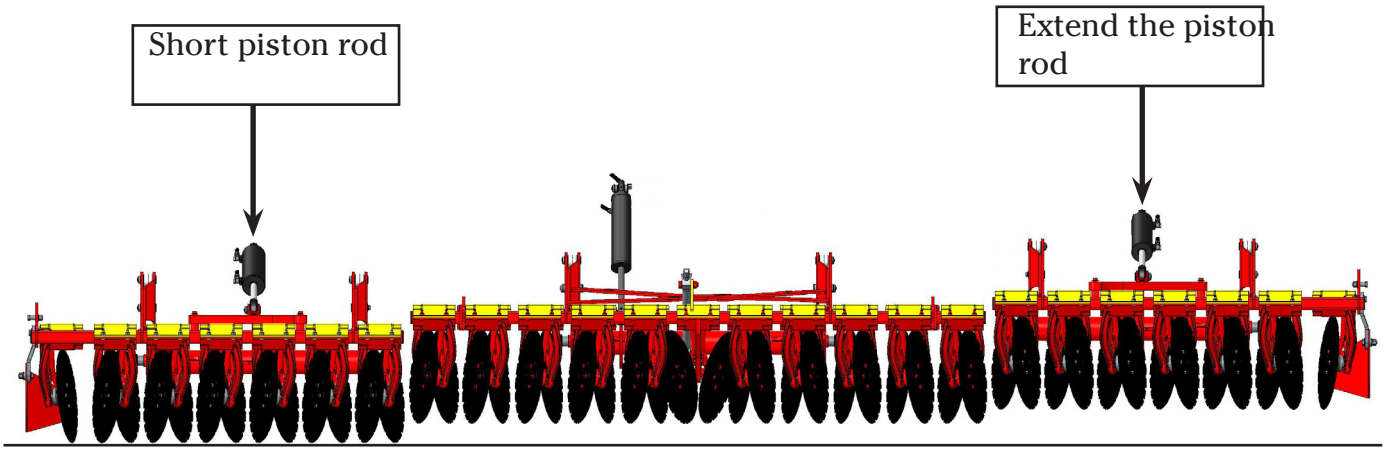
2. Radar

The upper edge of the radar securing must be parallel with the ground and therefore parallel with the frame.
The radar can be re-calibrated if you believe that the speed or area measurement are not correct. Refer to the instruction manual for how to do this.



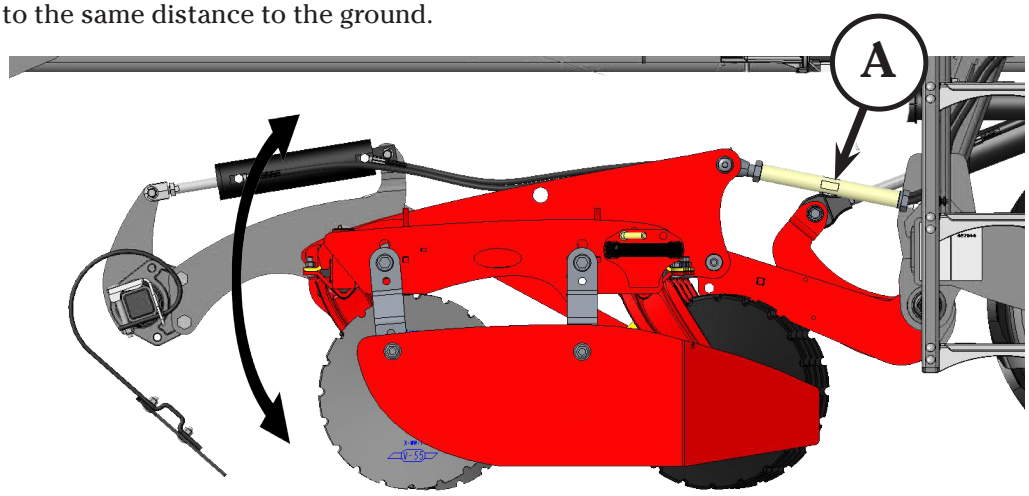
3. Set SystemDisc

- It is important to vent all hydraulic cylinders prior to making any adjustment. Refer to the manual menu on page 10.
- In order to set the centre and wing sections, lower the front tool to approx. 1 cm above the ground.
- Adjust the piston rods of the wing front tool if this is necessary in order to have the wings at centre level.



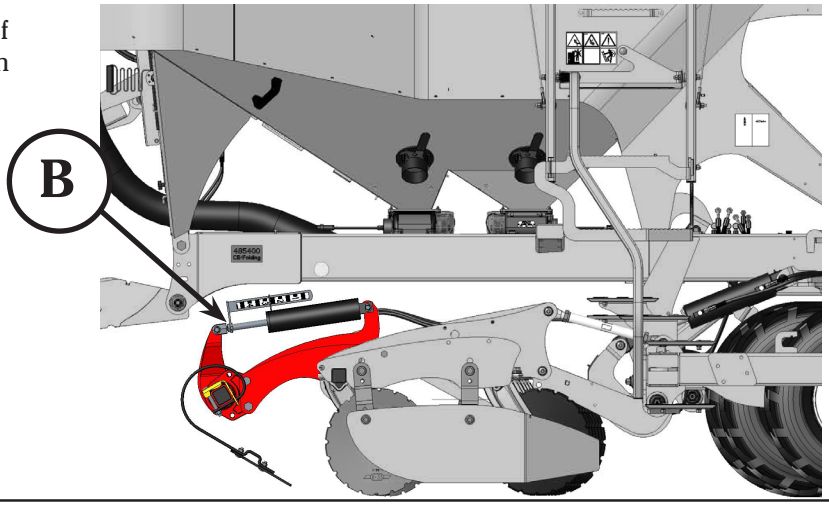
Front tool System Disc

If the front and rear discs have different distances to the ground, adjust the push rods (**A**) in order to bring the front and rear discs to the same distance to the ground.



Front tool System Disc and CrossBoard Heavy

Adjust the length of the piston rods (**B**) if the CrossBoard does not line up between the centre and wing sections.

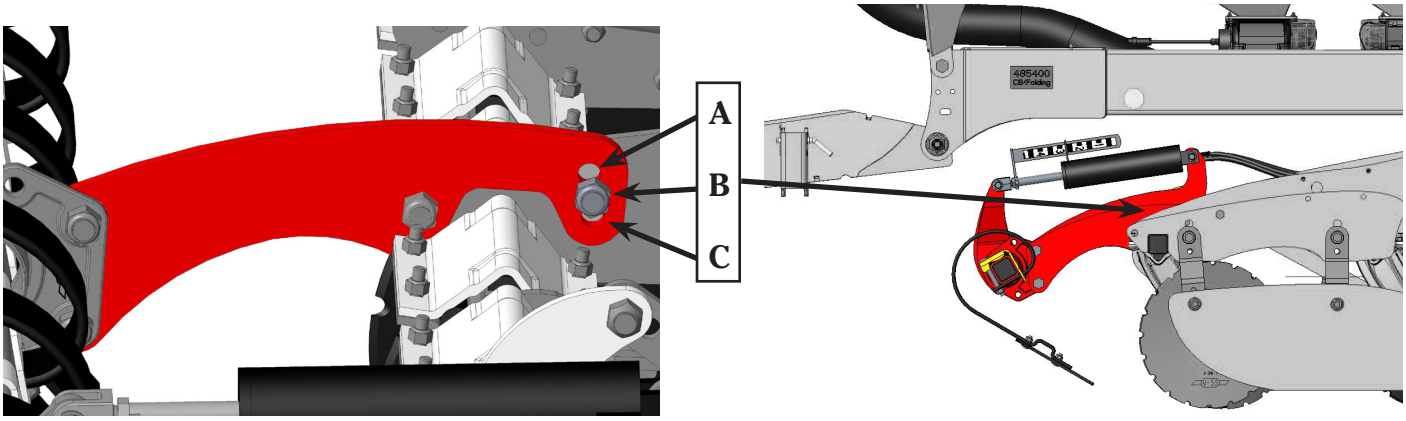


CrossBoard - SystemDisc

The relationship between CrossBoard and SystemDisc can be set to three different values:

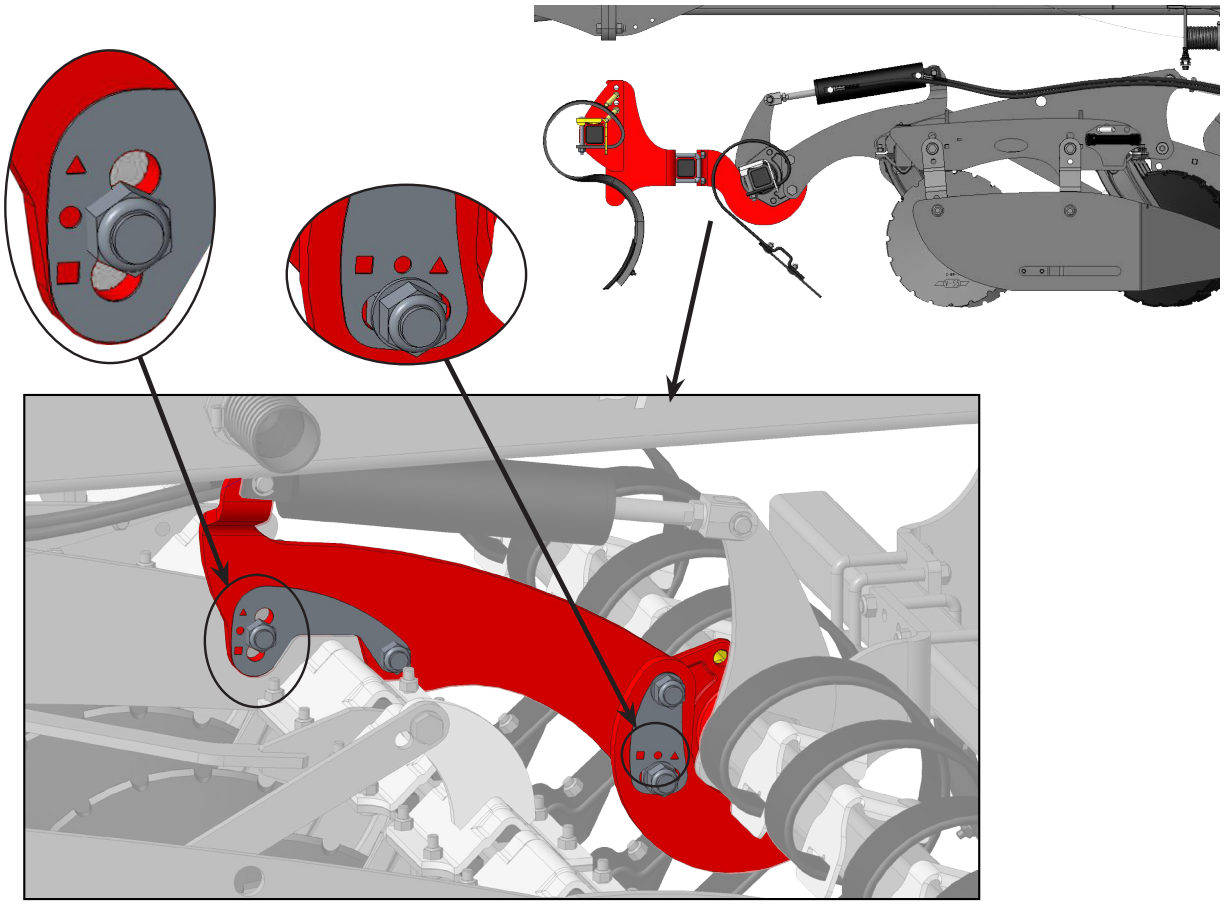
- **A** CrossBoard far up in order to go deeply with SystemDisc.
- **B** Normal position.
- **C** CrossBoard far down if you do not want to use SystemDisc.

NOTE: If the machine is equipped with a track eradicator, this must also be rest when the CrossBoard is adjusted. See next page.



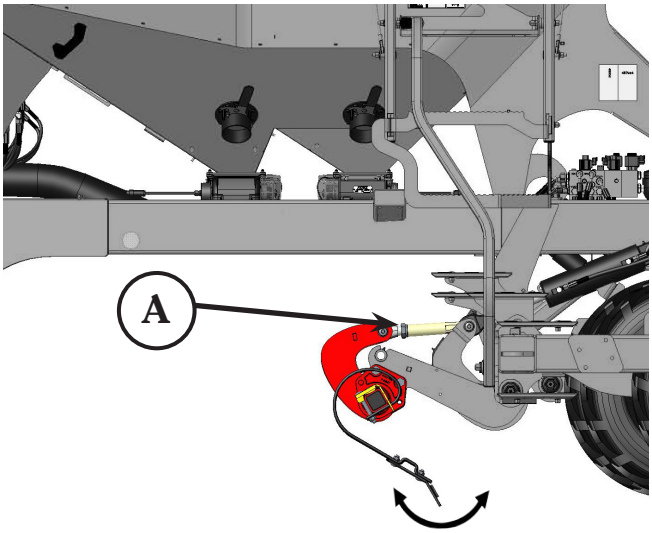
Track eradicator

If the machine is equipped with CrossBoard and a track eradicator there will be two control plates by the arm attachments.
When the relationship between CB and SD has been changed, the track eradicators must also be changed in order to achieve the correct angle of attack.
The screws must be set at the same symbol in both of the attachments.



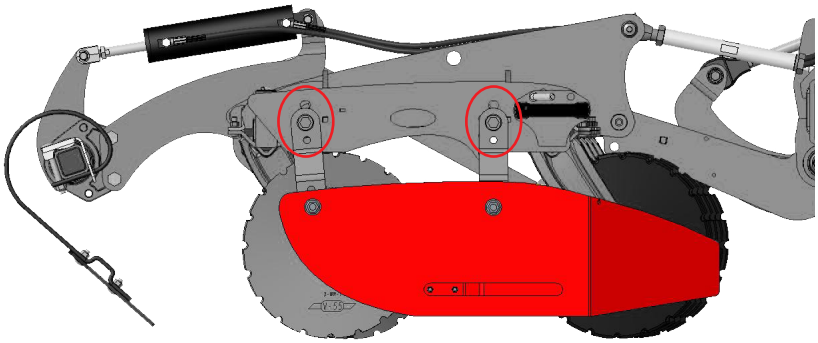
4. Front tool Single CrossBoard Heavy

- It is important to vent all hydraulic cylinders prior to making any adjustment.
- In order to set the centre and wing sections, lower the front tool to approx. 1 cm above the ground.
- Adjust the piston rods of the wing front tool if this is necessary in order to have the wings at centre level.
- The work angle of CrossBoard is set using the turnbuckles (A).



5. Spill prevention plates

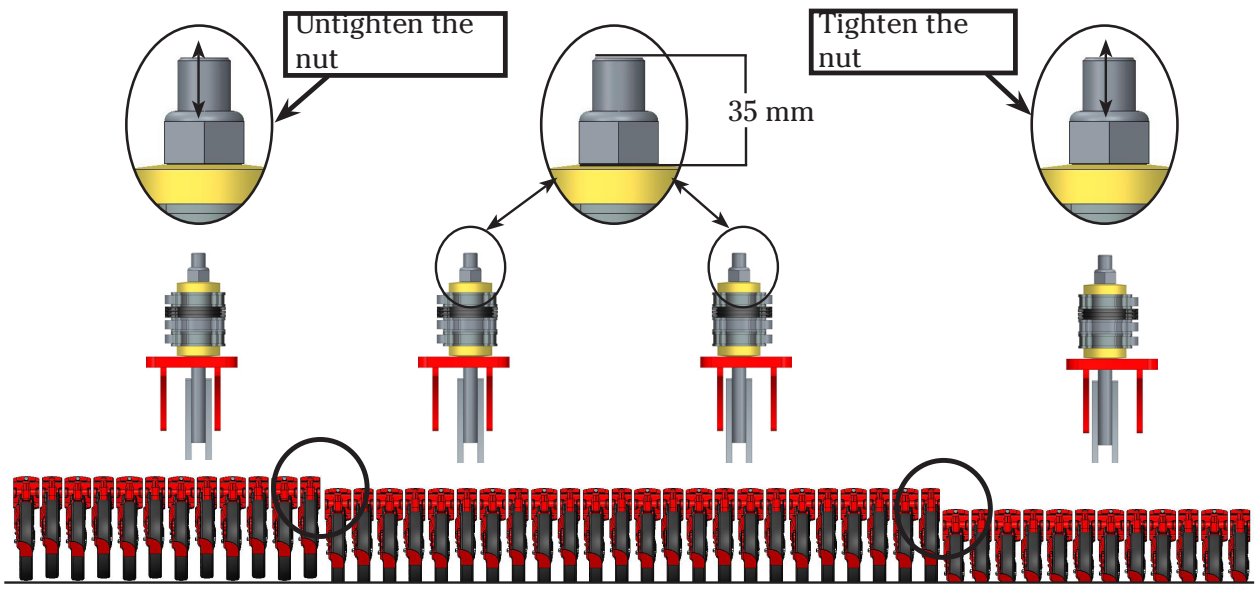
The relationship between SystemDisc and the spill prevent plates can be adjusted. This does not normally need to be done.



6. Linear seed drill unit

- **NOTE:** Ensure that both of the bout marker arms are deactivated before this operation!!!
- Lift the seed coulters to the top position and here place 3 thick and 3 thin clips on the clips holder axle.
- Ensure that the nut and thread are 35 mm at the centre section (refer to image below).

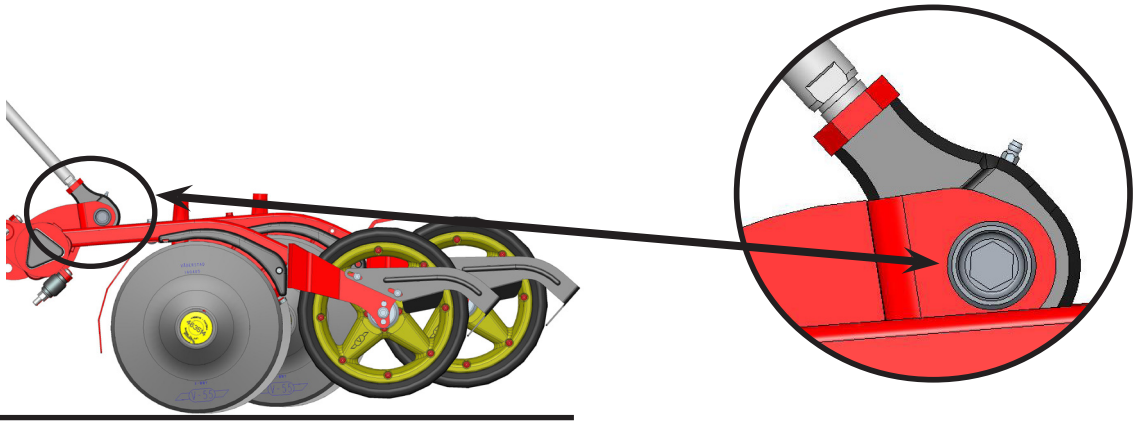
- Start the fan (to obtain coulter pressure).
- Lower using the Yellow circuit.
- Compare the wing sections with the centre section.
- If adjustment is required, raise the seed coulter in order to relieve the load on the adjustment nut.



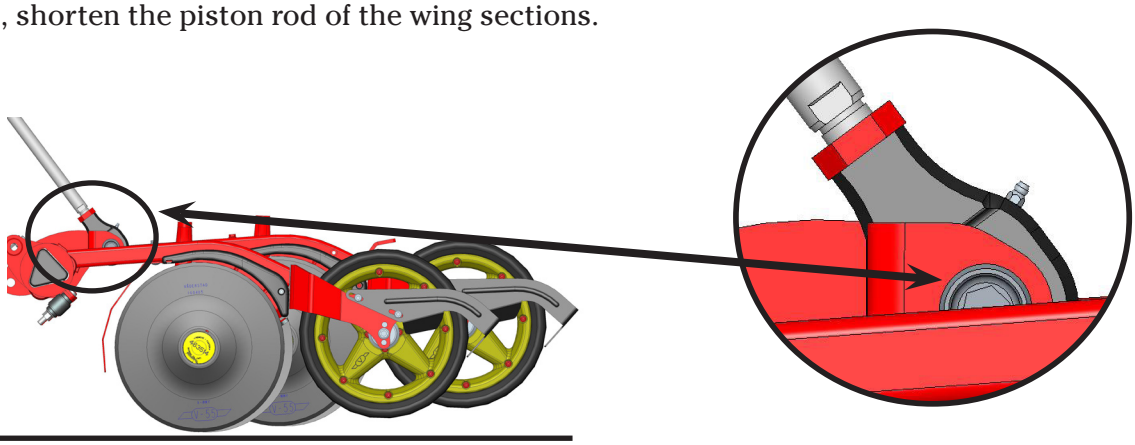
7. Coulter pressure

- In order to have the same coulter pressure in the centre and wing sections the piston rods of the seed coulters must be lined up.
- The intermediate section is used as a reference in this adjustment. If adjustment is required, this is done on the piston rods of the wing sections.
- Do the same as on page 16 in order to pressurise the seed coulters.
- **NOTE:** Ensure that the bout markers are switched off before doing this!!!
- Compare the cylinder mounting hole between the centre and wing sections.

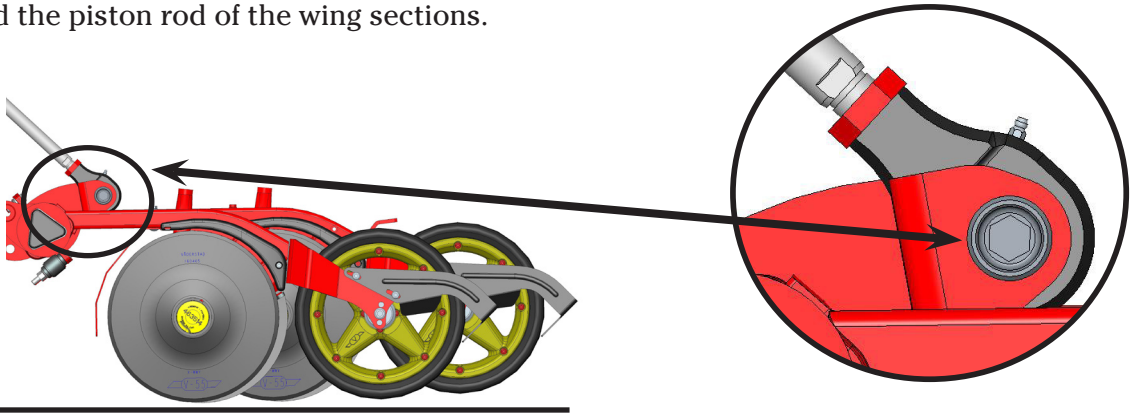
Centre section



If the piston rod mounting holes of the wing sections are lower than the centre section, shorten the piston rod of the wing sections.



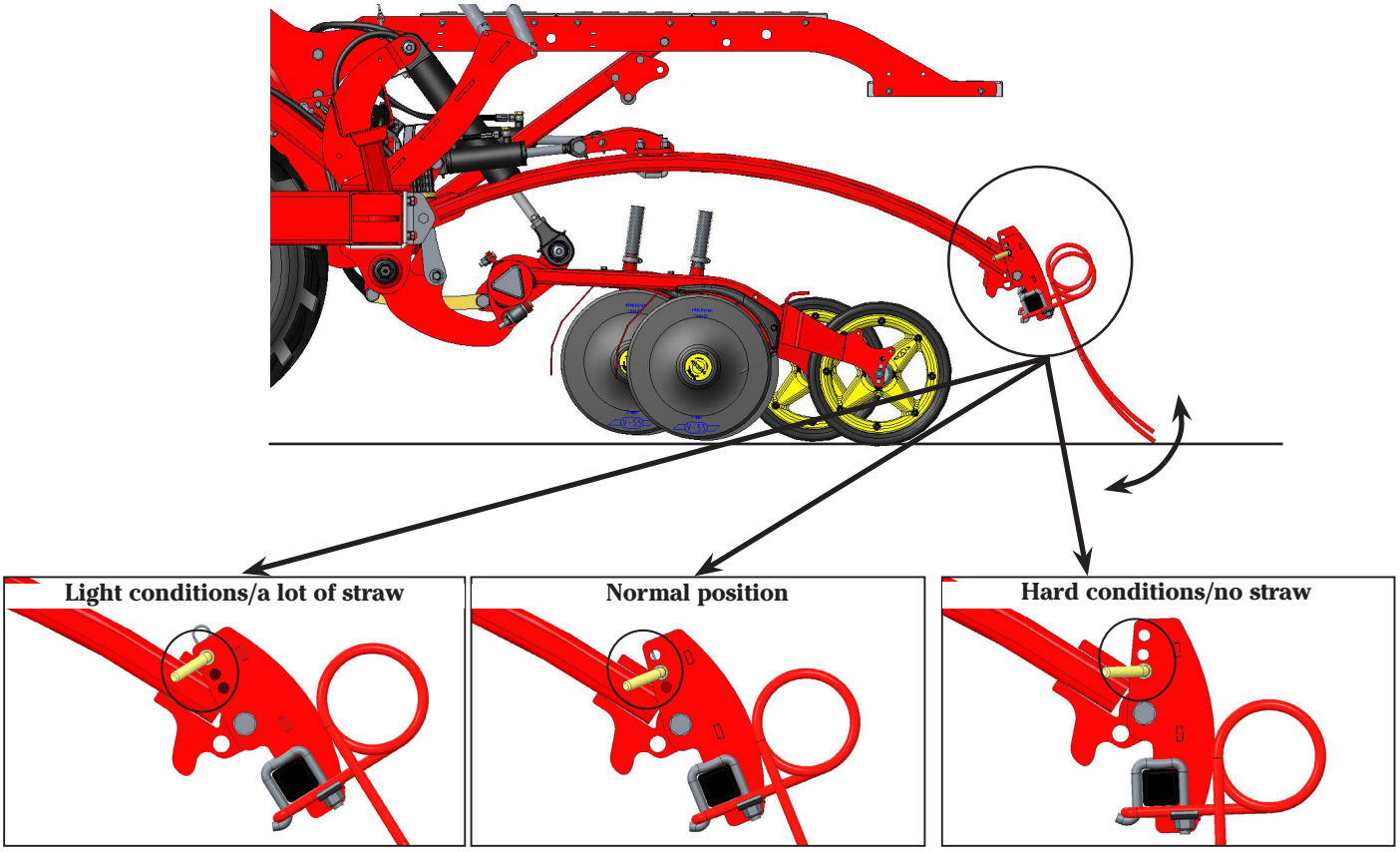
If the piston rod mounting holes of the wing sections are higher than the centre section, extend the piston rod of the wing sections.



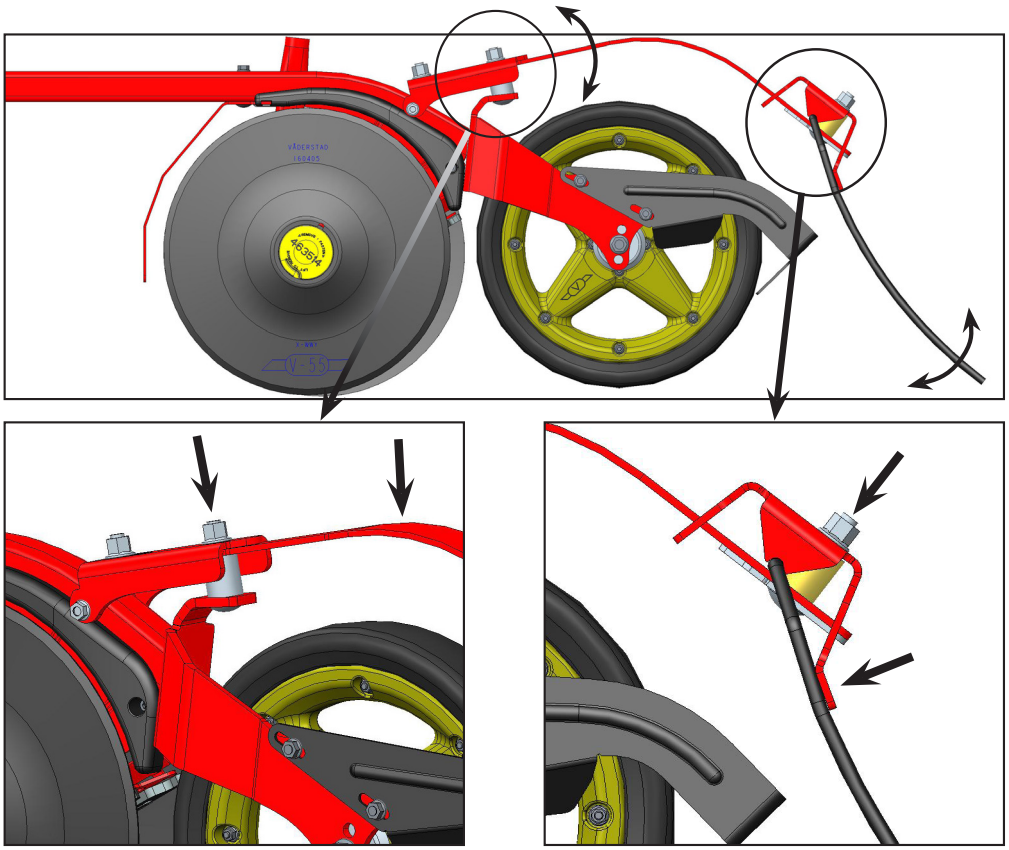
8a. Following harrow - “Heavy” model

The weight of the “heavy” following harrow can be relieved in E-Control, refer to page 17 Hydraulic following harrow.

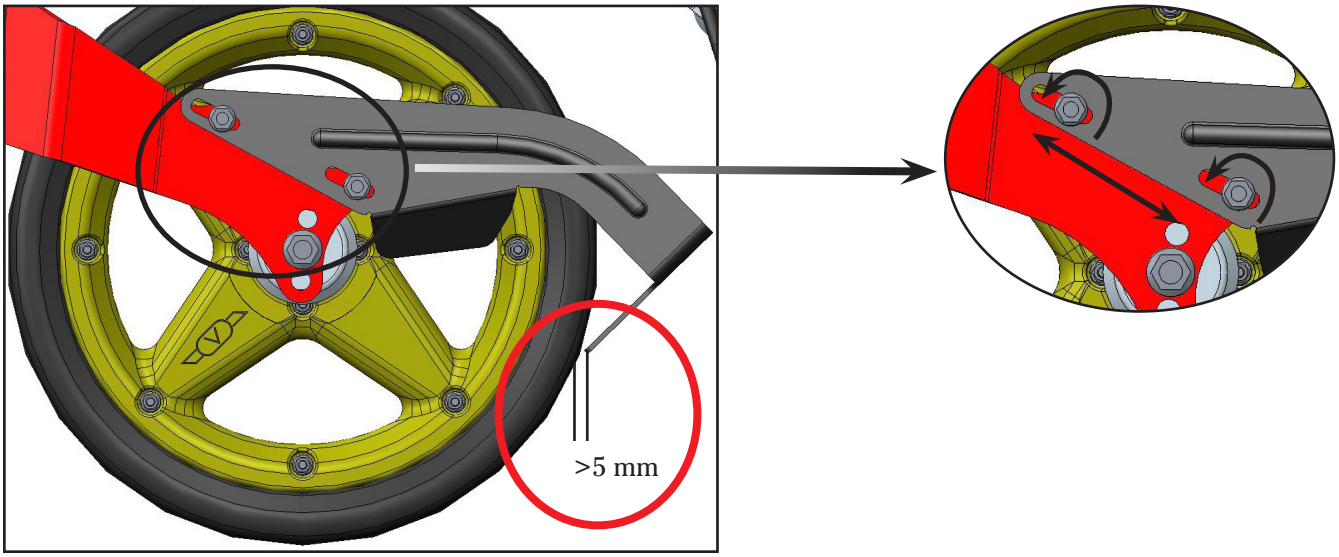
The following harrow can also be adjusted to have different angles of attack with the ground:



8b. Following harrow - “Light” model

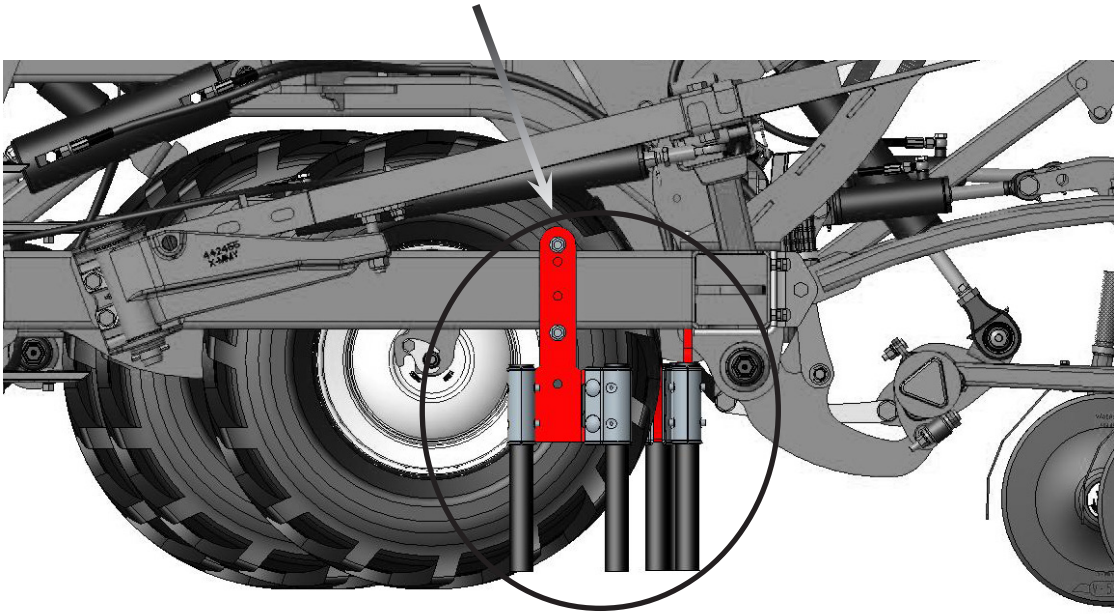


8. Scraper



9. Light soil kit (accessory)

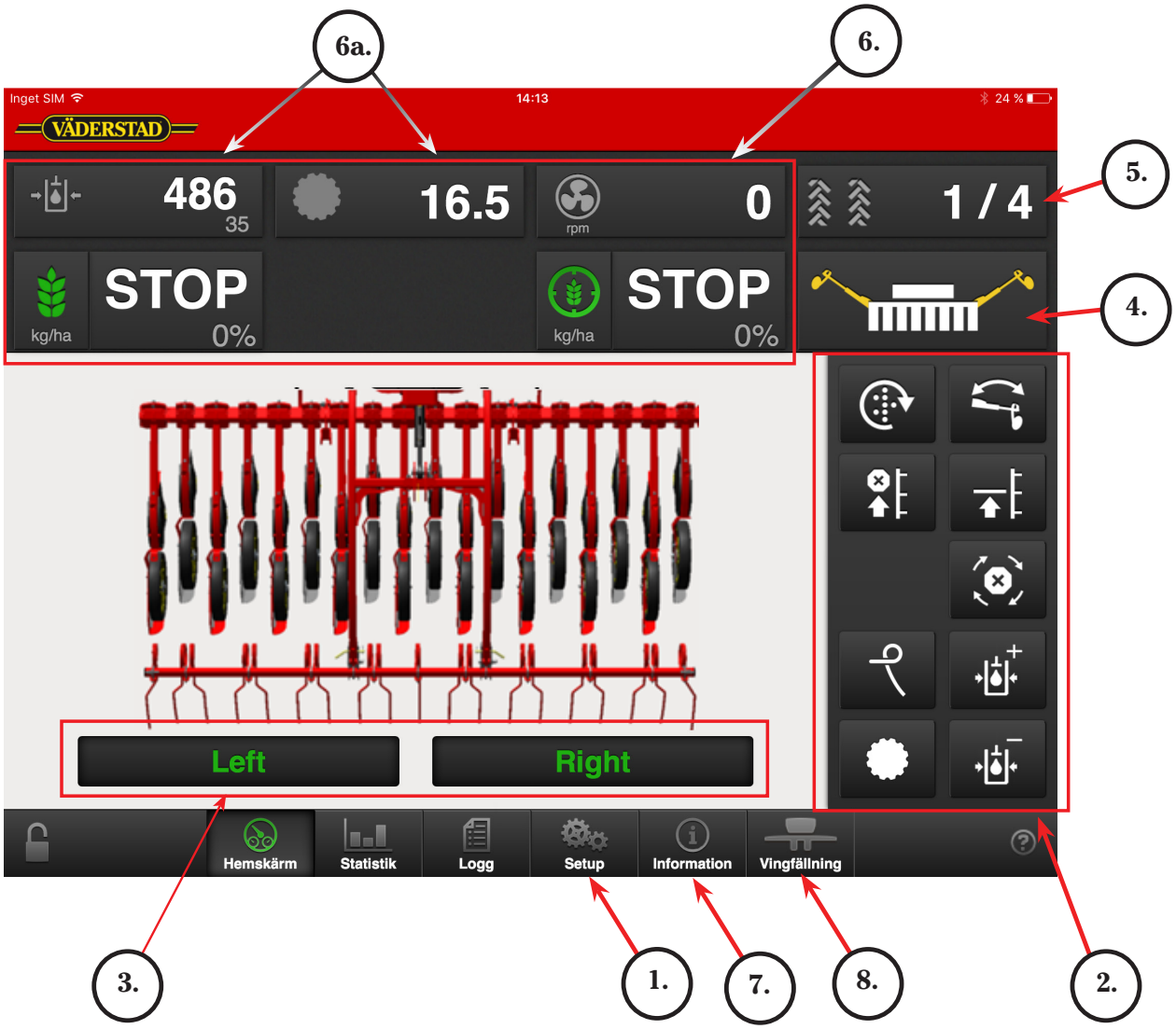
Adjust the rubber rods so that they are away from the bank that can form between the repacking wheels on light soils.



E-Control

Before each season, you should connect your iPad to the Internet and open E-Control to check whether any new updates have been released. Refer to Attachment 3.

Home screen (Drive menu)

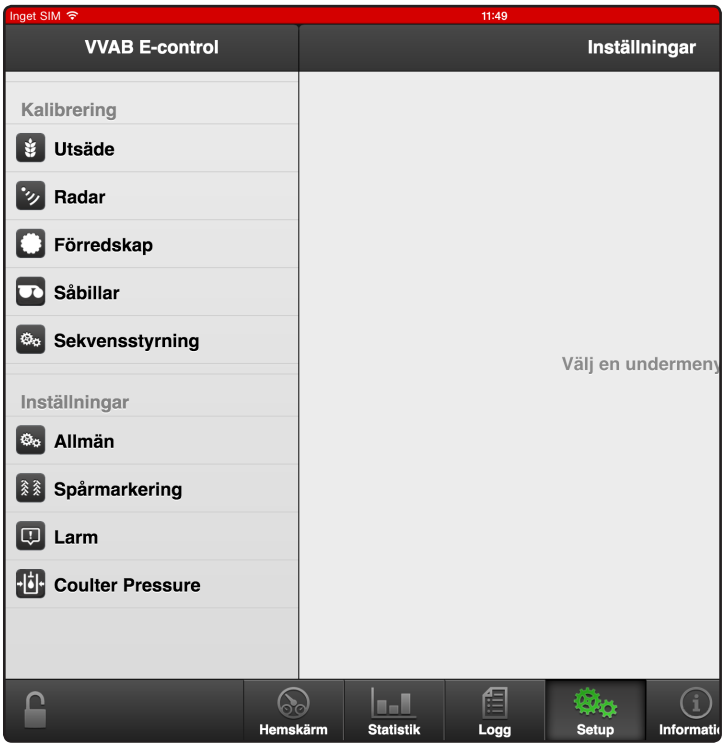


1. Setup, see next page.
2. Drive checks.
3. Half machine shut-off:
4. Manual selection of bout marker arm (Left, Right, Both or None).
5. Tramlining. Refer to the instruction manual for how to change the cycle.
6. Monitoring, seed amount, adjustable feed amount, on and off, fan speed.
   6a. Buttons that can select: Deep SystemDisc, Coulter pressure, Area, Area/hour and Speed.
7. Information menu. Alarm history and service menu. Refer to the instruction manual for more information.
8. Wing extending/retracting menu.

1. Setup

Press Setup to access:

a. Calibration of Delivered seed
b. Calibration of Radar
c. Basic settings Front tool
d. Basic settings Drilling unit
e. Basic settings Sequence control



Refer to the instruction manual for general settings:

General (Machine basic settings)
Tramlining.
Alarm settings
Basic settings of coulter pressure.

If you access any of the calibration menus, a pop up will appear:

NOTE: Feed output stops if you access any of the calibration menus!

Select Yes

1a. Calibration of delivered seed

A number of things need to be considered before commencing the calibration:

Refer to Attachment 1 for Choice of rotor and setting drilling depth.

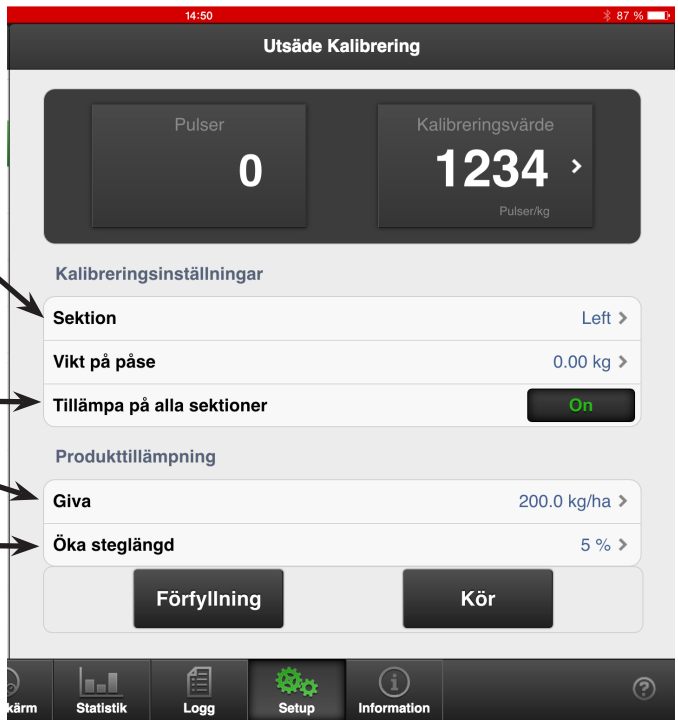
- Which seed box roller is suitable for the crop that is to be sown?
  Spirit is supplied with three different rollers for the seed feed housing as standard:
  Grain roller (large seed), oil plant roller (small seed) and grass seed roller.
  Two different rings are also supplied with the machine for lower feed amounts - A rubber ring for, for example, maize and hybrids of rye (approx. 20-70 kg/ha).
  One for rapeseed (below approx. 2.0 kg/ha).

- Which gear in the seed feed housing is appropriate?
  Generally it is always best to try the low gear in the seed feed housing to begin with.
  If the low gear does not provide sufficient seed amount when sowing, there will be an alarm “?? max. speed”.
  - Change to the high gear and re-calibrate!

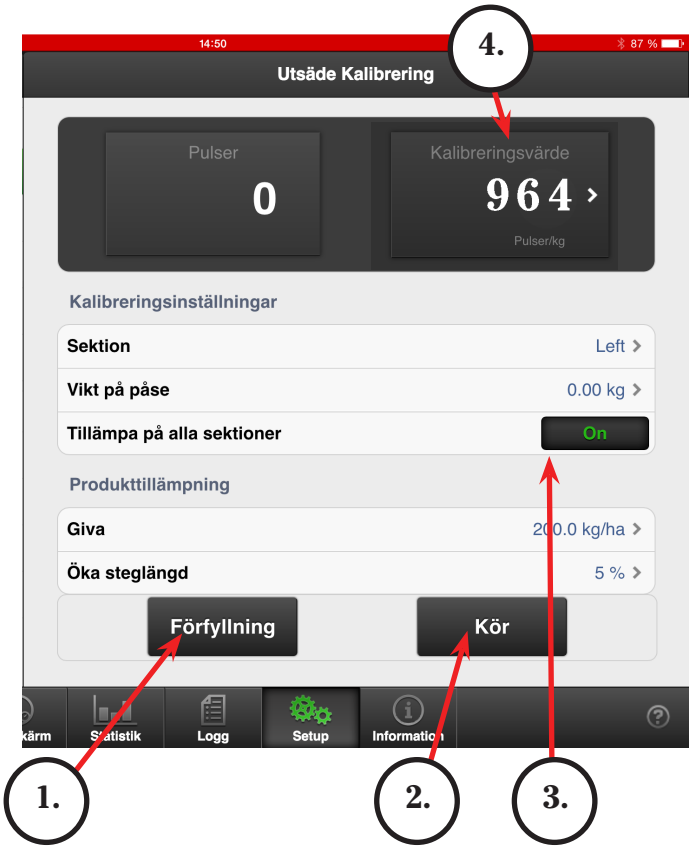
- Is the low level sensor in the correct position?

- Refer to Attachment 1 for other sowing settings.

Contd. from previous page.



1. Selection of which side you would like to calibrate on (Left/Right).
2. If you know that both of the output boxes produce the same number of pulses per kilo, you can choose to conduct a calibration on one side. The value that is entered will then be automatically saved for both of the sections.
3. Enter the required seed application rate (kg/ha)
4. Enter the required increase/decrease of variable application rate in %.
5. Place the calibration bag on the selected seed feed housing (refer to image on next page).



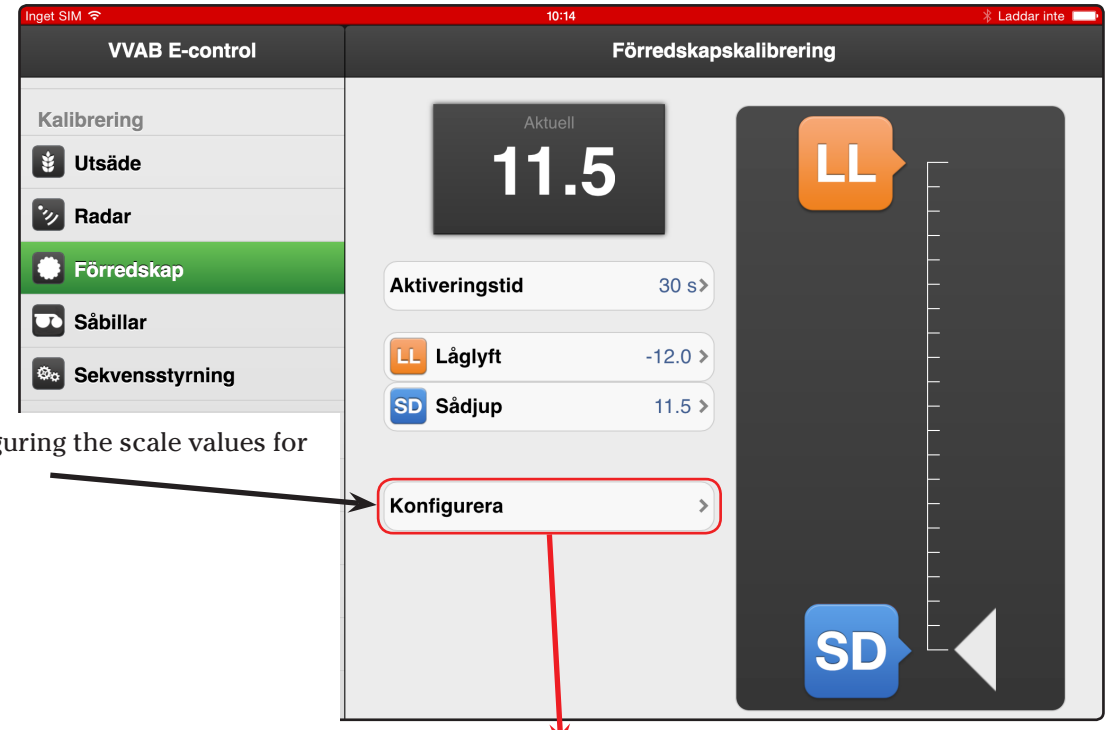
6. Select prefilling (1) or press the plus button on the MiniRemote to fill the feed rollers. The MiniRemote is located on the left side of the seed hopper.
5. Empty the trays and return them to the calibration position.
6. Press Run (2) or the axe button on MiniRemote to fill the trays with grain.
   Pulses are now counted for as long as the button is pressed in.
7. Pour the seed from the tray into the calibration bag and weigh the content.
8. Enter the value (3) and the computer will calculate the number of pulses per kilo (4).

It is also possible to manually enter the number of pulses per kg by selecting Calibration value (4) and then changing it to the selected value.

1b. Radar

It is always beneficial to calibrate the radar for an exact report. Refer to the instruction manual.

1c. Basic settings Front tool



- Begin by configuring the scale values for the front tool.

1. Lower the front tool so that the discs exactly touch the ground.

   Press:

   and enter the current scale value.

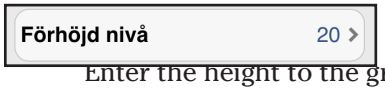
2. Fully raise the front tool, press:

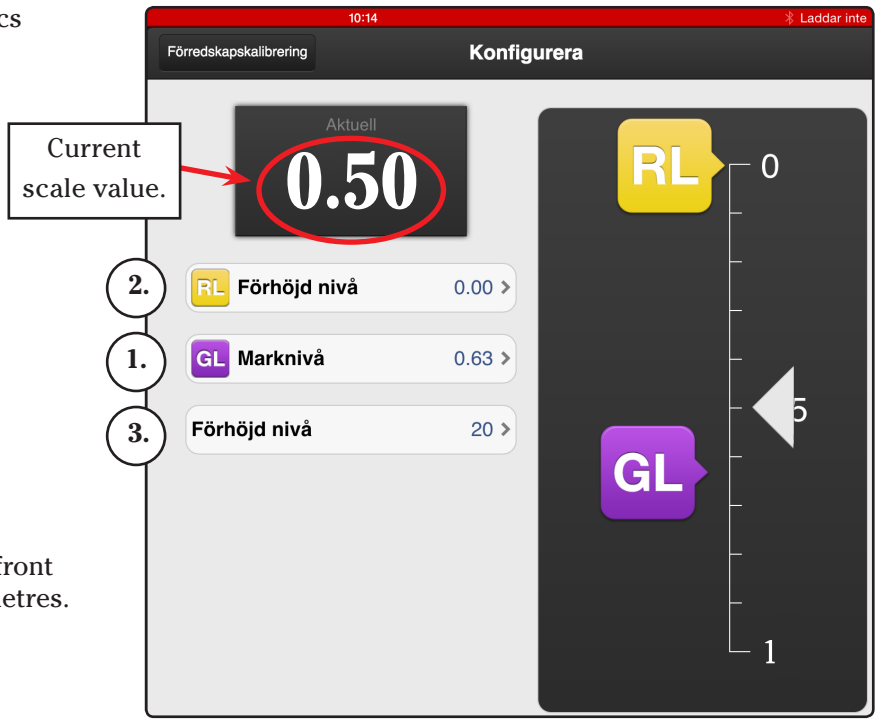
   and enter the current scale value.

3. Measure the distance between the front tool discs and the ground in centimetres.

   Press:

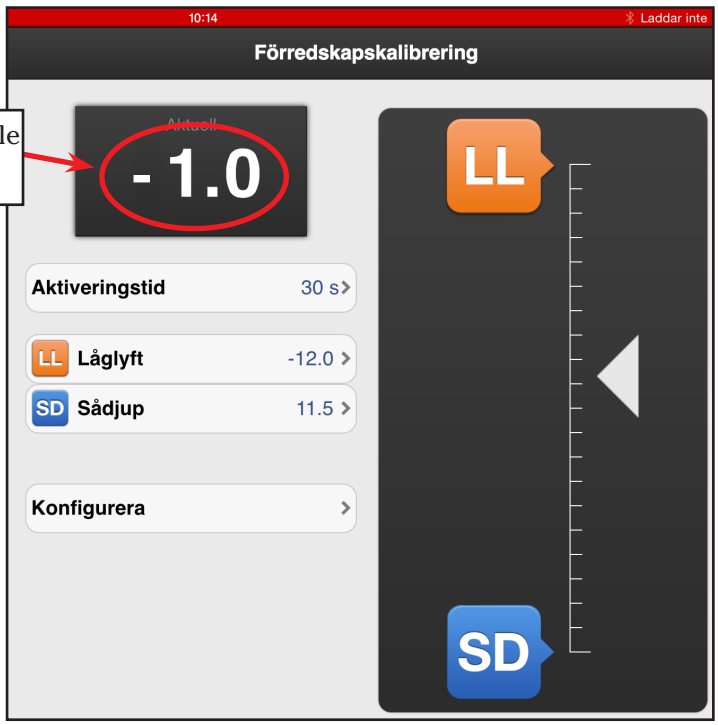
   

   Enter the height to the ground in cm.



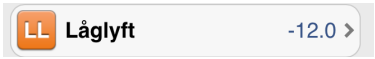
Return to the front tool calibration by pressing:

After the configuration has been completed, the ground level will be equal to 0, above ground will be minus and below will be positive (in the example next to this SystemDisc is therefore approx. 1 cm above the ground).



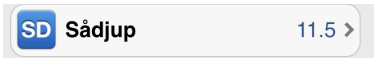
The activation time indicates how long the depth setting for SystemDisc is active in the run menu.

- Lift SystemDisc to the intended low-lift position.

- Press 

- Enter current scale value.

- Lower SystemDisc to the intended work ing depth.

- Press 

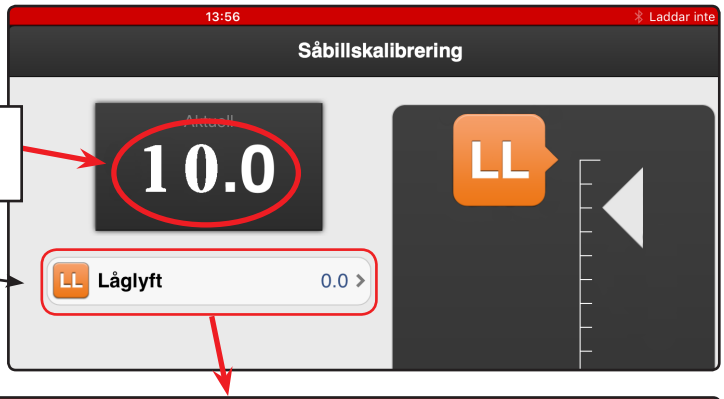
- Enter current scale value.

- Finished!

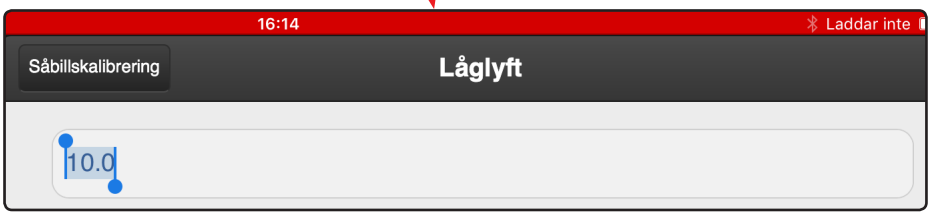
1d. Basic settings Drilling unit

Setting of low-lift position for the drilling unit.

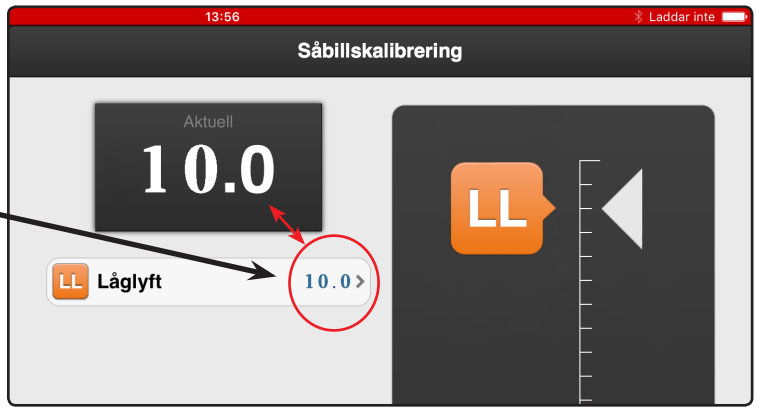
Lift the drilling unit with the yellow circuit to the desired low-lift height.



- Press Low-lift.



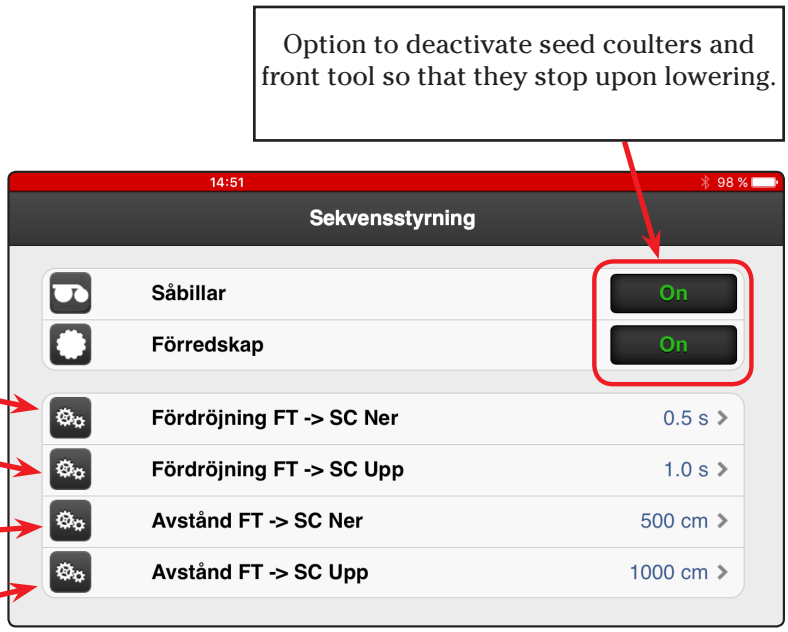
- Enter the current scale value (10.0).



- The Low-lift position is now set!

1e. Basic Settings Sequence control

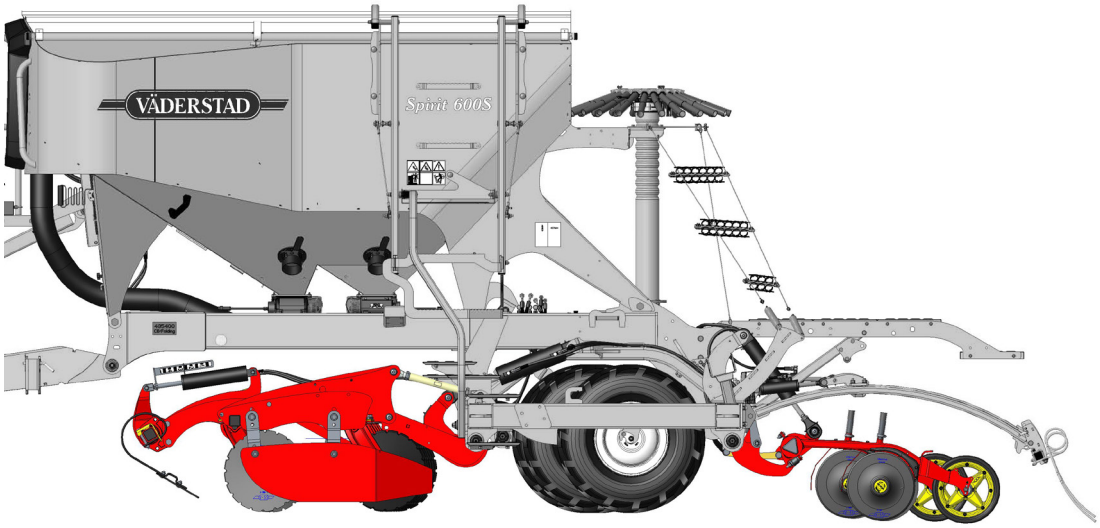
With the sequence control active, the whole seed drill does not need to be up on the headland before lifting and when it is lowered the front tool will be lowered first, followed by the seed coulters.



- Time from the front tool leaving the low-lift position until the drilling unit begins to be lowered.
- Time from the front tool leaving the working depth until the drilling unit begins to be raised.
- Distance from the front tool leaving the low-lift position until the drilling unit begins to be lowered.
- Distance from the front tool leaving the working depth until the drilling unit begins to be raised.

Both time and distance are used, and it is the one that is first reached that activates the sequence.
For example, if you reverse out into a corner in order to begin sowing, it is therefore time that starts the sequence.

For the above setting it would therefore be:



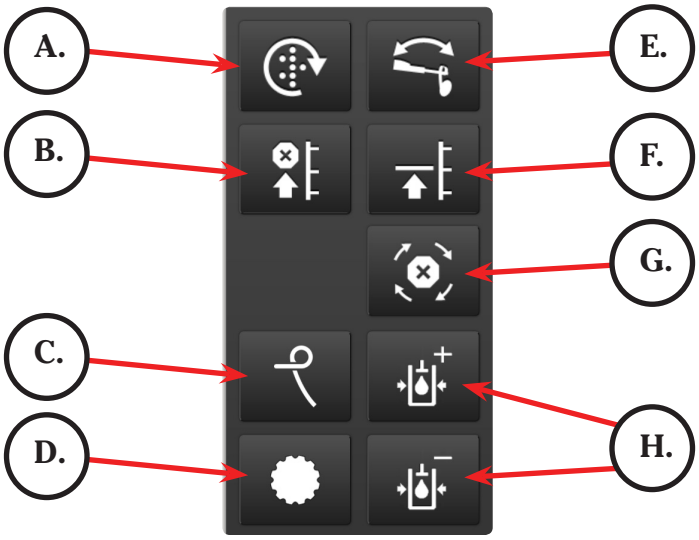
When lowering

The drilling unit begins to be lowered 0.5 m or 0.5 seconds after lowering commences.

When raising

The drilling unit begins to be raised 1 m or 1 second after raising commences.

2. Drive checks

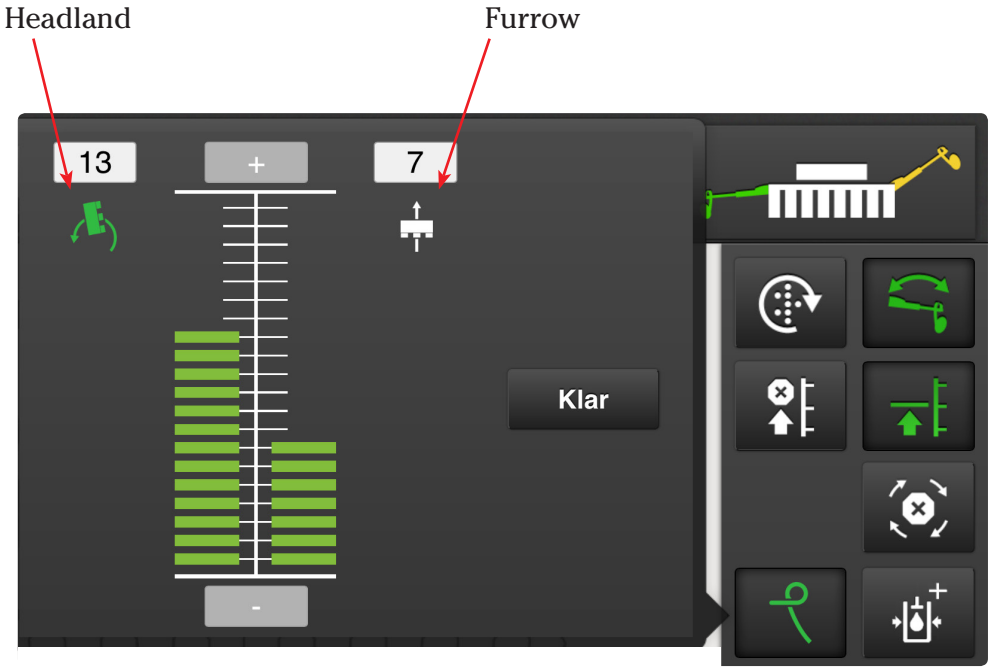


A. Manual feed output.
If you want to start feed output from a stationary position, e.g. in a corner, or during output verification, press and hold the button marked in green.
Preselect the speed in the Basic settings menu.

B. Lift stop.
For retracting the bout marker arms without lifting the machine, e.g. around wells or posts.
Press the button and use the lifting ram to pull in the bout marker arms.
When you have passed the obstacle, use the lifting ram to extend the bout marker arms again.
Press the button again otherwise it will return to its switched off position after 30 seconds.
The button remains green as long as this is activated.

C. Hydraulic following harrow
Press the button to access an adjustment menu for the following harrow.
This menu allows you to have different following harrow pressures for headland and furrows.

1. Select the symbol for headland or furrow. It will then be marked in green.

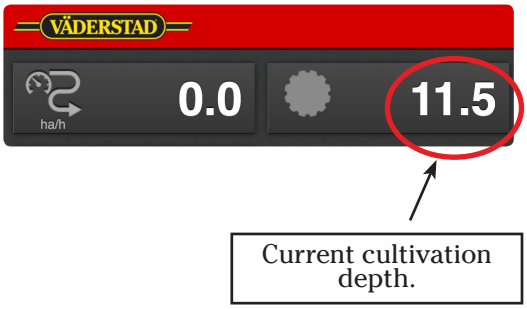


2. Then press on the plus or minus sign a number of times until the required pressure for the following harrow is reached.

- As a guide a value of 20 can correspond to the tare weight. 1 is maximum relieved and 0 is fulfilled.

- If you want the following harrow to remain raised all the time you are driving, go to the basic settings menu and set Following harrow type to Off.

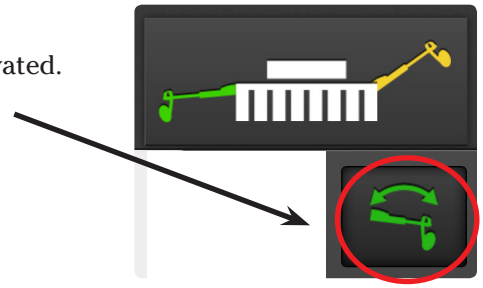
D. Depth setting for SystemDisc



Two of the buttons in the monitoring display are optional:

- Choose to display the symbol for the current depth front tool.
- Press  (1 in Drive checks). → 
- Raise or lower using the lifting circuit (Yellow circuit).
- Press  in order to deactivate the option. It will then be deactivated after the set activation time (refer to 1 c Basic settings Front tool).

E. Automatic bout marker switching



The symbol is green when automatic bout marker switching is activated.
The symbol above shows which bout marker arm is activated.

F. Low-lift

Low-lift active.

The button lights green when low-lift is activated.
Deactivate low-lift if the following furrow needs raising, e.g. for reversing.

G. Tramlining

Automatic progression of tramlining program and bout takes place when the button is white.
Press the button (it will then become green) when you wish to prevent progression.

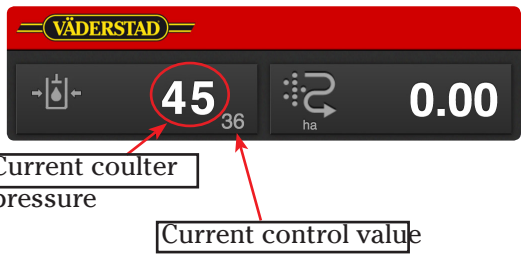
Tramlining active.

Tramlining stopped.

H. Seed coulter pressure

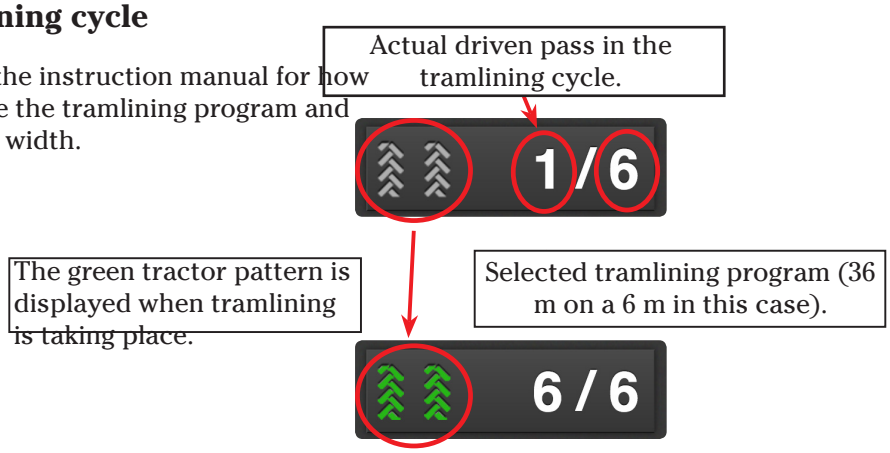
Note: The fan must be started!

- Select the symbol for the coulter pressure in the monitoring display.
- Increase or decrease the coulter pressure using the buttons.

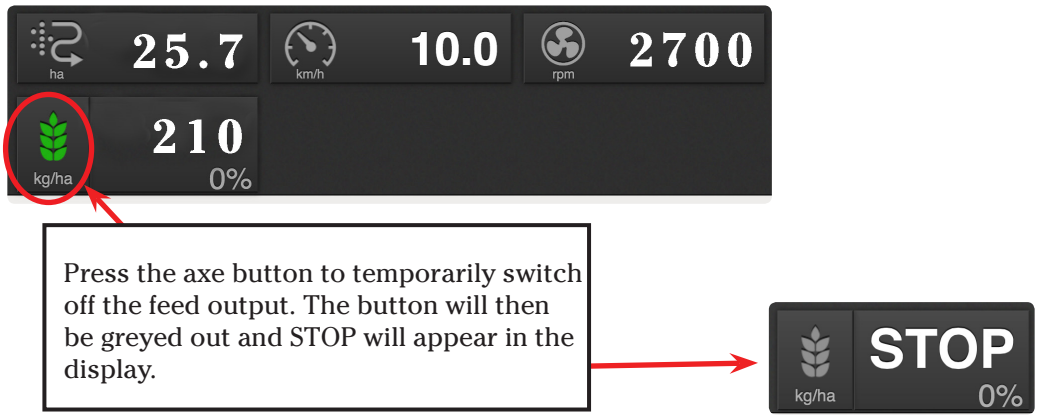


5. Tramlining cycle

Refer to the instruction manual for how to change the tramlining program and the track width.

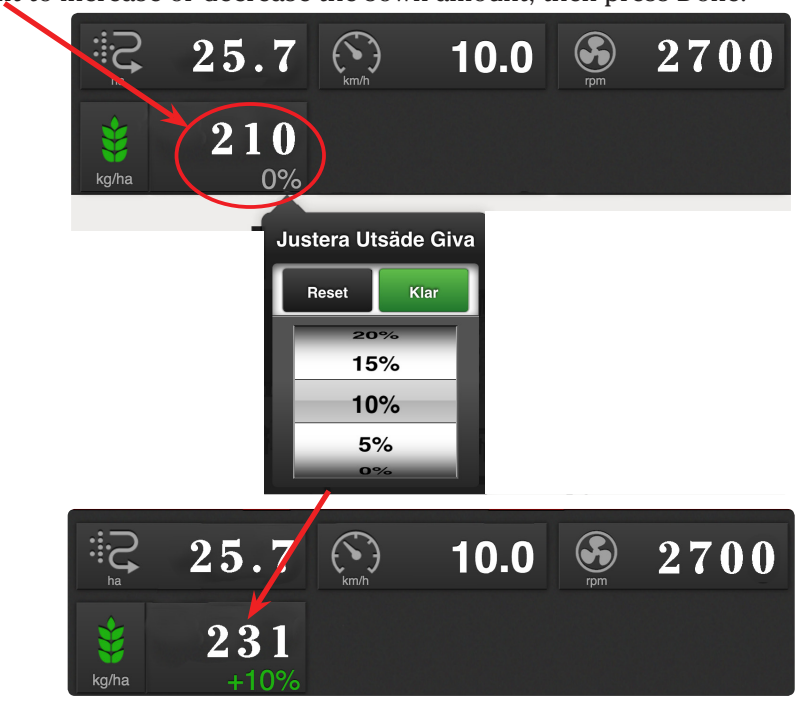


6. Monitoring of seed



6. Adjustment of the sown amount

Select actual sown amount, and a pop up will appear, make changes using the drop-down list depending on whether you want to increase or decrease the sown amount, then press Done.

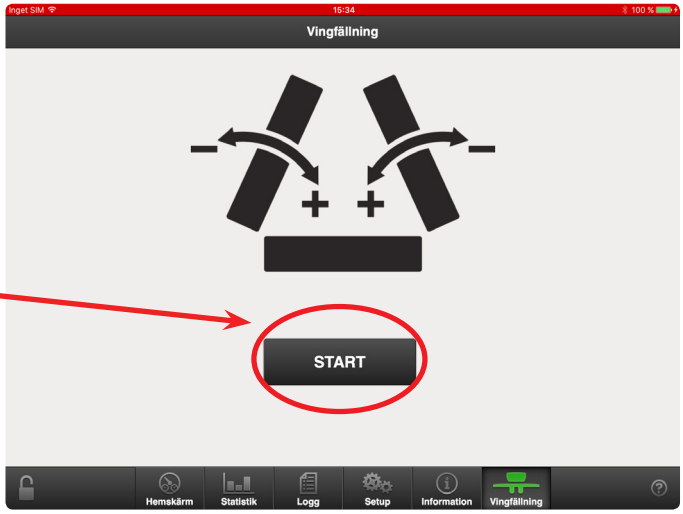


Select actual sown amount again, and then Reset to return to the original sown amount.

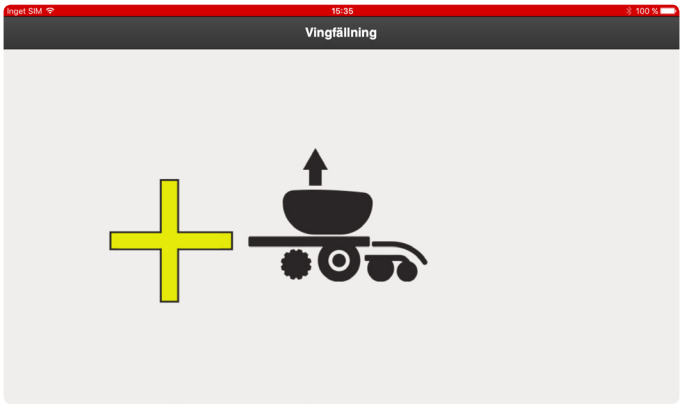
8. Wing extending/retracting

Press Wing extending/retracting in the Run menu.

Press Start.



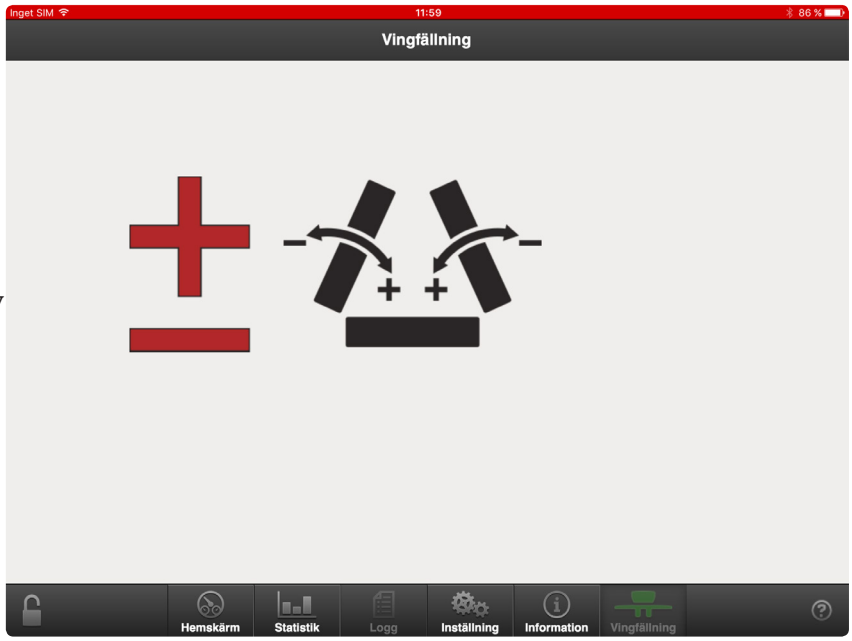
Do what is shown on the screen, lower or raise using the lifting circuit (yellow circuit).



When the front tool and the drilling unit are in the extended position the following menu will be displayed:

Do what is shown on the screen, extend or retract the machine in or out using the red circuit.

NOTE: Continue to extend for approx. 10-15 seconds after the wings have come out in order to pressurise the system.



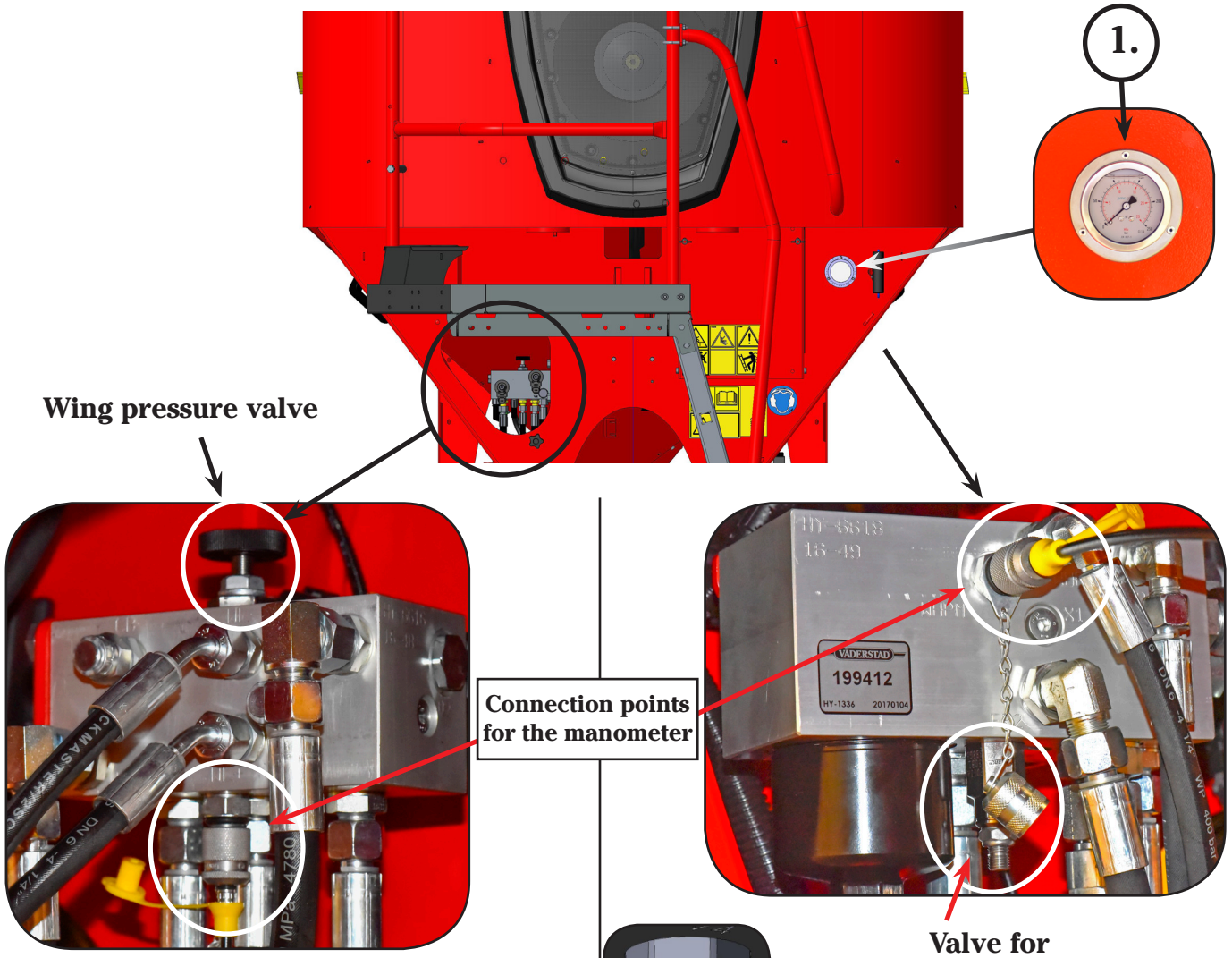
When extending:
Exit the wing extending/retracting menu by pressing the Home Screen, lift the machine using the yellow circuit and keep it there for approx. 10 seconds in order to line up the seed drill unit and the front tool.

When retracting:
Exit the wing extending/retracting menu by pressing the Home Screen, lift the seed drill unit and front tool to transport height using the Yellow circuit.

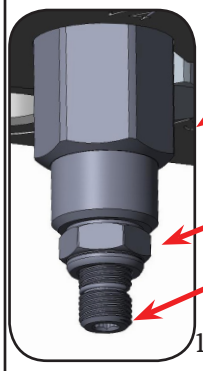
9. Setting of wing and centre cradle pressure

The manometer (1) is used for both the wing and centre cradle pressure.
The two hydraulic blocks are at the front under the seed hopper.
- Wing pressure is adjusted on the right side of the direction of travel.
- Centre cradle is adjusted on the left side of the direction of travel.

Move the manometer hose to the function that is to be adjusted according to the image below.



1. Extend the wings fully in accordance with the previous page.
2. The manometer will display which pressure is in the accumulator. Normally between 30 and 60 Bar.
   NOTE: the pressure must not exceed 120 Bar!
3. Exit the wind extending/retracting menu.
4. If the pressure needs to be adjusted, loosen the contranut on the valve and open it (anticlockwise).
5. Now the accumulator is open to the red circuit.
6. Run the red circuit until the required pressure is reached.
7. Close valve V3 and its counter-nut.
8. Enter the wing extending/retracting menu, retract the wings slightly and then extend them again in order to check to ensure that the required pressure is achieved on the manometer.



1. Extend the wings fully in accordance with the previous page.
2. Start the fan and set to 3000 - 3500 RPM.
3. The centre cradle pressure was set by the factory to approx. 50 Bar.
4. If the pressure needs to be adjusted, loosen the counter-nut on the valve.
5. Open or close the valve using a 4 mm Allen key until the required centre cradle pressure is reached.
6. Tighten the counter-nut again.

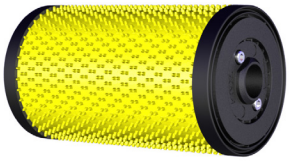
Attachment 1.

7. Rotors

Grain rotor
Adapted to all normal feed rates of grains such as cereals and peas, (possibly fertilizers).

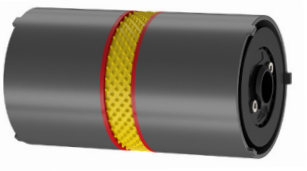
approx 80-100 kg/ha and upwards

Grass seed rotor
Adapted to various types of grass seed blends.



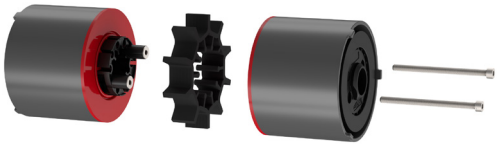
approx 10-60 kg/ha

Rapeseed rotor
Adapted for low feed rates of small seed products.



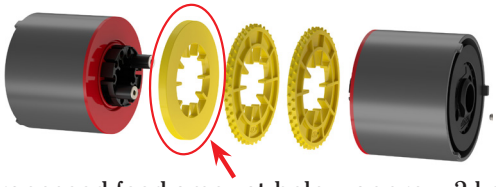
approx 2-12 kg/ha

Special rotors



For low feed rates of large seed sowing (hybrids of rye, maize, catch-crop mixtures that contain large seeds).

up to approx 80-100 kg/ha



For rapeseed feed amount below approx. 2 kg/ha. Note the positioning of the flat ring, with the flat side opposite the other rings!

Sowing seed

The following should be considered when setting the drilling depth:

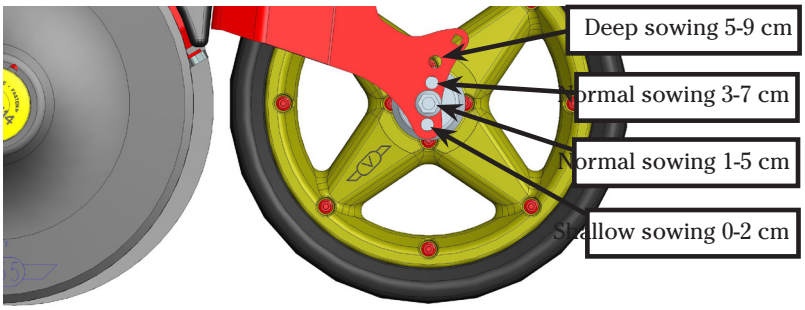
- Soil type?
- Quality of seedbed?
- Moisture?
- Plant residues that could cause resistance?

There are three settings that together affect the drilling depth:

1. Clips. The clips is the first and most important setting.

2. Coulter pressure. Do not use more coulter pressure than the conditions in the soil require. Usually 50 bar is sufficient to ensure good seed sowing. In dry and difficult conditions and/or for deep seed sowing it may be appropriate to increase the coulter pressure.

3. Positioning of the wheel The coulter arm wheel can be set to four (4) positions. For normal drilling depth (~1 - 5 cm) no adjustment needs to be made. If you are sowing peas or beans, or deeper sowing is required, the results may be better if all of the coulter arm wheels are changed. Refer to the image next to this.



- **The sowing table below is only a recommendation! Something to START with!**
- **The seed sowing MUST be studied and decided in the field! Ascertain the seed amount and measure the sowing depth!**
- **Too high a fan speed will result in uneven depth of sowing.**
- **Too low a fan speed will increase the risk of the seed blocking the seed hoses.**
- **It is also important to check to ensure that the correct seed amount is being put out in the field (therefore that the calibration was correct). Advice If the actual sown amount in the field is, for example, 10 % too high, increase the pulses per kg by 10 %.**
- **If the machine is equipped with BDA, you may need to increase the fan RPM slightly.**

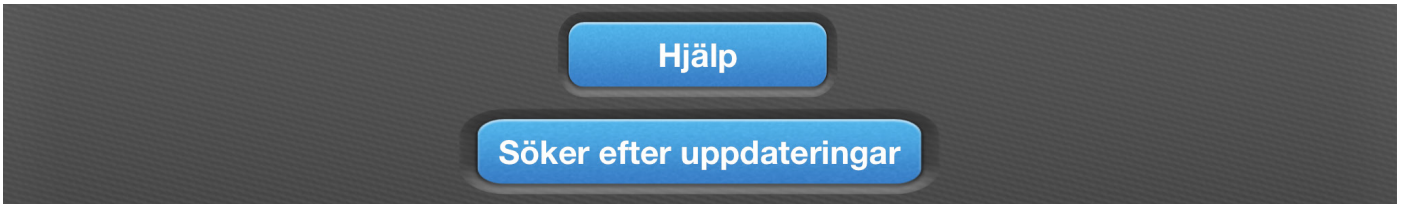
Fan speed (RPM)			
Seed drill	**ST 600S**	**ST 800S**	**ST 900S**
Small seed sowing	2800	2900	3000
Grain	3300	3400	3500

Attachment 2

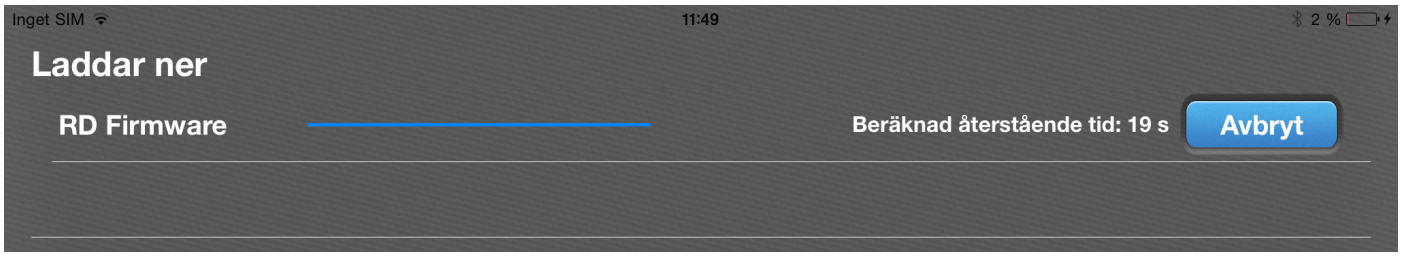
Updating Ipad

Info on how to start up E-Control for the first time is available in the instruction manual.

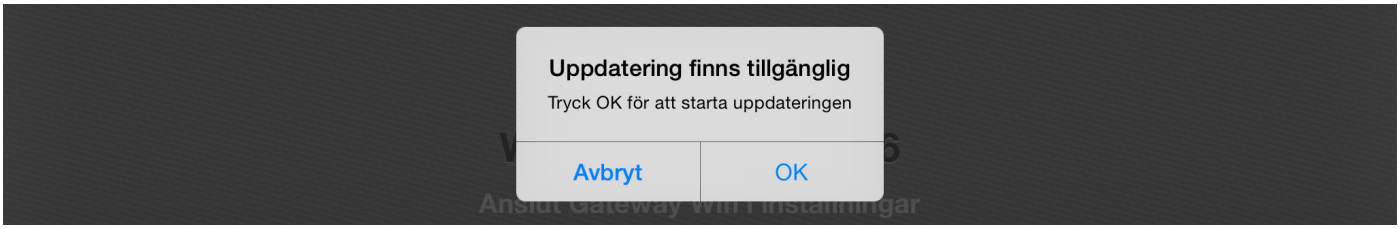
Before the season
Connect the iPad to the Internet and select the E-Control app.
Select Search for updates.



If there are any available updates, these will be downloaded.



Connect the iPad to Gateway to see the following question:



Select OK

Updates will now be downloaded in Gateway, which will re-start when done.

A message will appear telling the update was successful.

DONE!

Väderstad AB
SE-590 21 VÄDERSTAD
Sweden
Phone: +46 142 820 00

www.vaderstad.com