



1/2022 A

USER MANUAL

Avant sd1500

SEED DRILL



Starting from serial number BJ-54450

All rights to structural changes reserved

Read the manual before operating the machine!

Translation



**EY- vaatimustenmukaisuusvakuutus koneesta
(Konedirektiivi 2006/42/EY, Liite II A)**

Valmistaja: Tume-Agri Oy
Osoite: Sudenkorventie 1, 14200 TURENKI

Henkilön nimi, joka osoite, joka on valtuutettu kokoamaan teknisen tiedoston:
Nimi: Heimo Valli Osoite: Sudenkorventie 1, FI-14200 TURENKI
Vakuuttaa, että

Kylvökone Avant sd1500 Sarjanumero _____
• ovat konedirektiivin (2006/42/EY) asiaankuuluvien säädösten mukaisia ja lisäksi vakuuttaa, että
• seuraavia eurooppalaisia yhdenmukaistettuja standardeja on sovellettu SFS-EN ISO 12100-1:2003

**EG-försakran om maskinens överensstämmelse
(Maskindirektivet 2006/42/EG, Bilaga II A)**

Tillverkare: Tume-Agri Oy
Adress: Sudenkorventie 1, FI-14200 TURENKI

Namn och adress till den person som är behörig att ställa samman den tekniska dokumentationen:

Namn: Heimo Valli Adress: Sudenkorventie 1, FI-14200 Turenki
Försäkrar härmed att

Såmaskin Avant sd1500 Serienummer _____
▪ överensstämmer med tillämpliga bestämmelser i maskindirektivet (2006/42/EG)
Vi försäkrar dessutom att
▪ följande europeiska harmoniserade standarder har använts
SFS-EN ISO 12100-1:2003

**EC Declaration of Conformity for the Machine
(Machine Directive 2006/42/EG, Annex II A)**

Manufacturer: Tume-Agri Oy
Address: Sudenkorventie 1, FI-14200 TURENKI

Name and address of person authorized to compile a technical file:
Name: Heimo Valli Adress: Sudenkorventie 1, FI-14200 Turenki

Hereby declares that

Seed drill Avant sd1500 Serienummer _____
▪ is in compliance with the applicable decrees of the Machine Directive (2006/42/EG) and in addition, declares, that
▪ the following standardized European directives and standards have been applied:
SFS-EN ISO 12100-1:2003

Paikka ja aika / Ort och datum / Place and Date: Turenki 24.01.2022

Allekirjoitus / underskriften / Signature :



Jorma Lähetkangas
Toimitusjohtaja / Verkställande direktör / Managing Director

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SPARE PART BOOK

1. TO THE MACHINE OPERATOR AND THOSE IN CHARGE OF THE MACHINE

We wish you the best of success with your TUME seed drill. Instruction in this manual gives the guidance for correct use, adjustments, maintenance and storage of the TUME seed drill. Following the guidance of this manual your machine will serve you impeccably and for a long time to come. It is very important to become acquainted with the machine operating instructions well before the operating season of the machine. Both the manufacturer, Tume-Agri Oy, as well as the authorized dealer, are happy to assist you with questions related to the machinery.

Remarks regarding the Operating Instructions

Because this publication is distributed in an international sales network, the machinery shown in the illustrations (as well as the standard equipment and accessories) can vary in different countries. In different countries the statutory and otherwise important covers have been opened or removed in some illustrations, in order to present a clearer view of the object. The equipment is not allowed to be used without the covers. For your own safety, make sure that all covers are in good condition or installed in place before commencing operations.

In this manual, the terms "left" and "right" in relation to the machine refer to the machine sides seen from behind towards the direction of travel.

Tume-Agri Oy continuously develops its products and reserves a right to make changes and improvements without commitment to carry out the said changes in machinery which is already sold.

2. GENERAL SAFETY PRECAUTIONS



Anyone using, maintaining or otherwise handling the TUME-seed drill, must become carefully acquainted with this manual before starting to work.

Working or staying under an unsupported raised machine is strictly prohibited. Put the machine down if you must leave it unattended.

Staying on the machine or on the step level when the machine is in motion is prohibited. The driver must ensure that nobody is near the machine when the machine is in motion

Machine lubrication, adjustment or cleaning is not allowed when it is moving. Turn off the engine and turn on the hand brake during maintenance work.

All covers must be kept mounted in their respective locations.

Ensure the correct connection of drawbar to the loader and the work machine.

The maximum transport speed in good conditions is 15 km/h. Extreme caution and reduced speed must use on uneven surfaces. Transfers should be preferably made when containers are empty. Load being transported on the machine is prohibited. To keep tires from breaking, avoid driving over rocks and other obstacles.

Always, use caution when moving on top of the machine for cleaning or maintenance work purposes, or filling the tanks.

When heated, machine painted surfaces can excrete gases harmful to health. Take care of efficient ventilation in your workspace for example during welding operations.

Use only manufacturer-approved accessories and equipment. The party carrying out alterations which does not follow manufacturer's instructions is responsible for the alterations and their consequences.

Seed Drill does not cause any substantial increase in the noise level at the driver's cabin. Possible hearing protection required depends on the loader noise level. When handling heavy and sharp components (e.g. drawbar) the use of safety boots is recommended.

3. MACHINE APPLICATION

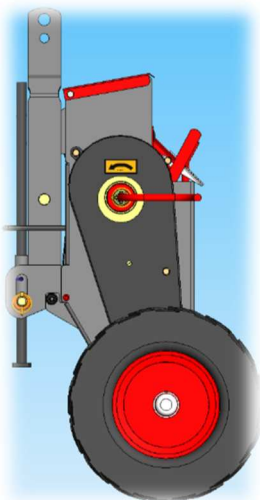
Avant sd1500 is intended for seeding. With the additional accessories, the number of features of seed drill may be increased and accessory may do the drilling during the same pass, among other things to modify or even out the arable land and cover the seeds.

The use of seed drill to other purposes than the stated is prohibited. The machine is not meant for example to transport materials with great speed or storing material in the containers of the machine. The filling station of the machine should be located close to the area which will be sown and the transport speed, when machine has a load should be in a reasonable relationship to the container contents and road unevenness. Passenger transport with the machine is completely prohibited!

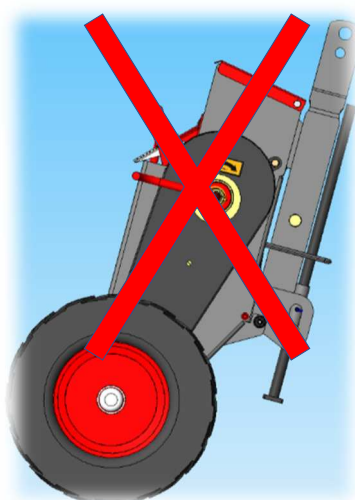
4. GENERAL GUIDANCE FOR SOWING

4.1 Driving instructions

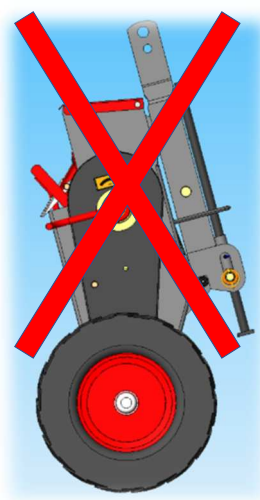
The machine should operate on level ground in a horizontal position. Then the feeding system is running most precisely. Adjust the machine horizontal position with loader boom or with the drawbar depending on which one it is attached to.



Picture 1.



Picture 2.



Picture 3.

NOTE! Do not reverse when rear harrow is on ground!

The transmission of the feeding system includes a free wheel which cut of the feeding when reversing the machine. Remove the pin from feeding axle when transporting the machine with drawbar. Then the feeding roller are not running and does not wear.

Check from time to time, that there are no blockages in feeding units. Clean any blockages.

Do not store the seeds for several days in the hopper, especially in the damp weather. Damp seeds can cause feeding problems.

Driving speed:

- Good driving speed is normally 1–10 km/h.
- Max transport speed with empty hopper 15 km/h.

4.2 Notable tips to operate the machine

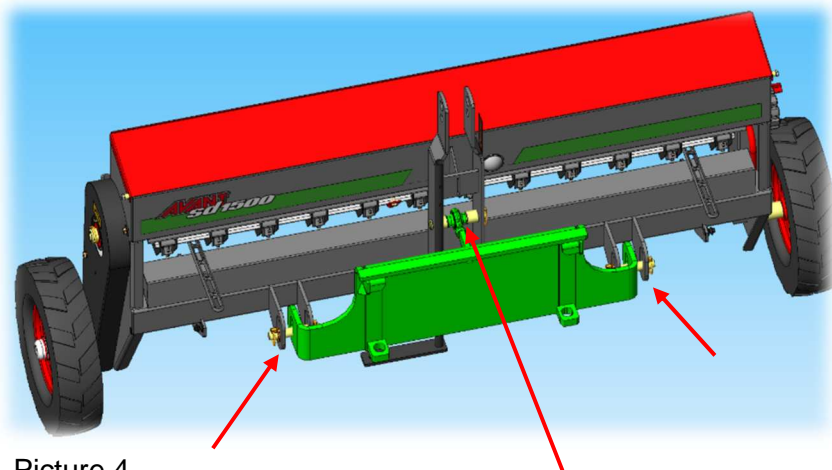
Use extreme caution when filling the tank, so that no large particles get mixed with the seeds and damage feeders.

The calibrations of the machine will be done in seed to the tray below feeder chambers. Exercise caution when pushing the troughs into place. Hold them in an absolutely straight line in terms of the machine. If a trough is pushed strongly so that its head is directed upwards, the trough can hit one of the feeder chambers and damage them.

5. COMMISSIONING THE MACHINE

5.1 Connecting the machine to the loader

Attach the connecting adapter to the seed drill according to picture 4 with three pin and secure the pins. The connector is designed so that the seed drill can tilt relative to the machine on uneven land.



Picture 4.



Picture 5.



Picture 6.

The seed drill can be attached to the loader boom, picture 5. Then it is easier to handle the machine in tight spaces. Set the loader boom to floating mode when pulling the seed drill on ground. **NOTE! Do not press the seed drill with loader boom. The seed drill can get serious damage.** Make sure that the seed drill is horizontal position when seeding like in picture 1.

For larger areas the machine can be equip with drawbar when the machine can be tow by loader, picture 6. Make sure that machine is horizontal like in picture 1.

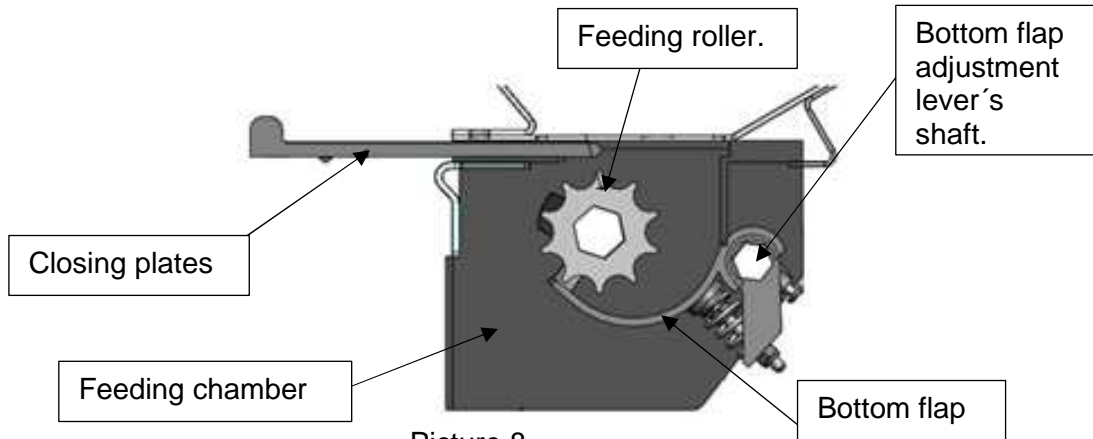
Set the support leg to down position always before removing the seed drill from loader boom or hitch, picture 7. Set the support leg always to up position when using the machine.



Picture 7.

5.2 Seed drill transmission and feeding mechanism.

The seed feeding units are equipped with spiral rollers. The feeding rate can be adjusted with 100 step hand wheel. The feeding system includes the bottom flap. Adjusting the bottom flap different size of seeds can be seeded. Every feeding unit also includes a closing plate. By opening and closing the plates working width can be adjusted. For example, in narrow space the working width can be split, or the stripes can be seeded.



Picture 8.

The transmission also includes the transmission cassette, pictures 16-17. Turning the cassette, the feeding rate can be very large or very small. For example, gras seed mixture can be seeded max $3\text{kg} / 100\text{m}^2 = 300\text{kg} / \text{ha}$. Other hand for example lucerne can be seed min just $50\text{g} / 100\text{m}^2 = 5\text{kg} / \text{ha}$ and the rate can be split by closing every second feeding unit.

Transmission includes a free wheel in the end of feeding axle. Free wheel allows the seed drill can be reversed without the feeders rotating. The pin in the end of the feeding axle can be removed in transport. Then the feeding axle does not rotate at all, pictures 9-10.



Picture 9. Feeding on



Picture 10. Feeding off

The seed drill feeding rate can be calibrate by calibration test.

The seed drill can feed in many different seeds and amount of seeds.

5.3 Filling the hopper

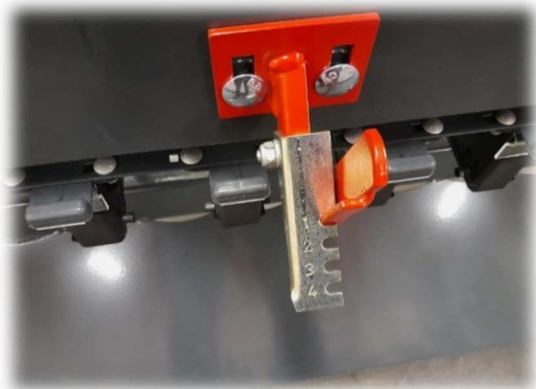
The hopper can be fill up from the top of the machine, picture 11.



Picture 11.

Make sure that the bottom flap lever is on right position before filling up the hopper, picture 12. The right position is shown in sowing table. Sowing table is in this manual, picture 18 and under the hopper cover, picture 11. The bigger the seeds are higher is the number of lever locked position. Bottom flap lever position numbers: grass seeds and other small seed 1, grains 2, pea 3, beans 4. **NOTE, if the bottom flap lever is totally opened the seed will drain off from hopper!**

The seed level in hopper can be monitored easily from inspection eye in front of the machine, picture 13.



Picture 12.



Picture 13.

5.4 Calibration test

The machine feeding rate will be calibrated by calibration test. Indicative feeding rate is shown in sowing table, picture 18.

Indicative feeding rate for different seeds and seed mixtures is shown in sowing table. In the sowing table's horizontal axis is the position on of the hand wheel and on vertical axis is the seed rate.

- Make sure that the bottom flap lever is in the right position, picture 12.
- Open all closing plate. If it is meant to sow with every second feeding unit, close the closing plates according to that.
- If it is needed to sow momentarily just half of the machine working width do the calibration test for every feeding unit open. Then the feeding rate is correct.



Picture 14.



Picture 15.

- Set the transmission cassette to right position.

Cassette gear 1, picture 16; Cassette gear I, is for the small amount of seed rate, less than $0,5 \text{ kg} / 100\text{m}^2$ (less than 50 kg/ha).

Cassette gear 2, picture 17. Cassette gear II, is for the bigger amount of seed rate (grass mixture and grains when the seed rate is more than $0,5 \text{ kg} / 100\text{m}^2$ (more than 50 kg/ha)).



Picture 16. Cassette gear I



Picture 17. Cassette gear II

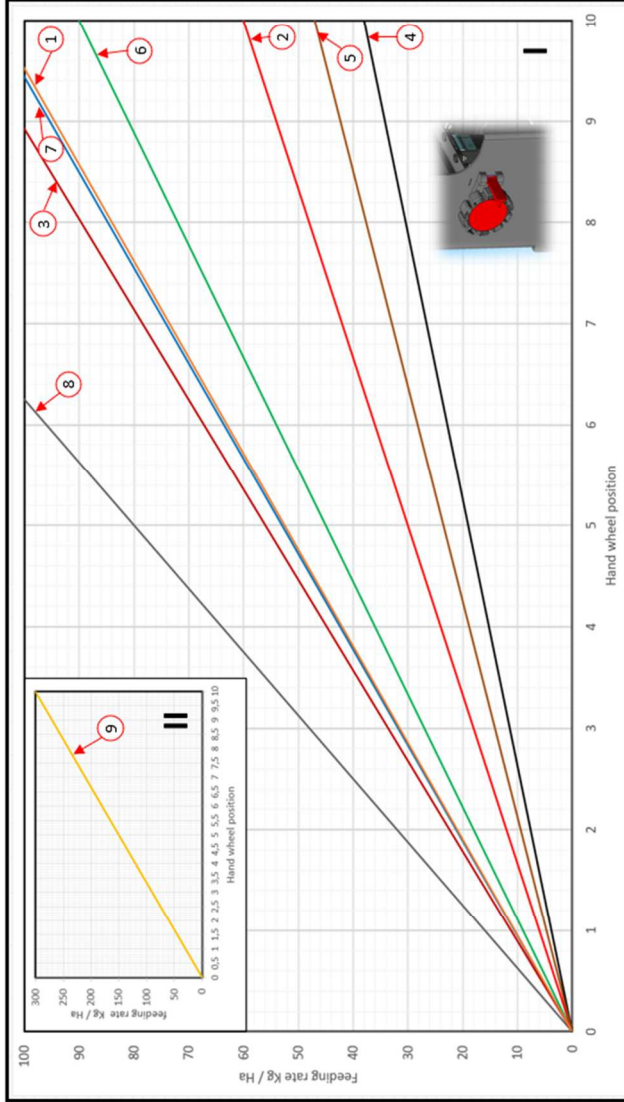
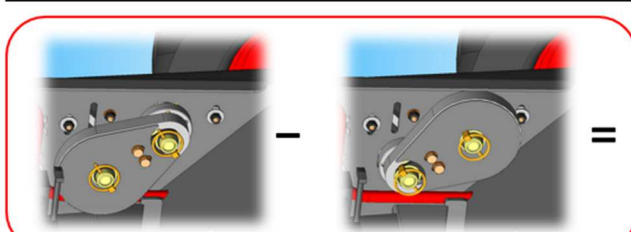
Sowing chart – Kylvötaulukko – Sätabell – 播種子ヤート

Advisory calibration test
Suuntaa antava kiertokoe
Riktgivande vridprov
カリブレーションテスト

	I	II
GM - 1500	6 r/a	GM - 1500 37 r/a
GM - 2500	3,5 r/a	GM - 2500 22 r/a
GM - 3000	3 r/a	GM - 3000 18,5 r/a
GM - 4000	2 r/a	GM - 4000 12 r/a



Bottom valve position - Pohjaläppän asema -
Bottenklaffläge - 底部ハルブ
Fine seeds - Piensiemien - Smått frö - 小粒種子



- 1 Timothy - Timotei - Timotej
- 2 Rai grass - Raiheinä - Rai-gräs
- 3 Red clover - Puna-apila - Röd klöver
- 4 Smooth Brome - Rehekattara - Bladfaks
- 5 Orchard Grass - Koiranheinä - hundäxing
- 6 Timothy 60%, Kentucky Bluegrass 40%
- Timotei 60%, Nurminata 40%
- Timotej 60%, Ängssvingel 40%
- 7 Timothy 90%, Red clover 10%
- Timotei 90%, Puna-apila 10%
- Timotej 90%, Röd klöver 10%
- 8 Lucerne - Sinimailanen - Luserne
- 9 Grass-Seed Mixture - Nurmikoseos
Plenfröblandingen



99486503-A

Picture 18. sowing table (sowing chart)

- Fill up the hopper with seeds. Make sure that there are enough seeds for the whole calibration test.
- See the wanted feeding rate from the sowing table and adjust the hand wheel position like on sowing table. When adjusting the hand wheel press the lock towards the hopper and turn the lock open. **Do not use force for the lock!**

When sowing for example rai gras (line 2 on sowing table) 0,3kg / 100m² (30kg / ha) the hand wheel position is about 5.0. Rotate the hand wheel 5 whole rounds counterclockwise from zero point. When approaching the feeding rate from lower to higher, rotate the hand wheel half rounds over the wanted and then back to the wanted rate. Then the loosen will be removed and the feeding rate is accurate. When reducing the feeding rate, rotate the hand wheel straight to the wanted position.

Total rotations of hand wheel are seen from the hand wheel inner side where the lock shows, picture 20. The partial rounds are seen from the hand wheel end, picture 21. For example, on picture in down 20-21 the hand wheel position is 6,4.



Picture 19.



Picture 20.



Picture 21.

- Take the calibration crank from the support from the left side of the machine, picture 22, and set it in to the feeding axle in the right side of the machine, picture 23.



Picture 22.



Picture 23.

- Take the calibration tray from the support (picture 24) and set it under the the feeding units (picture 25).



Picture 24.



Picture 25.

- Rotate the calibration crank a few rounds in the direction of the arrow that the feeding units will be fill up. Empty the calibration tray and set it under the feeding units.
- Rotate the calibration crank according to the sowing table (**GM-1500 = Avant sd1500**), picture 18.

Trasmission cassette gear **I**; **rotate the crank 6 rounds**. This indicates the sowing area of $100m^2 = 0,01$ ha.

Trasmission cassette gear **II**; **rotate the crank 37 rounds**. This indicates the sowing area of $100m^2 = 0,01$ ha.

- Empty the calibration tray to a bucket or to a bag and weight the amount. Make sure that the weight scale is right, and the weight is reset.
- If the feeding amount is less than wanted, increase the feeding from hand wheel.
- If the feeding amount is more than wanted, decrease the feeding from hand wheel.

Repeat the calibration test to get the feeding amount as accurate as possible.

- After the calibration test put the calibration crank and the tray to their supports. Then they are always available in the machine!

5.5 Field test

A field test is absolutely the most accurate testing format of feeding amount. If the field test is carried out on the field which is to be sown and on a prepared seedbed, conditions equivalent to sowing are accurately established.

The field test is recommended for very small feeding amounts when the feeding accuracy must be very accurate. In the field test the machine will be driven in normal seeding speed and conditions corresponding 100m² area; **Avant sd1500 = 66,7m**

In the field test the calibration tray is placed under the feeding units like in calibration test and the drive the machine instructed **distance 66,7m**. After the test weight the seeds and adjust the feeding from hand wheel if needed.

After the field test put the calibration tray to the support.

5.6 Hopper draining

The hopper can be drained opening the bottom flaps and the seed can be drained into the calibration tray or on to the tarpaulin. Rest of the seed in the hopper can be blown or brushed away.

Do not storage the seed in the hopper for long time especially in humid weather. Seed might start to grow easily and finally rot into the hopper and might cause some rust to the machine. The hopper is easier to clean when the seeds are dry.

We recommend that the hopper will be emptied always after the seeding.

6. OPTIONS

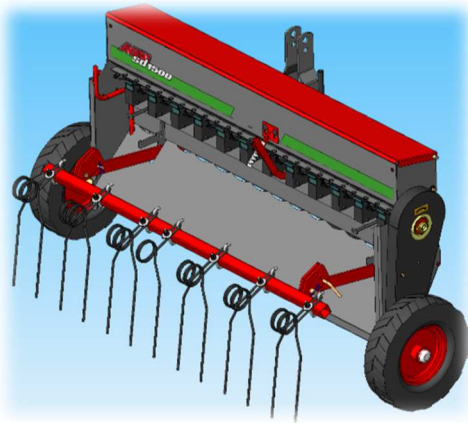
There is available a different option for the seed drill to increase the features of the machine.

6.1 Rear harrow

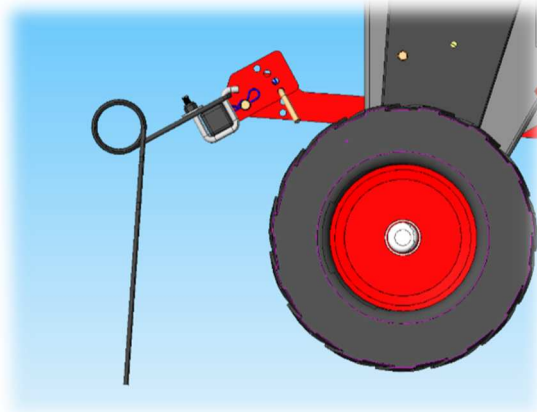
The rear harrow can be attached behind the machine. The rear harrow covers the seed with soil and the seed started to germinate better. The rear harrow scraps and sort the soil so that the soil surface does not get hard so easily after a heavy rain, picture 26-27.

The harrow angle can be adjusted by pin. The steeper the tines are the more tines are vibrating and covering the seed. Gentler the tines are less stones are pumping up on the surface.

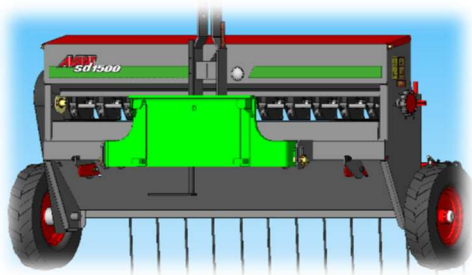
The rear harrow will be installed to the machine like in the pictures. Both arms are pushed through the fixing holes from behind the machine and secured by bolts and nuts, pictures 28-30. Do not tighten the nuts too tight that the arms can move, and the harrow can follow the soil surface.



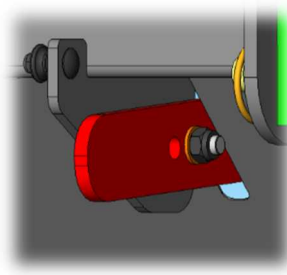
Picture 26.



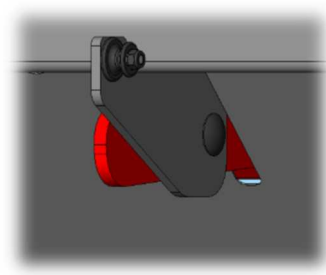
Picture 27.



Picture 28.



Picture 29.

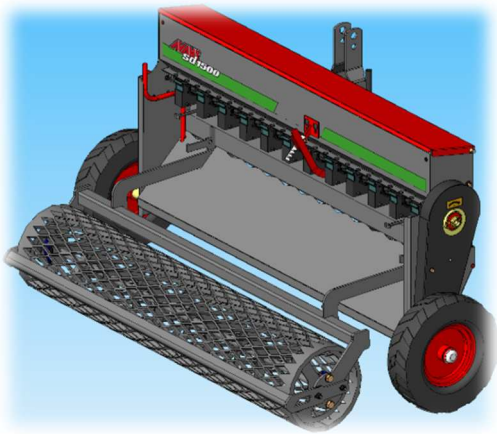


Picture 30.

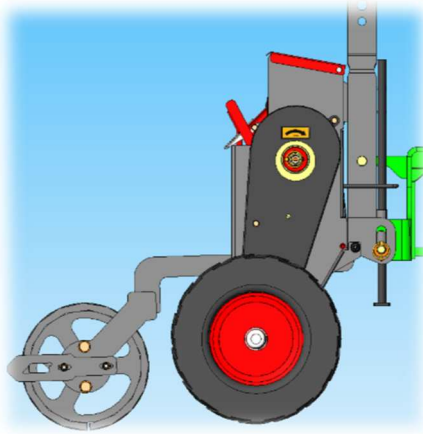
6.2 Rear packer

Rear packer also covers the seed with soil when the seed started to germinate better. Packer leaves the soil surface a little harder than harrow and press some small rocks in the ground. Packer does not scratch the concrete slabs so easy as the rear harrow does. Packer is a good option if such kind of areas or gardens will be seeded, pictures 31-32.

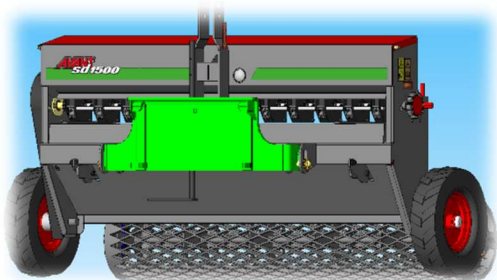
Rear packer will be installed to the machine like in the pictures. Both arms are pushed through the fixing holes from behind the machine and secured by bolts and nuts, pictures 31-32. Do not tighten the nuts too tight that the arms can move, and the packer can follow the soil surface, pictures 33-35.



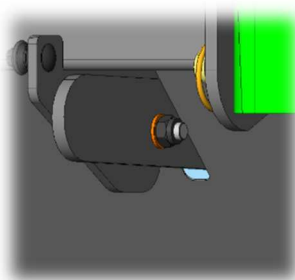
Picture 31.



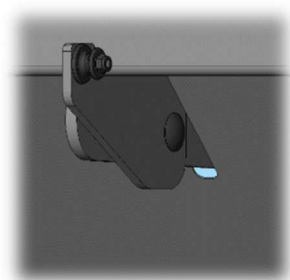
Picture 32.



Picture 33.



Picture 34.

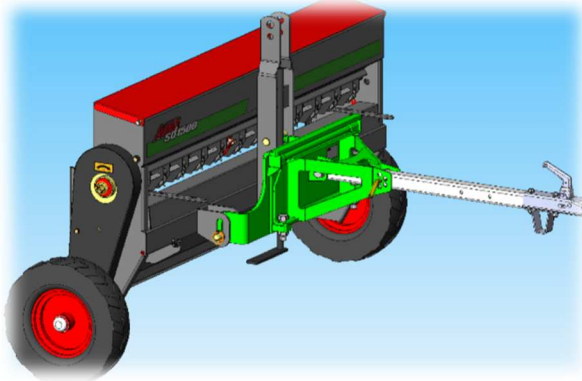


Picture 35.

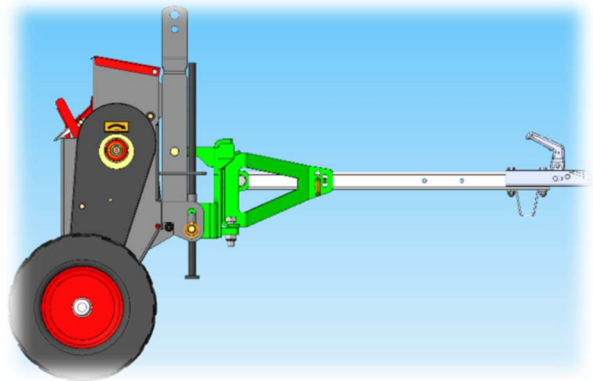
6.3 Drawbar

For bigger areas the seed drill can be adapted to the loader also with a drawbar as a towed machine. Seeding is then easier because the loader can be driven forward, pictures 36-37.

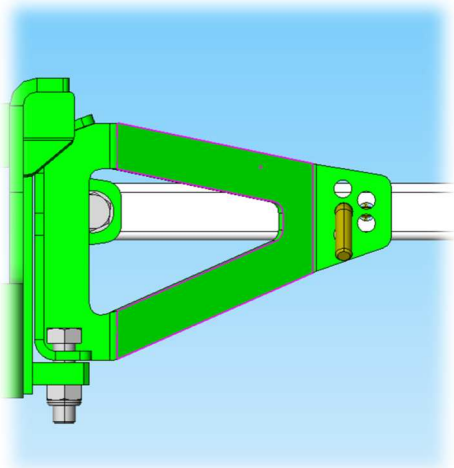
The drawbar can be fixed to the fastening part where the boom is adapted. The towing eye height can be adjusted by moving the pin place like in picture 38.



Picture 36.



Picture 37.



Picture 38.

7. SERVICE

In the more demanding cases we recommend contacting the dealer. Please read the service instructions carefully. According to the guidelines the seed drill works flawlessly year after year. In the instructions it is stated that a service failure will void the warranty.



Always turn off the loader engine before starting the service and turn on the hand break. Make sure no one can use the machine during service.



DANGER!
DO NOT GO UNDER A MACHINE WHICH IS ONLY SUPPORTED BY HYDRAULIC.
 Please check the tightness of all screw connections every 100 hours of use. On a new machine the aforementioned check must be carried out twice every 25 hours of use and after this every 100 hour.



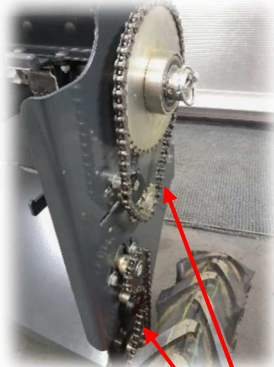
DANGER! WHEN HEATED, PAINTED SURFACES OF THE MACHINE CAN EXCRETE GASES HARMFUL TO HEALTH. PROVIDE ADEQUATE VENTILATION IN THE WORKSPACE, FOR EXAMPLE DURING THE WELDING WORKS

7.1 Lubrication

Machine must be lubricated at least once in the season and always after washing. Machine must be lubricated before storage. Open the chain cover from the right side of the machine and lubricate the roller chains. Lubricate also the transmission cassettes roller chain. Use roller chain lubrication oil, pictures 39-41. Grease also the wheel bearing, picture 42. Suitable grease type is NLGI 2.



Picture 39.



Picture 40.



Picture 41.



Picture 42.



7.2 Roller chain tension

Tighten the roller chain if needed. Do not tighten the chain too much. Make sure that the chain can roll free after tightening.

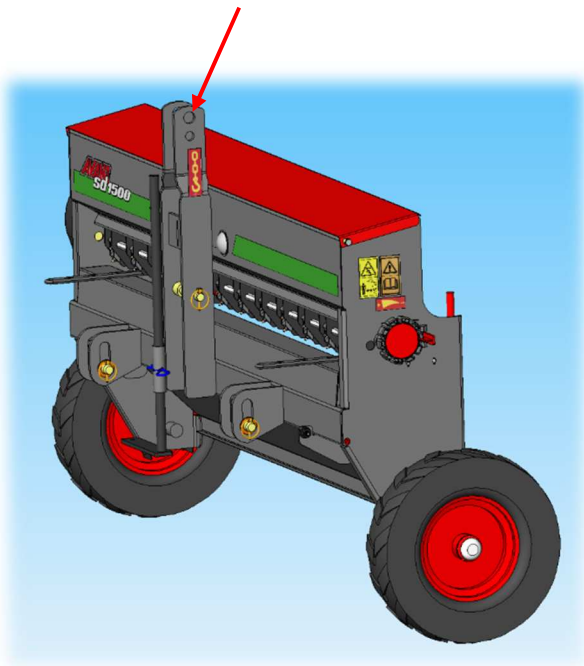
7.3 Tyre pressure

Supporting wheels 4.00–8 AS **1,5–2.0 bar.**

Measure the wheel pressure and adjust it if needed.

8. LIFTING POINT

The seed drill can be lifted up from the front of the machine the place that is signed with chain decal, picture 43.



Picture 43.

9. STORAGE

When the machine is not being used, it must be stored in sheltered place, cleaned up and maintained. Put the machine down. Hopper is emptied of seeds.

The machine is washed inside out with water. Use a pressure washer carefully, (Max. water temperature is 60 degrees, pressure 100 bars), do not point the pressure directly on the bearings. Lubricate the machine according to instructions after washing. Parts where the paint has become worn out can be protected with anti-rust oil. Let the machine dry before storage.

10. TECHNICAL DATA

Type	Avant sd1500
Working width (m)	1,5
Hopper capacity (l) - Full	60
Base machine weight (kg) - Empty - Hopper filled with grass seed	150 180
Base machine dimensions (cm) - Height - Width - Length	106 190 56
Supporting wheels -Size -Amount -Pressure (bar)	4.00-8 AS 2 1,5-2,0
Noise level	< 70 dB (A)

11. WARRANTY

Warranty period

One (1) year warranty will be granted to all the products of Tume Agri Oy.

Warranty becomes effective from the date when the machine is delivered to the end-user. The warranty covers only the damage that is reclaimed to the factory within two (2) years after the product was delivered to the factory dealers.

Items covered by the warranty

The warranty applies to manufacturing and material defects addressed.

The warranty will cover the faulty part and the replacing or fixing the part by authorized mechanic by Tume-Agri Oy. The warranty work must be agreed with representative of Tume-Agri Oy.

Items not covered by the warranty

Warranty does not cover normal wear and tear, neglect or misuse, improper installation, or defects due to lack of maintenance.

Warranty does not cover the travel cost of work caused by minor work such as replacing seals or tightening screw etc.

The guarantee is not valid if the machine has been modified so that it differs from the original form, for example, modifications, adjustments, or additional structures, exchanges to other than the manufacturer's original spare parts or accessories.

Warranty does not cover indirect losses such as worktime, travel costs, potential effects on yield or contracts. Warranty does not cover transport damages, vandalism, thefts, and similar harms.

The warranty repairing does not extend the warranty period.

Reporting of error

The damage which has occurred must be reported immediately to the manufacturer, in which case a determination will be made whether the warranty will cover the case.



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