Farmet

The effective technology

OPERATING MANUAL

FALCON

3 | 4 | 6 | 8

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Dear customer,

The ***FALCON*** disc sowing machines are high-quality products by Farmet a.s. Česká Skalice.

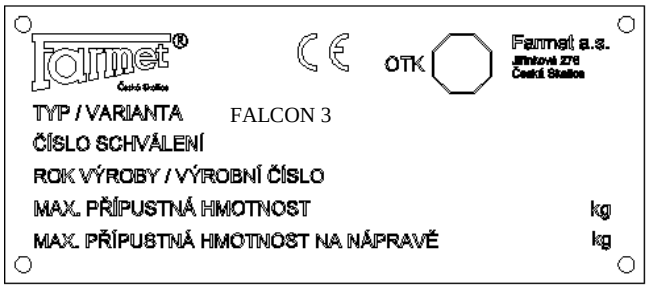
You can start to fully use the qualities of your machine after you have thoroughly studied the operating manual. **The serial number of the machine is imprinted on the production label and recorded in the operating manual. Please use this serial number whenever you order spare parts in case of a repair. The production label is located on the central frame near the pole.**

Use only spare parts for these machines according to the ***Spare Part Catalogue*** officially published by the producer, the company Farmet a.s. Česká Skalice.

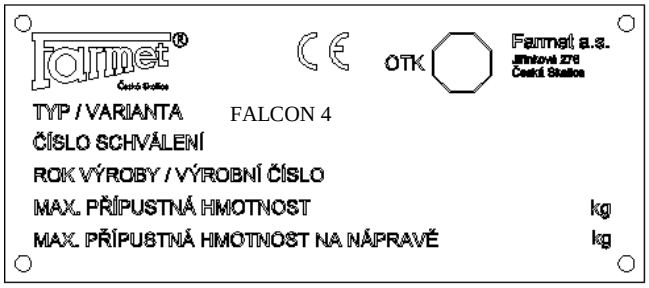
Possibilities of Use of Your Machine

The disc sowing machines are intended for areal sowing with the option to sow broad-line cultures into strips. The sowing machine is intended for sowing a wide range of farming products, such as cereal, pulses, oil bearing crops, clover crops, grass etc. The actual conditions for sowing individual farming products are stated below. The machine is intended for aggregation with tractors with the output from 90kW, 117 kW, 161 kW and from 205 kW according to the soil conditions and depth of sowing. The optimal working speed is 10 - 20 km/hour. The machine allows additional fertilising by granulated fertilisers while sowing.

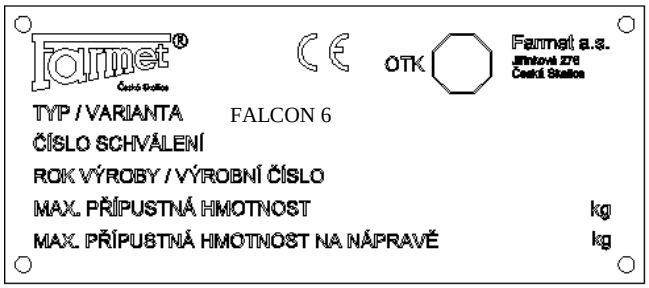
Production label of the machine ***FALCON 3***



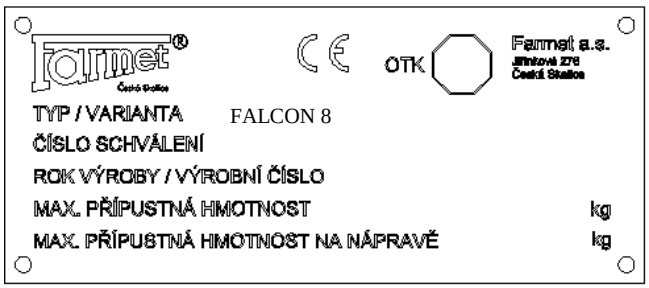
Production label of the machine ***FALCON 4***



Production label of the machine ***FALCON 6***

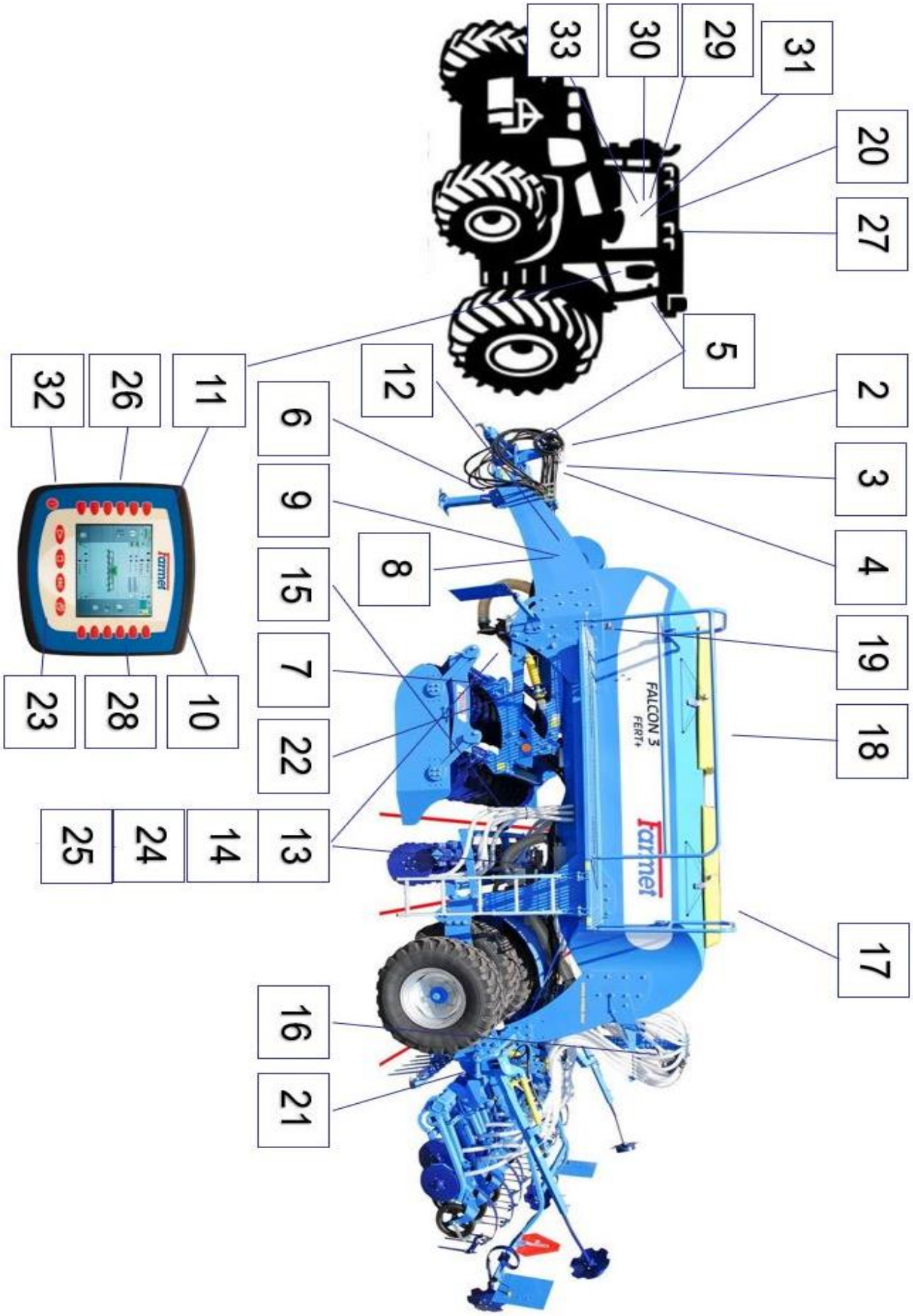


Production label of the machine ***FALCON 8***



CONTENT

1 QUICK START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FALCON 3
FERT+
Farmet

2 CRITICAL PARAMETERS OF THE MACHINE

- The machine is designated for sowing common cereals and broad-line cultures in aggregation with an agricultural wheel or caterpillar tractor. Another type of use exceeding the determined purpose is forbidden.
- (x) The machine is only operated by one person – the tractor driver.
- (x) The operator must not use the machine for other purposes, particularly:
  - (x) For transporting people and animals on the construction of the machine,
  - (x) For transporting load on the construction of the machine,
  - (x) Aggregation of the machine with other tractive equipment than stated in Chapter „**6.1.**/P.18“.

3 TECHNICAL PARAMETERS

Tab. 1 – Technical parameters of the machine

PARAMETERS		FALCON 3	FALCON 4	FALCON 6	FALCON 8
Working width (mm)		3000	4 000	6 000	8 000
Transport width (mm)		3 000	3 000	3 000	3 000
Transport height (mm)		3 300	3 300	3 300	4 000
Total length of the machine (mm)		7 500	7 500	7 500	7 500
Working depth (mm)		0 – 100	0 – 100	0 – 100	0 – 100
Container capacity without fertilization (l)		4000	4000	4000	4000
Container capacity with fertilization (l) (ratio 40 : 60)		6000	6000	6000	8500
Filling height of the container (mm)		2650	2 650	2 650	3 400
Dimensions of the filling opening w/out fertilization (m)		2x0,52 / 1,2x0,52	2x0,52 / 1,2x0,52	2x0,52 / 1,2x0,52	2x0,52 / 1,2x0,52
Number of drill coulters (spacing 125 / 150 mm)		24/20	32 / 26	48 / 40	64 / 52
Number of fertilizer boots (spacing 250 / 300 mm)		12/10	16 / 13	24 / 20	32 / 26
Pressure of drill coulters / fertilizer boots (kg)		50 -115 / až 200	50 -115 / až 200	50 -115 / až 200	50 -115 / až 200
Diameter of the sowing disk, two-disk coulter / press-wheel (mm)		355 / 340	355 / 340	355 / 340	355 / 340
Diameter of the sowing disk, single-disk coulter / press-wheel (mm)		410 / 690	410 / 690	410 / 690	410 / 690
Number of discs ∅490	**Front**	12	16	25	34
	Rear	11	15	24	33
Number of chisels of 2-row section, depth 200mm (spacing 250 / 300 mm)		12/10	16 / 13	24 / 20	32 / 26
Number of chisels of 3-row section, depth 200mm (spacing 250 / 300 mm)		12/10	16 / 13	24 / 20	32 / 26
Number of chisels of 2-row section, depth 300mm (spacing 375 mm)		8	16	24	32
Working capacity (ha/h)		3 - 4,5	4 – 6	6 - 9	8 - 12
Pulling vehicle (kW)		92 / 125	117 / 160 *	161 / 220 *	205 / 280 *
Working speed (km/h)		10 – 20	10 – 20	10 – 20	10 – 20
Maximum transport speed (km/h)		25	25	25	25
Maximum slope accessibility (°)		6	6	6	6
Tyre dimensions		405/70-20	405/70-20	405/70-20	405/70-20
Type of brakes / distribution [1)]		air / two-line***	air / two-line***	air / two-line***	air / two-line***
Required pressure (kPa)		8,5	8,5***	8,5***	8,5***
Number of hydraulic circuits / pressure (bar)		9 / 200	3 / 200	3 / 200	3 / 200
Number of quick-coupling devices / type		5 / ISO 12,5	5 / ISO 12,5	5 / ISO 12,5	5 / ISO 12,5
Non-pressure return line (max. 5 bar)		1 / ISO 20	1 / ISO 20	1 / ISO 20	1 / ISO 20
Hydraulic fan oil flow (l/min)		30 - 40	30 - 40	30 - 40	30 - 40
Oil flow for machine control (l/min)		50 - 60	50 - 60	50 - 60	50 - 60
Electric system requirement		12 V DC / 40 A	12 V DC / 40 A	12 V DC / 40 A	12 V DC / 40 A
Tractor suspension requirement		TPS kat. 3	TPS kat. 3	TPS kat. 3	TPS kat. 3
Machine weight without fertilization (kg)		4 830 – 5840**	5 340 – 6 580**	6 800 – 8 000**	8 440 – 9 950**
Machine weight with fertilization (kg)		5 630 – 6140**	6 630 – 8 420**	8 000 – 9 860**	9 600 – 12 100**

** recommended pulling vehicle, the actual pulling force may significantly change according to the selected version of the machine, processing depth, soil conditions, inclination of land, wear and tear of the working parts and their adjustment*
*** weight of the machine according to accessories*
**** hydraulic brake alternative / operating pressure 130±5 bar*

Technical Advice!

1) **Transport/Brake System:** Follow the national regulations valid for transportation of machines on public roads. Check the legal provisions valid in the country and regulations on maximum permissible total axle weights and loads and also on the necessary potential use of a brake system. If you have any further questions, please contact our sales representative.

PARAMETERS	FALCON 3 Compact	FALCON 4 Compact
Working width (mm)	3000	4 000
Transport width (mm)	3 000	3 000
Transport height (mm)	2 800	2 800
Total length of the machine (mm)	7 000	7 000
Working depth (mm)	0 – 100	0 – 100
Container capacity (l)	3000	3000
Filling height of the container (mm)	2600	2600
Dimensions of the filling opening (m)	0,52x1,92	0,52x1,92
Number of drill coulters (150 mm)	20	26
Pressure of drill coulters / fertilizer boots (kg)	50 -115	50 -115
Diameter of the sowing disk (mm)	355	355
Number of discs	23	31
Working capacity (ha/h)	3 - 4,5	4 – 6
Pulling vehicle (kW)	92 / 125	117 / 160 *
Working speed (km/h)	10 – 20	10 – 20
Maximum transport speed (km/h)	25	25
Maximum slope accessibility (°)	6	6
Tyre dimensions	7,5-16	7,5-16
Type of brakes / distribution [1)]	air / two-line***	air / two-line***
Number of hydraulic circuits / pressure (bar)	2 / 210	2 / 200
Number of quick-coupling devices / type	4 / ISO 12,5	4 / ISO 12,5
Non-pressure return line (max. 5 bar)	1 / ISO 20	1 / ISO 20
Hydraulic fan oil flow (l/min)	30 - 40	30 - 40
Oil flow for machine control (l/min)	30	30
Electric system requirement	12 V DC / 25 A	12 V DC / 25 A
Tractor suspension requirement	TPS kat. 2 a 3	TPS kat. 2 a 3
Machine weight without (kg)	3 800	4 400

** recommended pulling vehicle, the actual pulling force may significantly change according to the selected version of the machine, processing depth, soil conditions, inclination of land, wear and tear of the working parts and their adjustment*

SAFETY WARNING

This warning symbol warns against an imminent dangerous situation that could lead to death or serious injury.

This warning symbol warns against a dangerous situation that could lead to death or serious injury.

This warning symbol warns against a situation that could lead to a small or minor injury. It also points out dangerous tasks related to the activity that could lead to an injury.

A. GENERAL INSTRUCTIONS FOR USE

A.1 (x) The machine is produced in compliance with the latest technological conditions and approved safety regulations. However, the use of the machine may still cause injuries to the user or third persons or damage to the machine or occurrence of other material damages.

A.2 (xx) Use the machine only in a technically unexceptionable condition, in compliance with its purpose, with awareness of potential risks and observance of safety instructions stated in this manual!
The Manufacturer is not liable for damages caused by the use of the machine that is in contradiction with the limit parameters of the machine (p. 7) and with the instructions for the use of the machine (Chapter A and 3). The User bears the risk.
Immediately eliminate all defects that could have a negative impact on safety!

A.3 (7) The machine may only be operated by a person authorized by the owner under the following conditions:

- (8) He or she must have a valid driving licence in the relevant category,
- (9) He or she must be verifiably informed on the safety rules of working with the machine and must have command of the operation of the machine in practice,
- (10) The machine must not be operated by a minor (minors),
- (11) He or she must understand the meaning of warning symbols placed on the machine. Respecting the symbols is important for a safe and reliable operation of the machine.

A.4 (12) Maintenance and service repairs may only be performed by a person:

- (13) Authorized by the owner,
- (14) Trained in an engineering field with the knowledge of repairs of similar machinery,
- (15) Verifiably informed on the safety rules of working with the machine,
- (16) With a driving licence in the relevant category for repairs of the machine attached to a tractor.

A.5 (17) The operator of the machine must ensure safety of other people during the work with the machine and its transportation.

A.6 (18) During machine work in the field or during transport, the operator must control the machine from the tractor's cabin.

A.7 (19) The operator may only enter the construction of the machine when the machine is off and secured against movement only in order to:

- (20) adjust the working parts of the machine,
- (21) repair and maintain the machine,
- (29) release or secure the ball valves of the axle,
- (27) secure the ball valves of the axle before tilting the side frame,
- (28) adjust the working parts of the machine after opening the side frame.

A.8 (xxx) When climbing onto the machine, do not step on the tyres of the rolls or other revolving parts as they may roll over and you can seriously hurt yourself if you fall down.

A.9 (22) Any changes or adjustments of the machine may only be performed with a written consent of the producer. The producer is not responsible for any potential damages occurred as a result of non-compliance with this instruction. The machine must always be equipped with the prescribed accessories, equipment and gear including the safety labels. All warning and safety signs must be always legible and at their positions. They must be replaced if damaged or lost without delay.

A.10 (23) The operating manual and the requirements of the safety at work must be always available to the operator.

A.11 (24) When operating the machine, the operator must not consume alcohol, medicine, narcotic and hallucinogenic substances that reduce attention and coordination abilities. If the operator has to take medicine prescribed by the physician or if he or she uses over the counter medicine, he or she must be informed by the physician whether he or she is able to reliably and safely operate the machine under these circumstances.

PROTECTIVE EQUIPMENT


For the operation and maintenance use:

- Close-fitting clothing
- Protective gloves and goggles for protection from dust and sharp parts of the machine

B. TRANSPORTING THE MACHINE

B.1 (1) The vehicle intended for the transportation of the machine must have at least the same bearing capacity as the weight of the transported machine is. The total weight of the machine is stated on the production label.

B.2 (2) The dimensions of the transported machine including the vehicle must comply with valid regulations for traffic on ground communications (decrees, acts).

B.3 (3) The transported machine must be always attached to the vehicle so that it cannot be released during transportation.

B.4 (4) The carrier is responsible for damages caused by the release of incorrectly or insufficiently attached machine to the vehicle.

C. MANIPULATING THE MACHINE BY LIFTING EQUIPMENT

C.1 (1) The lifting equipment and binding instruments intended for manipulation with the machine must have at least the same bearing capacity as the weight of the manipulated machine is.

C.2 (2) The machine may only be attached for manipulation in designated places marked by stick-on labels showing a "chain".

C.3 (3) When attached (suspended) in designated places, it is not allowed to move in the area of potential reach of the manipulated machine.

D. TRANSPORTING THE MACHINE ON GROUND COMMUNICATIONS

Transport Position of *FALCON*

- Attach the machine to the tractor by hanging with the use of the two-point suspension equipment (TPS 3).
- The side frames must be folded in the vertical position.
- The machine must be equipped with removable shields displaying the boundaries, functional lighting and a board of rear label for slow vehicles (pursuant to ECE No.69).
- The lighting must be turned on when in operation on ground communications.
- The tractors must be equipped with a special light appliance with orange colour that must be turned on when in operation on ground communications.
- The operator must drive with increased caution and consideration for other participants of the traffic.

- The operator must secure the arms of the rear TPS of the tractor in the transport position when operating on ground communications. At the same time, the arms of the rear TPS of the tractor must be secured against swinging sideways.
- **It is strictly forbidden to transport people or load on the machine or connect another machine, semi-trailer or additional equipment to it.**
- The maximum transport speed during travelling on roads is **25 km/hour.**
- **Ban of transport with decreased visibility!**

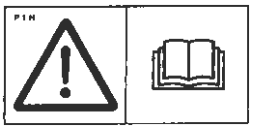
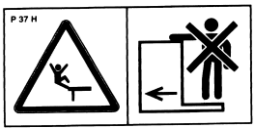
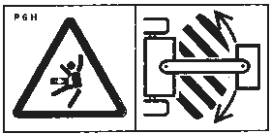
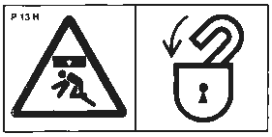
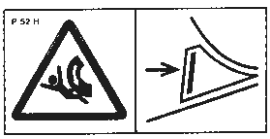
The machine may only be driven on roads when equipped with air brakes (the customer receives a certificate of roadworthiness). Otherwise, it is prohibited to drive the machine on roads!

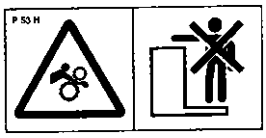
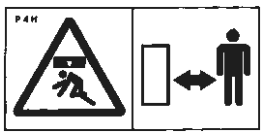
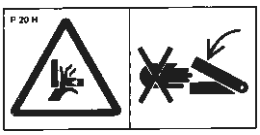
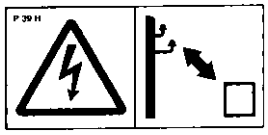
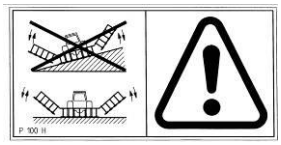
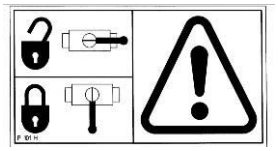
E. WORK SAFETY LABELS

Warning safety labels are used for the protection of the operator.
The following applies generally:
A) Strictly observe the warning safety labels.
B) All safety instructions also apply to other users.
C) If the aforementioned "SAFETY LABEL" located on the machine is damaged or destroyed, THE OPERATOR MUST REPLACE IT WITH A NEW ONE!!!

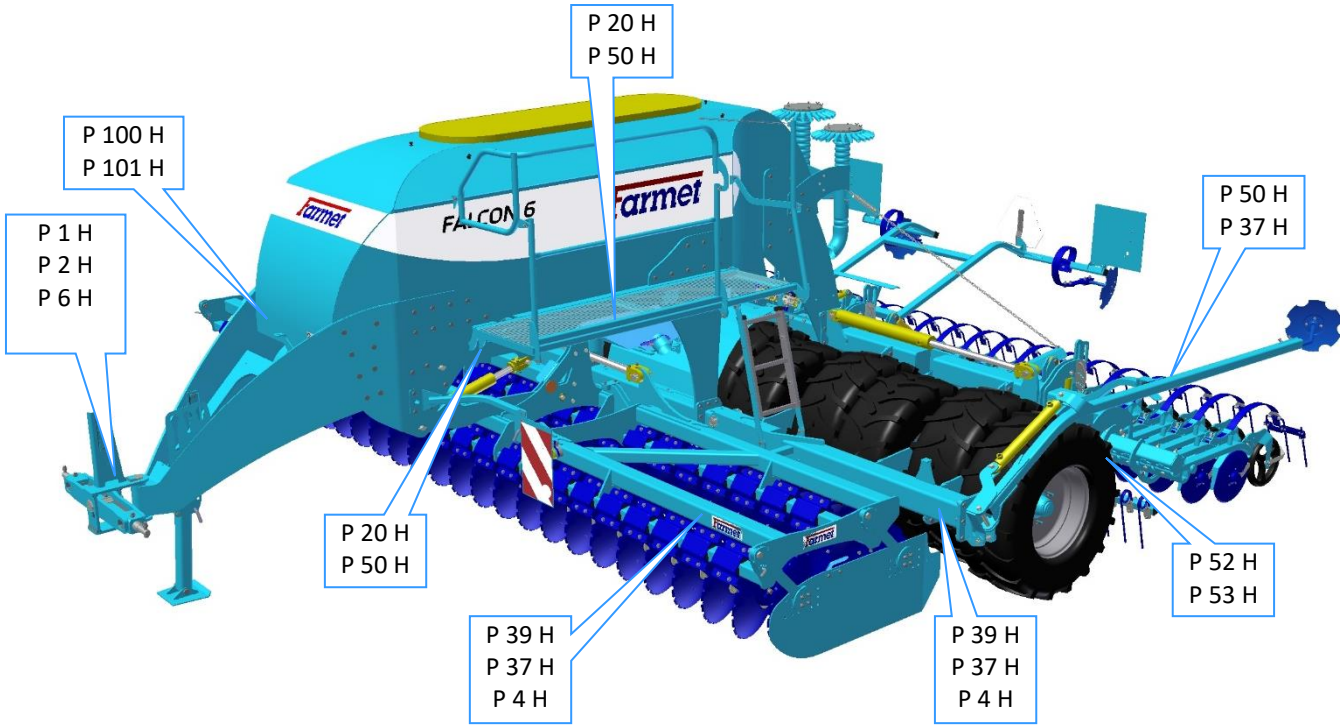
The position, appearance and exact meaning of work safety labels on the machine are given in the following tables (Tab.2/p.11-12) and the picture (Picture 1,2/p.13).

Tb.2 - Self-adhesive warning safety labels located on the machine

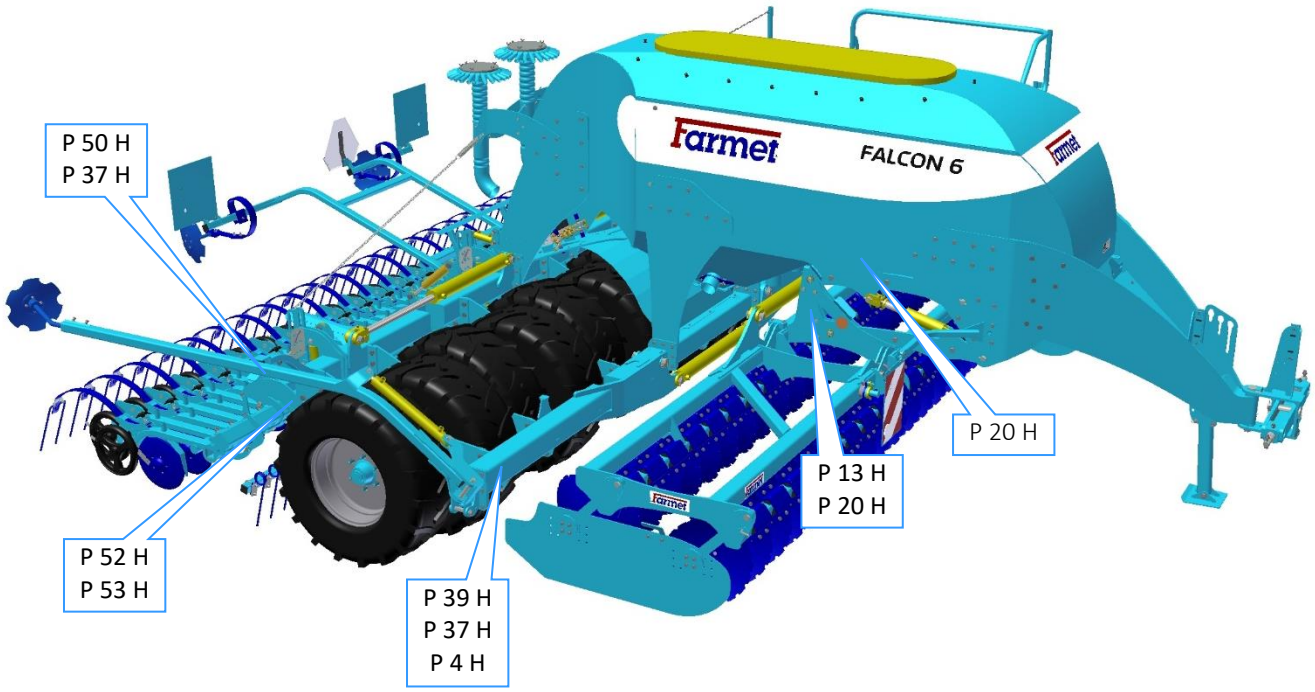
WARNING SAFETY LABEL	TEXT TO THE LABEL	POSITION ON THE MACHINE
	Read carefully the operating manual before manipulation with the machine. Observe the instructions and safety rules when operating the machine.	**P 1 H**
	Driving the machine and transportation on its construction is strictly forbidden.	**P 37 H**
	When connecting and disconnecting, do not enter the area between the tractor and the machine. Do not enter that area unless the tractor and the machine are not moving and the engine is off.	**P 2 H**
	Stay beyond reach of the set Tractor – Agricultural Machine when the tractor engine is running.	**P 6 H**
	Secure the axle of the machine against an unexpected drop before its transportation.	**P 13 H**
	Secure the machine against unwanted movement.	**P 52 H**

	Do not approach the rotary parts of the machine unless they are standing still, i.e. they are not rotating.	**P 53 H**
	Stay beyond reach of the lifted machine.	**P 4 H**
	When folding and unfolding the side frames and service bridge, stay beyond their reach.	**P 50 H**
	When tipping the service bridge, stay beyond its reach.	**P 20 H**
	When working with the machine as well as during its transportation, keep a safe distance from electric appliances.	**P 39 H**
	It is forbidden to fold and unfold the side frames of the machine on a slope or an inclined plane.	**P 100 H**
	Pictured positions of the lever and the hydraulic ball valve function located on the piston-rod.	**P 101 H**

Picture 1



Picture 2

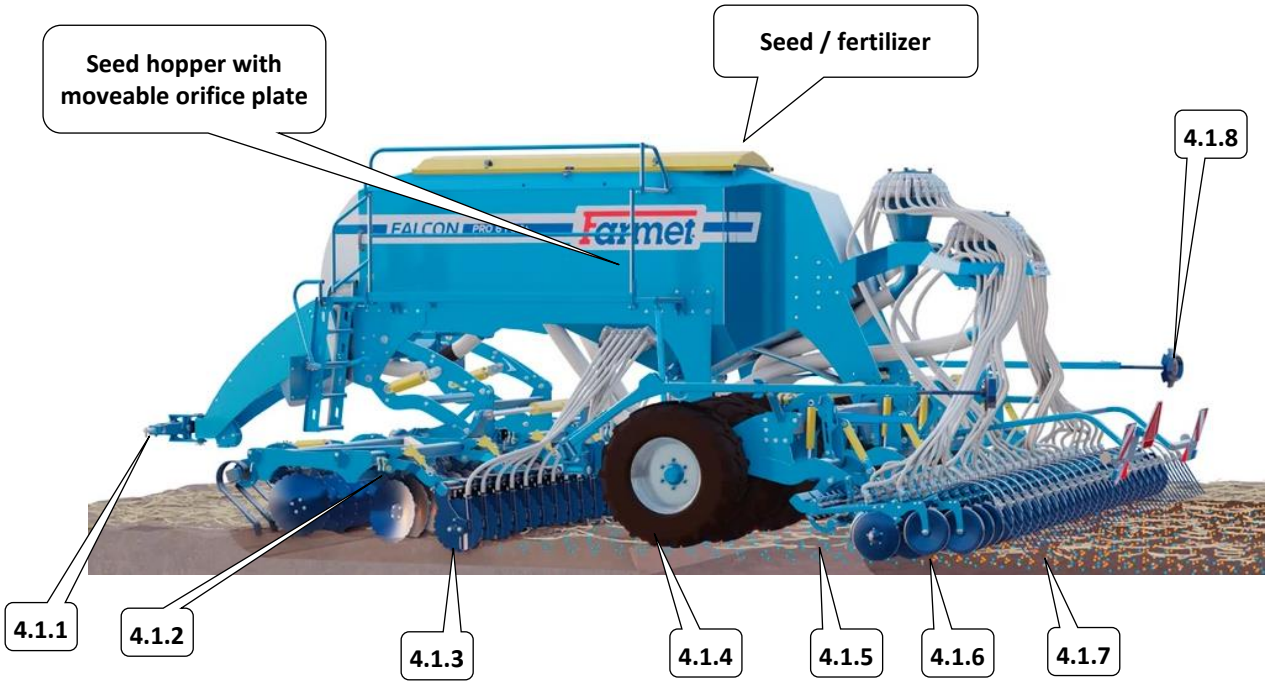


4 DESCRIPTION OF THE MACHINE

The ***FALCON*** disc sowing machine is designed as semi-carried and folding. It is connected to the tractor using a drawbar with pins of Cat III in the bottom arms of the tractor three-point suspension (TPS). In the front, there is a preparatory section for soil processing and levelling larger unevenness followed by a pneumatic-tyred ramming roller that levels and compacts soil in front of the sowing bodies. Then there is a leveller installed in the axis of each sowing body. At the end there are sowing bodies with compacting wheels and a leveller. Some of the tyres of the roller are also used for transport in the transport position. The seed container is equipped by a sowing mechanism commonly used in the standard ACCORD pneumatic sowing machines. There is also possibility to have Farmet Dispenser (Roller replacement system). The seeds are carried by air flow through seed tubes to the sowing body where it is placed in the soil in rows. The soil is then compacted by the wheel and levelled out with the leveller. The seeding mechanism is driven by electric motors. The fan for the transport of seeds is driven by hydraulic motor from the hydraulic circuit of the tractor. The machine is equipped with central markers and markers of rail lines. The electronic system of the machine allows checking the functions of the machine, regulation of the sowing batch and formation of rail lines. The transport wheels may be equipped with pneumatic brakes or hydraulic brakes.

4.1 WORKING PARTS OF THE MACHINE

Picture 3.1 – Working parts of the machine **FALCON PRO**

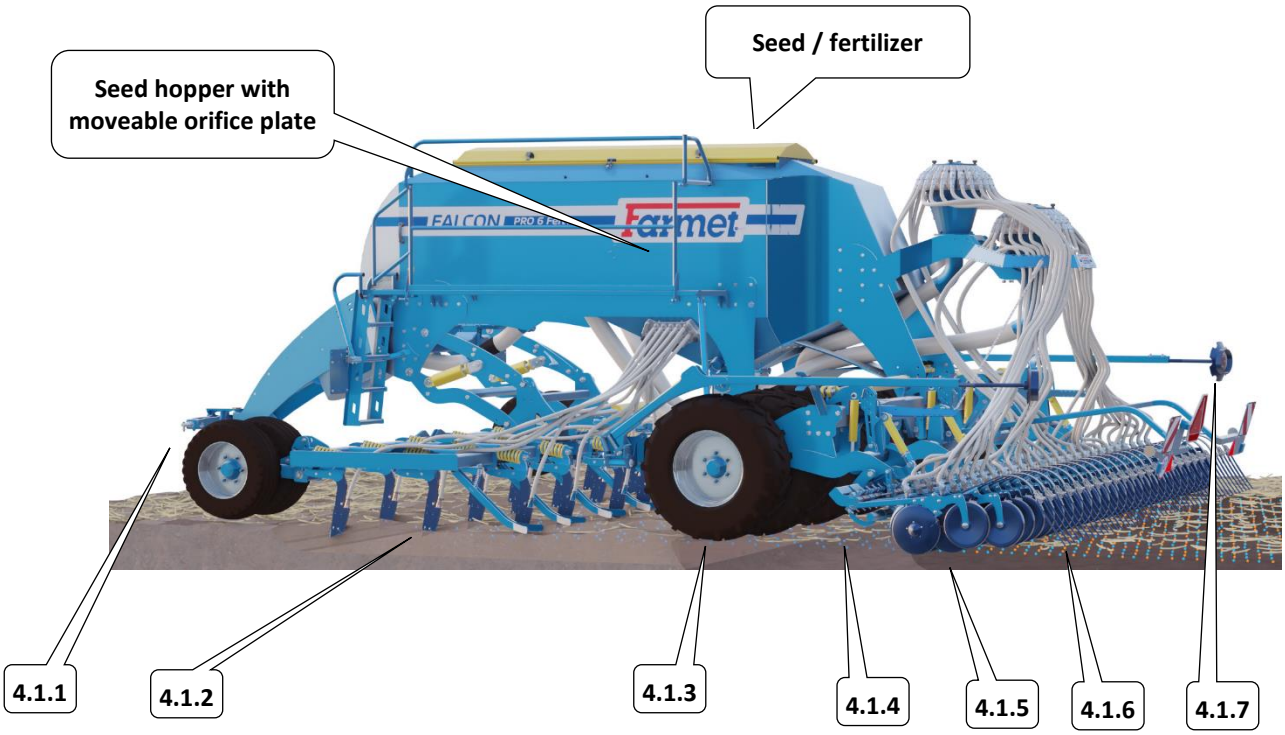


4.1.1	Drawbar with a collapsible resting leg	4.1.5	Leveller section
4.1.2	Front preparatory section	4.1.6	Sowing bodies with press-wheels
4.1.3	Disk fertilizing section	4.1.7	Leveller after the sowing bodies
4.1.4	Pneumatic-tyred flotation roller	4.1.8	Markers

Seed hopper with moveable orifice plate

Easy release of fertilizer distribution

Picture 3.2 – Working parts of the machine **FALCON PRO** with CHISEL SECTION



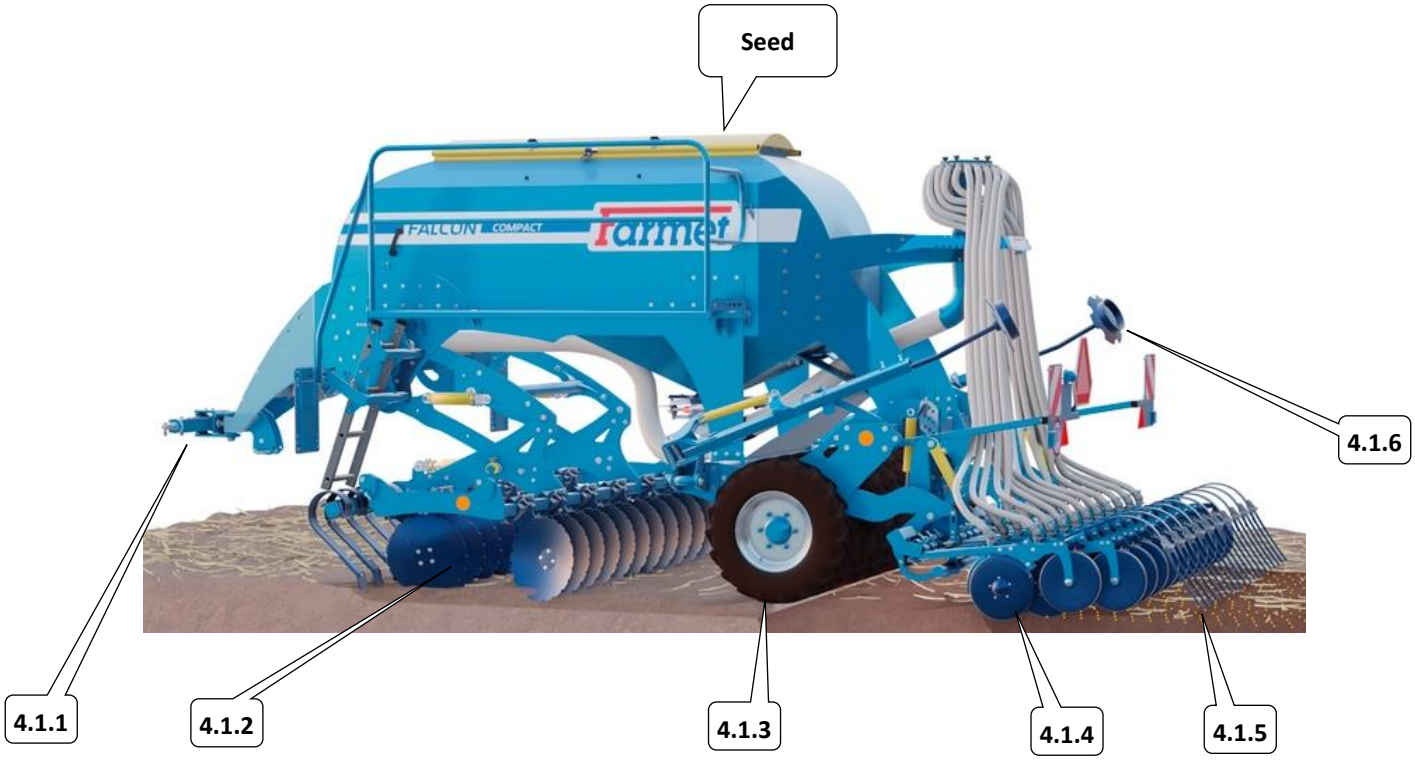
4.1.1	Drawbar with a collapsible resting leg	4.1.5	Sowing bodies with press-wheels
4.1.2	Chisel section	4.1.6	Leveller after the sowing bodies
4.1.3	Pneumatic-tyred flotation roller	4.1.7	Markers
4.1.4	Leveller section		

Seed hopper with moveable orifice plate

Easy release of fertilizer distribution

4.1.2 new replaceable chisel shape

Picture 3.3 – Working parts of the machine **FALCON COMPACT**



4.1.1	Drawbar with a collapsible resting leg	4.1.4	Sowing bodies with press-wheels
4.1.2	Disk section	4.1.5	Leveller after the sowing bodies
4.1.3	Pneumatic-tyred flotation roller	4.1.6	Markers

5 ASSEMBLY OF THE MACHINE AT THE CUSTOMER'S SITE

- The owner must execute the assembly according to the producer's instructions, if possible in cooperation with a professional service technician determined by the producer.
- The owner must execute a functional test of all assembled parts after the completion of the assembly of the machine.
- The owner must ensure that the manipulation with the machine by lifting equipment corresponds with Chapter **„C"**.

6 PUTTING INTO OPERATION

- Before you take over the machine, test and check it for any damages incurred during transportation and check that all parts included in the delivery note have been delivered.
- Before you put the machine into operation, read the operating manual carefully, particularly chapters **A-E** p.9-13. Learn about the control elements of the machine and its overall function before the first use.
- When working with the machine, observe the instructions in the manual as well as generally valid rules for the safety at work, protection of health, fire and traffic safety and protection of environment.
- The operator must check the machine before every use (putting into operation) for aspects in the field of completeness, safety at work, work hygiene, fire safety, traffic safety and protection of environment. If the machine shows signs of damage, it must not be put into operation.
- Execute aggregation of the machine with the tractor on an even and compact surface.
- When working on slopes, observe the lowest allowable slope accessibility of the whole set **TRACTOR – MACHINE.**
- Before turning on the engine of the tractor, check that there are no people or animals in the working area of the set and press the warning sound signal.
- The operator is responsible for safety and for all damages caused by the operation of the tractor and the attached machine.
- The operator must observe technical and safety regulations of the machine determined by the producer when working with the machine.
- The operator must lift the machine when turning at the plough turning end, i.e. the working parts must not be in the ground.
- The operator must observe the prescribed working depths and speeds set in the instructions for use in Tab. **9**/p.64 when working with the machine.
- The operator must lower the machine to the ground and secure the set against movement before leaving the cabin of the tractor.

6.1. AGGREGATION TO THE TRACTOR

- The machine may only be connected to a tractor whose standby weight equals or is higher than the total weight of the attached machine.
- The operator must observe all generally valid regulations for the safety at work, protection of health, fire safety and protection of environment.
- The operator may only attach the machine to a tractor which is equipped with a rear three-point suspension (TPS) and a functional undamaged hydraulic system.
- The table with the requirements for the tractive instrument for work with the machine:

Tab.3

(5) Requirement for the engine power of the tractor for ***FALCON 3***		**90 kW***
(5) Requirement for the engine power of the tractor for ***FALCON 4***		**117 kW***
(5) Requirement for the engine power of the tractor for ***FALCON 6***		**161 kW***
(5) Requirement for the engine power of the tractor for ***FALCON 8***		**205 kW***
(6)Requirement for TPS of the tractor	(7)distance of the bottom suspension hinges (at the axes of the hinges)	**1010±1,5 mm, (can be also set to 910±1,5 mm)**
	(8)∅ holes of the bottom suspension joints for the suspension hinge pins of the machine	**∅37,5 mm**
(9)Requirement for the hydraulic system of the tractor	(x)circuit of the electric distributor	(14)**Pressure in the circuit min.190 bar – max.230 60 l/min., 2 sockets for snap coupling ISO 12.5**
	(19)circuit of the hydraulic engine	(20)**Pressure in the filling branch min.130 bar–max.230 bar, 1 socket for snap coupling ISO 12.5**
		(21)**Pressure in the waste branch max.3 bar, 1 socket for snap coupling ISO 20**
	(x)down-pressure of the sowing bodies	(14)**Pressure in the circuit min.190 bar – max.230 10 l/min., 1 sockets for snap coupling ISO 12.5**
	(x)circuit of lifting and lowering the preparatory section	(14)**Pressure in the circuit min.190 bar – max.230 40 l/min., 2 sockets for snap coupling ISO 12.5**
(12)Requirement for the air system of the tractor (if the machine is equipped with brakes)	(13) circuit of braking of the machine axle	(16)**Pressure in the circuit min.6 bar – max. 15 bar, 1 clutch head for single circuit brakes**
(x)Requirement for the electric system of the tractor *	(x) connection of the electronic system of the machine	**12V / 40 A**
		+ red / **- black**

- Connect the machine with the carrier bar TPS to the lower arm of the tractor TPS and secure the TPS arms with pegs against disconnection.

⚠ **When connecting the machine, there must not be any people in the area between the machine and the tractor.**

6.2. CONNECTING THE HYDRAULICS

- Connect the hydraulics only if the hydraulic circuits of the machine and the tractor (aggregate) are without any pressure.
- The hydraulic system is under great pressure. Check regularly for leakages and immediately eliminate any visible damage to all distribution, tubes and screw joints.
- When checking for and eliminating leakages, use appropriate equipment.
- Use the plug (on the machine) and the socket (on the tractor) of the same type of snap coupling when connecting the hydraulic system of the machine to the tractor. Execute the connection of the snap coupling of the machine to the hydraulic circuits of the tractor according to Tab. 4.

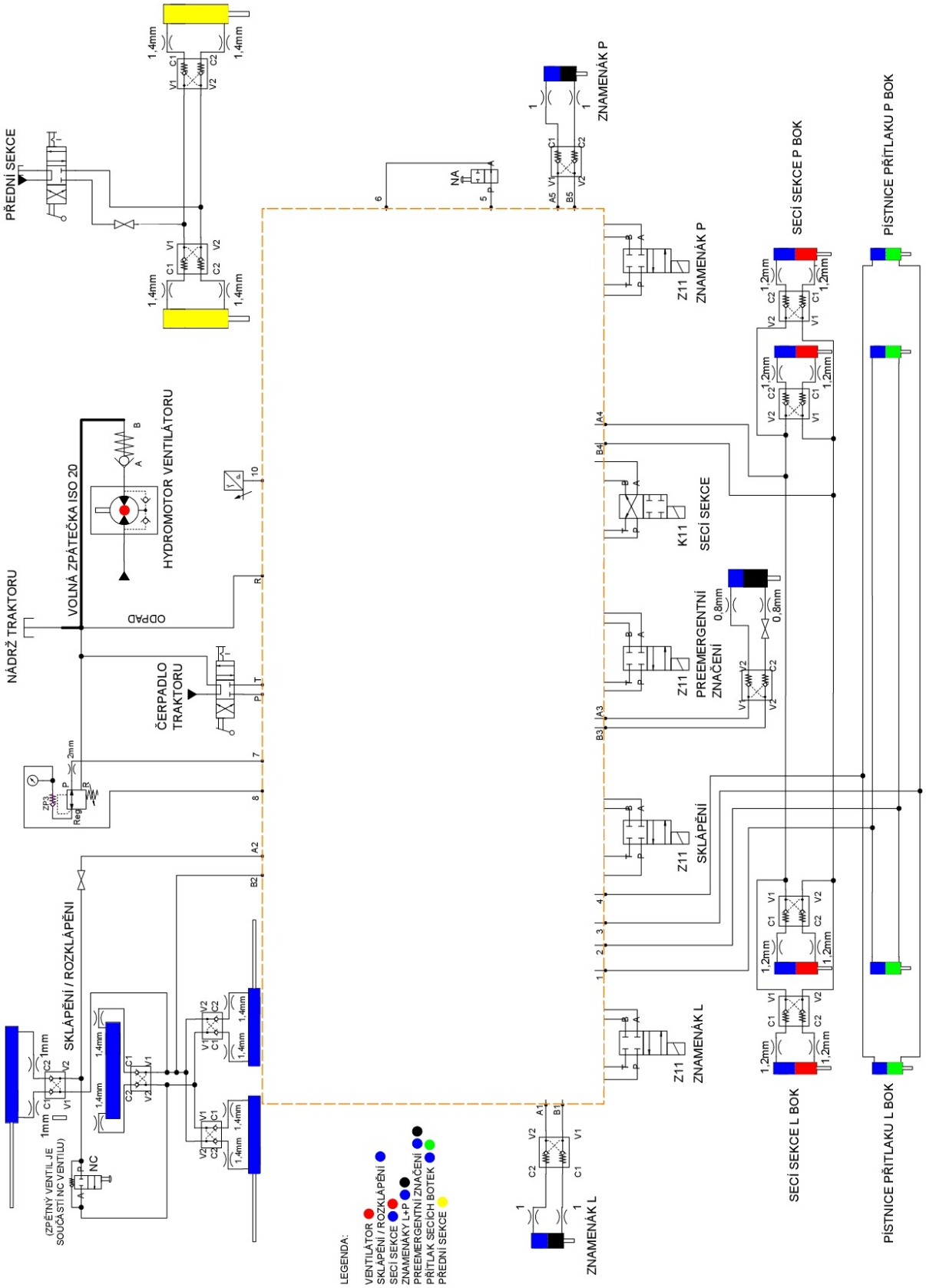
Tab. 4 - Connection of the hydraulic circuits and setting up the flow of oil

Circuit	Plug	Cover colour	Oil flow direction	Flow of oil
Hydraulic motor of the fan	ISO 12,5	red	pressure tube	20 – 40 l/min
	ISO 20	black	open waste	
Controls of the machine hydraulics	ISO 12,5	blue	pressure tube	50 – 60 l/min
	ISO 12,5	blue	reverse tube	
Hydraulic drift drive	ISO 12,5	green	pressure tube	10 – 15 l/min
Micro drill	ISO 12,5	black	pressure tube	15 – 20 l/min
Flexi boards	ISO 12,5	white	pressure tube	15 – 20 l/min
	ISO 12,5	white	reverse tube	15 – 20 l/min
Lifting the front section	ISO 12,5	yellow	pressure tube	20 – 40 l/min
	ISO 12,5	yellow	reverse tube	

In order to rule out unintentional movement of the hydraulics or movement caused by third persons (children, passengers), the controlling distributors in the tractor must be secured or blocked and the controlling unit switched off if the machine is not used or if it is in the transport position.

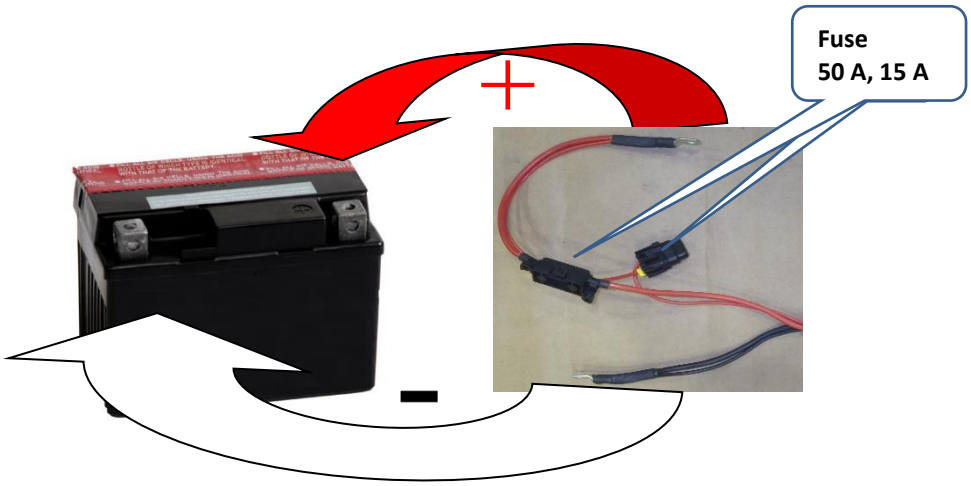
The parts of the hydraulic system of the machine that are under pressure must not be disassembled. The hydraulic oil causes serious injuries when it penetrates the skin under the high pressure. In case of injury, immediately seek a doctor.

6.3. HYDRAULIC DIAGRAM OF THE MACHINE



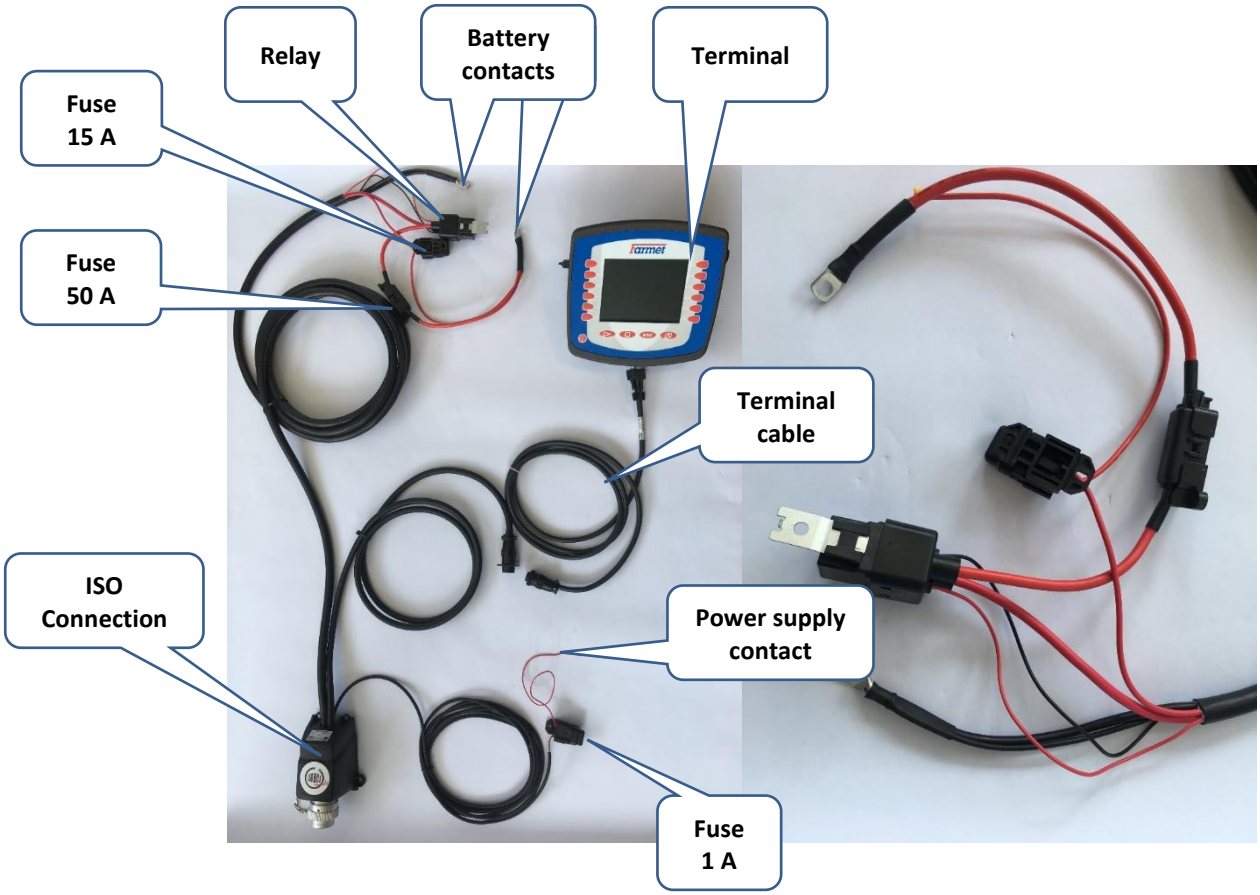
6.4. CONNECTING THE ELEKTRONIC UNIT

- Connect the electronic unit of the machine only when the tractor is standing still and is secured against movement and intervention by third persons.
- Put the display unit to a place in the tractor where it will not obstruct the driver's view and where it will be in the visual field of the operator.
- To connect the electronic unit, use the feeding cable that is included in the machine delivery.
- The connecting cable must be connected directly to the tractor accumulator!
- The connecting cable contains the required sockets for connecting the electronic unit.
- Do not connect the connecting cable and the unit to any other connectors in the tractor.



ATTENTION! Check correct polarity of the cable!

Power Cabling



- **The cable has to be connected at 12 V anywhere in the tractor cabin**

Picture. 4 - Connection socket on the tractor

6.5. CONNECTING THE HYDRAULIC MOTOR OF THE FAN

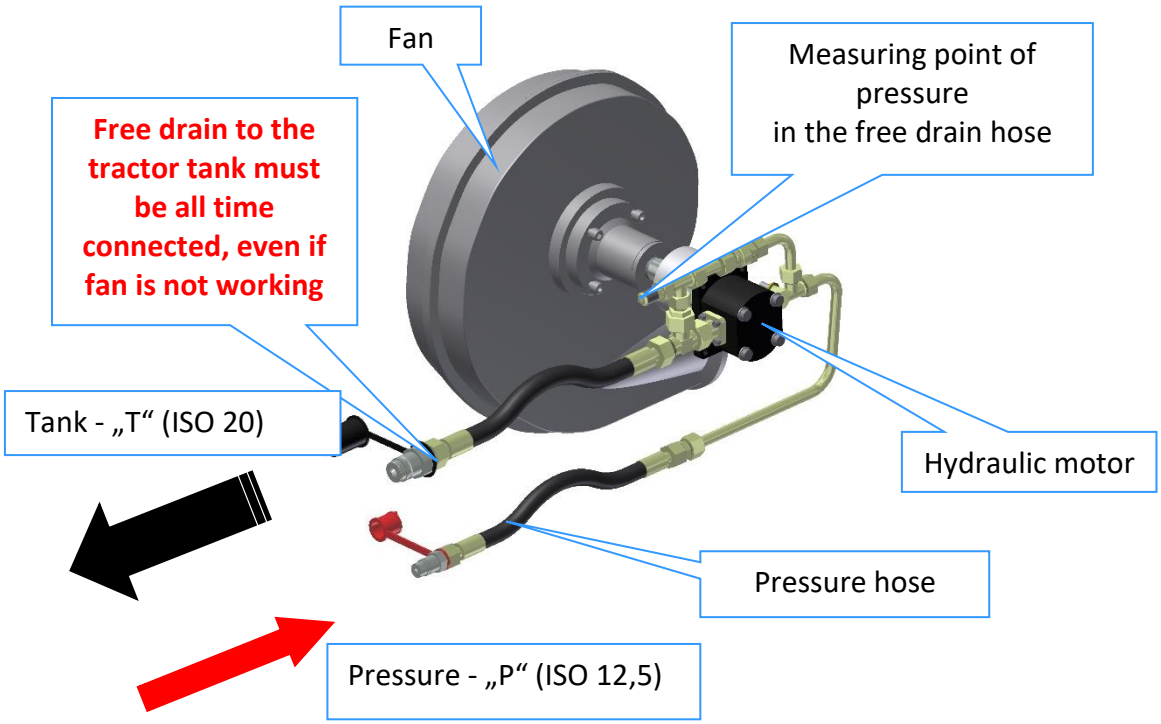
6.5.1 Description of the function

The hydraulic fan is powered directly from the tractor´s hydraulic system.

For proper operation, the hydraulic pump of the tractor must supply sufficient amount of oil so that the fan revolutions are not affected by decreased number of revolutions of the tractor engine or by another hydraulic circle being switched on.

The fan revolutions are set by regulating the oil flow rate. To change the fan revolutions, the tractor must be equipped with regulation of the oil flow rate.

Picture. 5 – Hydraulic drive



Tab. 5

Rotary hydraulic motor	**Capacity (cm^3/rev.)**	**8**
	Minimum revolutions of the small fan (rpm)	**1000**
	Maximum revolutions of the small fan (rpm)	**6000**
	Minimum revolutions of the big fan (rpm)	**1000**
	Maximum revolutions of the big fan (rpm)	**3000**
Pressure oil - „P“	**Minimum pressure in the “*PRESSURE HOSE*” (bar)**	**130**
	Maximum flow rate in the “*PRESSURE HOSE*” (l/min.)	**40**
Outlet - „T“	**Maximum pressure in the “*PRESSURE HOSE*” (bar)**	**5**

6.6. PROPER CONNECTION TO THE TRACTOR

For proper connection, the following facts must be observed:

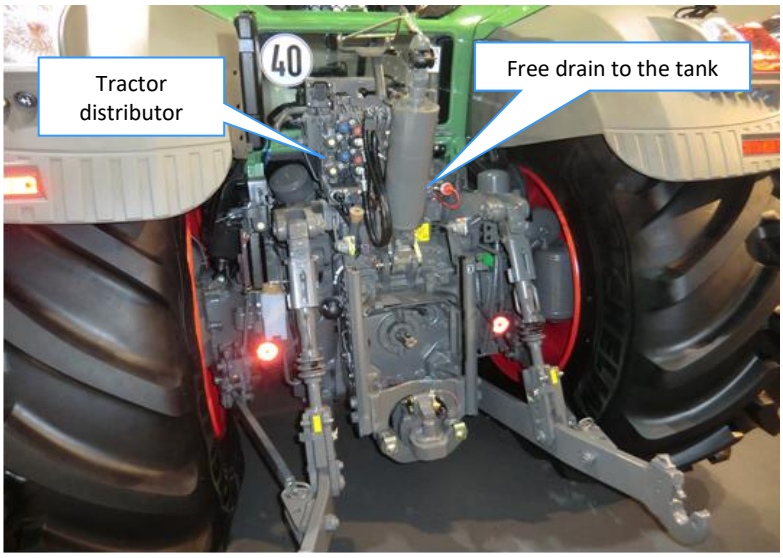
Outlet hose

- Do not connect the free drain hose to the tractor distributor! (pressure in the reverse branch would thus be increased)
- Large quick coupling on the free drain must not be changed for the smaller diameter.
- Oil returning through the outlet pipe must not be throttled anywhere
- **Maximum allowed pressure value in the free drain hose is 5 bar**, higher pressure pushes the shaft seal out, which causes damage to the hydraulic motor fan

Pressure hose

- Connect the pressure hose to the circuit giving priority to the oil supply

Picture. 6 – Position of quick couplings in the tractor

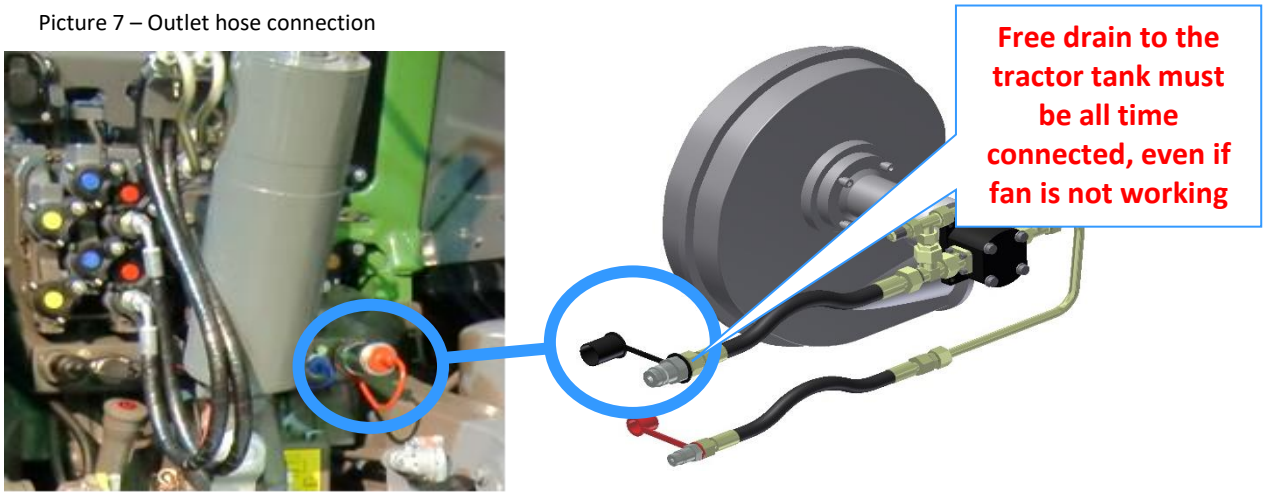


6.6.1 Connecting the free drain hose

Connect the outlet hose (outer ∅ 27 mm) with the large quick coupling to the free drain to the tractor tank.

In case that there is no free drain to the tank attached to the tractor as standard, please contact the tractor manufacturer (dealer) for information regarding the possibilities of a free drain end piece.

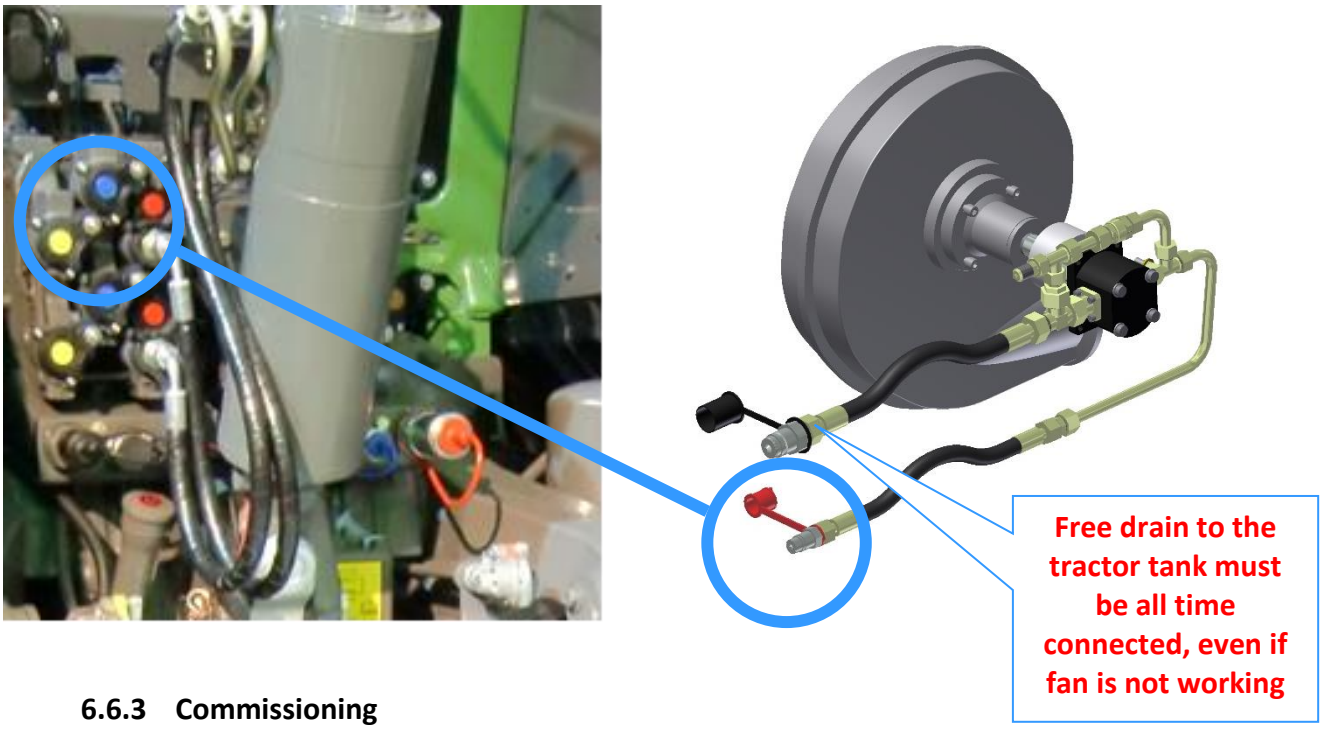
Picture 7 – Outlet hose connection



6.6.2 Connecting the pressure hose

Connect the pressure hose (outer ∅ 22 mm) with the small quick coupling to the tractor distributor. Connect this hose to the circuit giving priority to the oil supply.

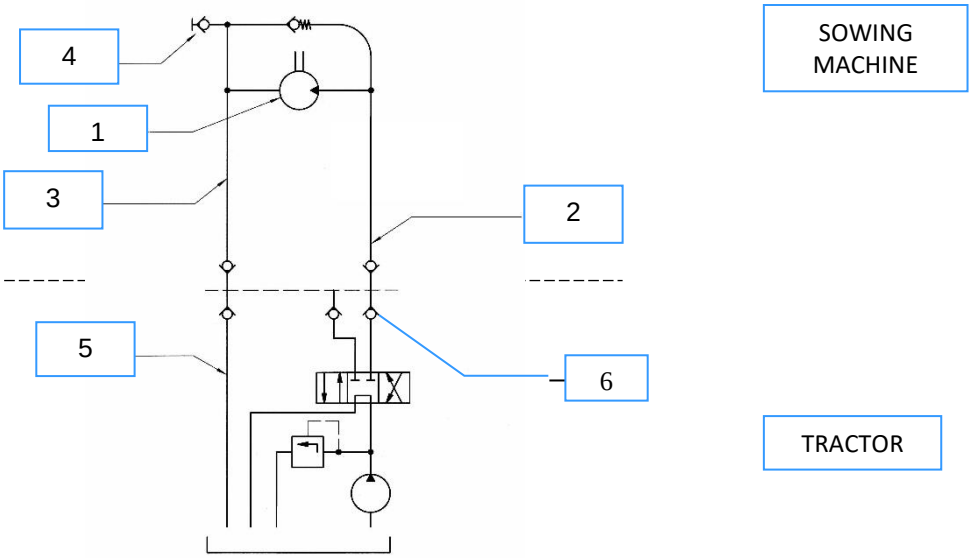
Picture 8 – Pressure hose connection



6.6.3 Commissioning

- When setting the required fan revolutions, the hydraulic oil must be warmed up.
- When commissioning the hydraulic drive, the fan revolutions (working air pressure on the pressure gauge in the hopper) must be set gradually.
- Fan revolutions (pressure on the pressure gauge) are set by regulating the oil flow rate in the tractor.
- If the hydraulic drive is started with cold oil, it is necessary to increase the motor revolutions gradually before the oil warms up.
- During commissioning and the first handover, the technician in charge of the handover must inspect all connections of the hydraulic drive and measure pressure in the free drain hose. He must record the obtained results in the handover protocol.

Picture. 9 - Diagram of the hydraulic drive of the fan



1. Hydraulic motor
2. Pressure hose
3. Outlet hose
4. Measuring point
5. Free drain to the tractor tank
6. Tractor distributor

☞ **Warning!**
Farmet a.s. is not liable for any damage of the hydraulic drive or the tractor caused by improper connection of the hydraulic drive.

7. ELECTRONIC SYSTEM OF THE MACHINE

General Instructions for Use:

- Install the feeding cable (included in the delivery) in the tractor system prior to the connection of the electronic system
- The cable must be connected directly to the tractor accumulator
- The connection of the cable to the accumulator must be fixed and with a good contact – otherwise there may be system failures and improper function
- ☞ The cable must not be connected to any other connectors of the tractor!
- Pay attention to proper poling (**black -** , **red +**)
- The cable is equipped with two circuit fuses – 50A, 15A and 1A fuse for the terminal
- Use only the delivered cable to connect the electronic system
- The voltage in the accumulator must be within the range from **12 V** to **14.4 V** to ensure proper function of the system
- Secure the connecting cables between the machine and tractor against mechanical damage and against heat stress from the hot parts of the tractor and hydraulic conduction
- Turn on the display after you have connected the system to the power source
- If an unusual situation occurs during the operation, disconnect the whole system from the power source for a short time
- Only connect and disconnect all the modules of the control system when the system is disconnected from the power supply
- Turn on the system after you have started the tractor motor (do not start the motor with the system on)
- If the current fuse blows, first find the cause of the defect or seek professional service
- Do not replace the current fuse with another item
- Some parts of the system may heat up to the temperature of 50°C during operation. If the temperature is higher, look for the cause or seek professional service
- Protect the display from water and temperatures below -20°C and above +60°C
- If you have to perform welding on the machine or the tractor, disconnect the unit from the power source and disconnect the connecting cables

7.1. TURNING THE SOWING ON AND OFF

Turning the sowing on and off is controlled by two sensors. The system is designed so that the sowing turns on at the beginning of recessing. Before the seeds go through the whole system of the pneumatic distribution, the machine has already recessed and the delay in the launch of sowing at the beginning of the patch is thus minimized. The sowing is turned off at the beginning of digging out.

TURNING ON THE SOWING

Turning on is controlled by an aerial sensor. The aerial sensor is set to turn on at the beginning of recessing. The sensitivity of the switching depends on the position of the sensor set between the axle frame and the main frame of the machine. It can be adjusted by loosening the screws (see the picture 10) and changing the position of the sensor towards the holder. Furthermore, the sensor turns on the control of the machine functions.

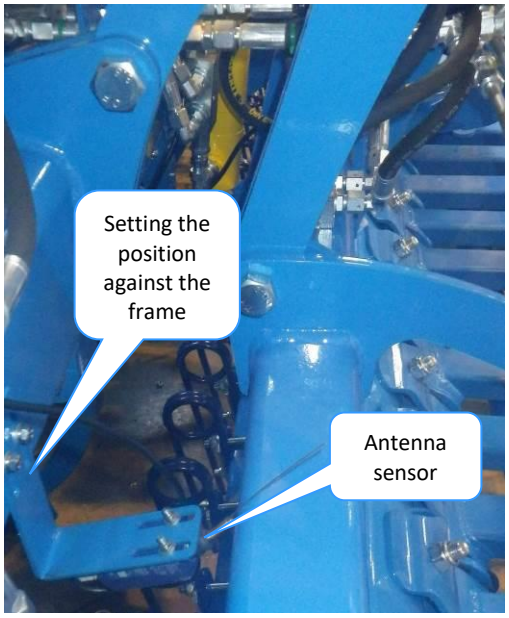
TURNING OFF THE SOWING

Turning the sowing off (the electric motors of the seed feeders) is controlled by a pressure sensor located in the hydraulic circuit of the axle lifting. The sensitivity of this sensor is set to the pressure of 10 MPa. When the machine is digging out, the oil pressure is led to the hydraulic distributor and when the set value is reached, the switch turns on and the motors of the seed feeders turn off.

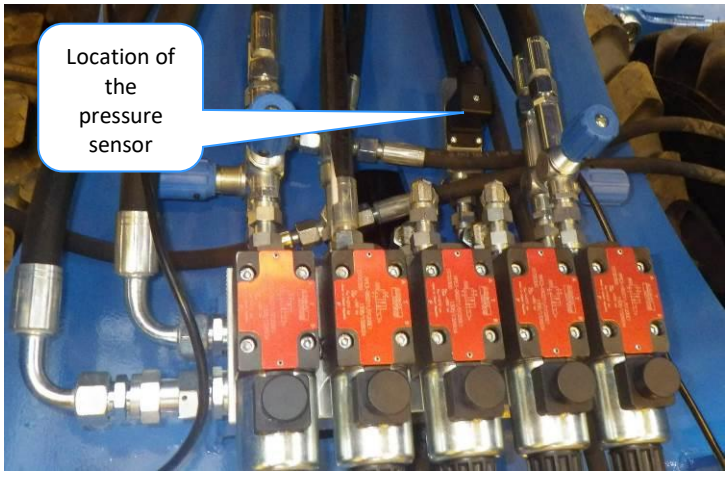
☞ Therefore, move the lever for the hydraulic control to the **FLOATING POSITION** after the machine has been recessed**!!!**

The sensitivity of the pressure and aerial sensors is standardly set by the producer. Only a professional service may change the sett.

Picture 10 – Aerial sensor



Picture 11 - Pressure sensor



Radar

The radar provides a very exact measurement of the travel sped which is important for exact batch of seeds. Do not stay or move in the working area of the radar.

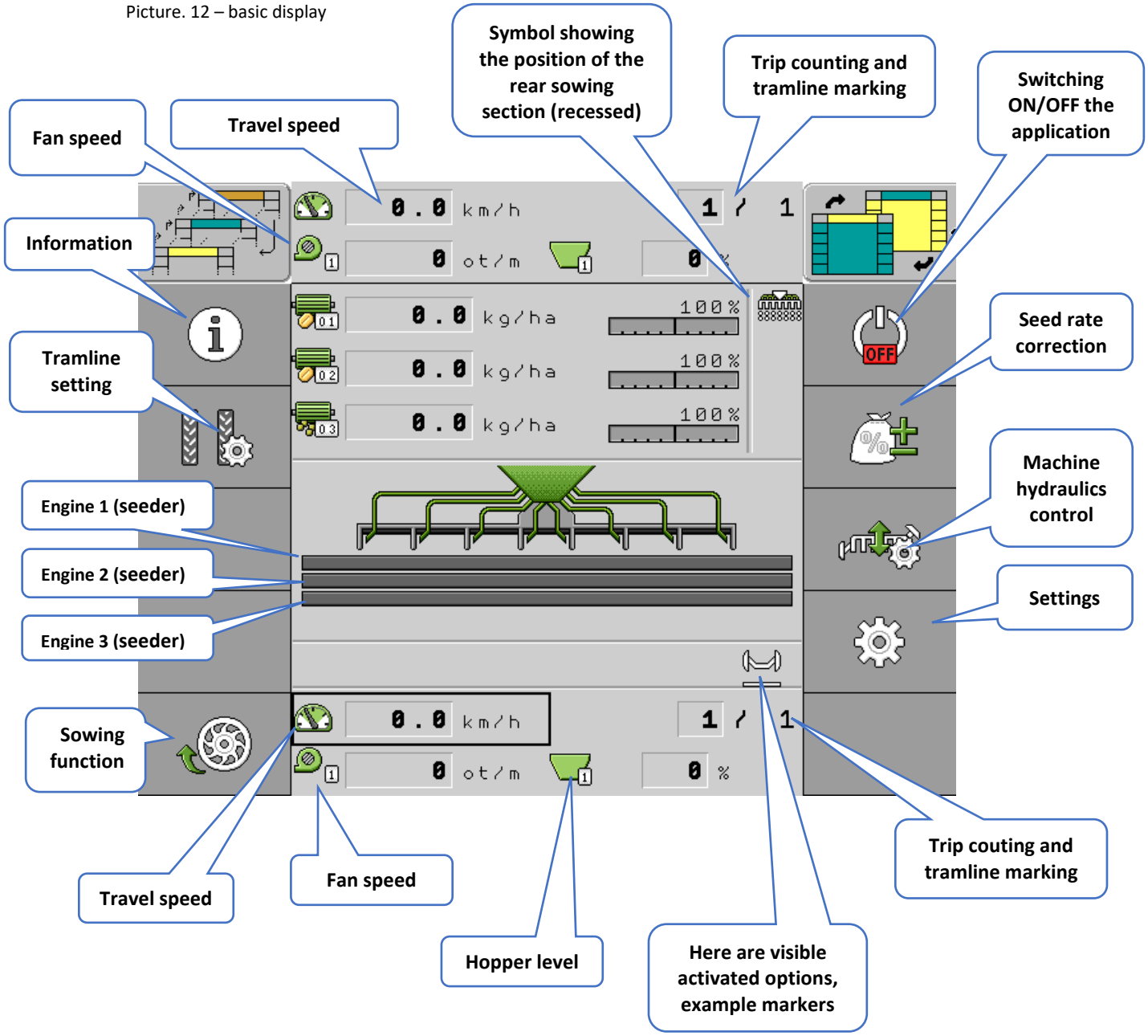
7.2. DESCRIPTION OF MACHINE CONTROL BY MÜLLER ELECTRONICS

Falcon sowing machines are equipped with the Müller electronic system. The following chapters briefly and clearly describe the basic control and description of the electronic system.

7.3. DESCRIPTION OF THE BASIC DISPLAY

The basic display of the terminal is shown in the picture below the text. The basic display provides access to all functions that are required for the work in the field. Also, the basic display shows all important data, such as speed of the machinery, ventilator revolutions, seed quantity, creation of rail lines, and the position of the rear sowing section.

Picture. 12 – basic display

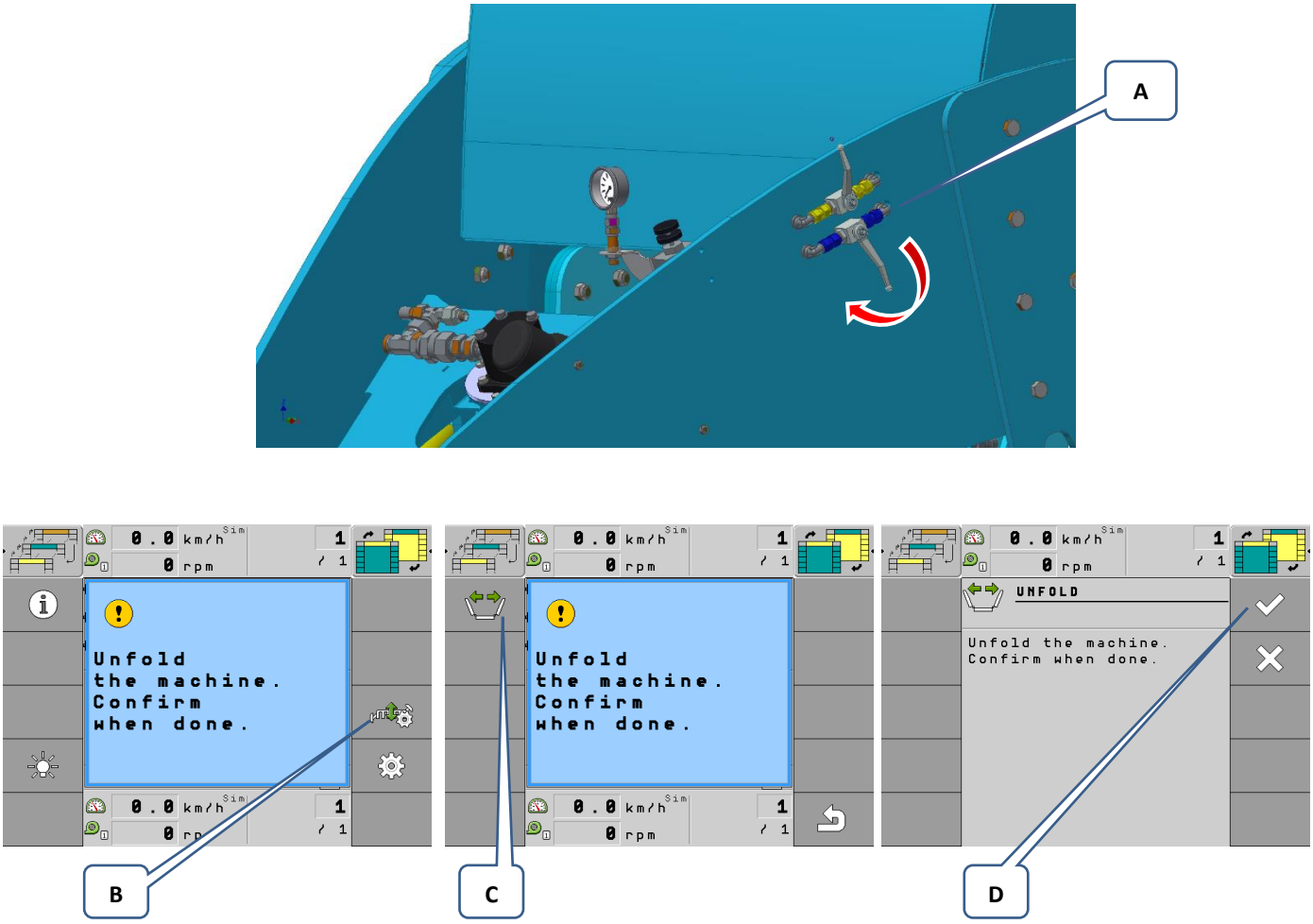


7.4. CONTROLLING HYDRAULICS

Procedure for unfolding and folding the machine

- Open the blue ball valve located on the machine drawbar (A) **LEAVE OPEN FOR WORK**
- Press the key for controlling hydraulics (B)
- Then press the key for unfolding/folding (C) and unfold the machine
- Confirm the task after the machine has unfolded (D)

Picture 13 – Procedure for folding/unfolding the machine

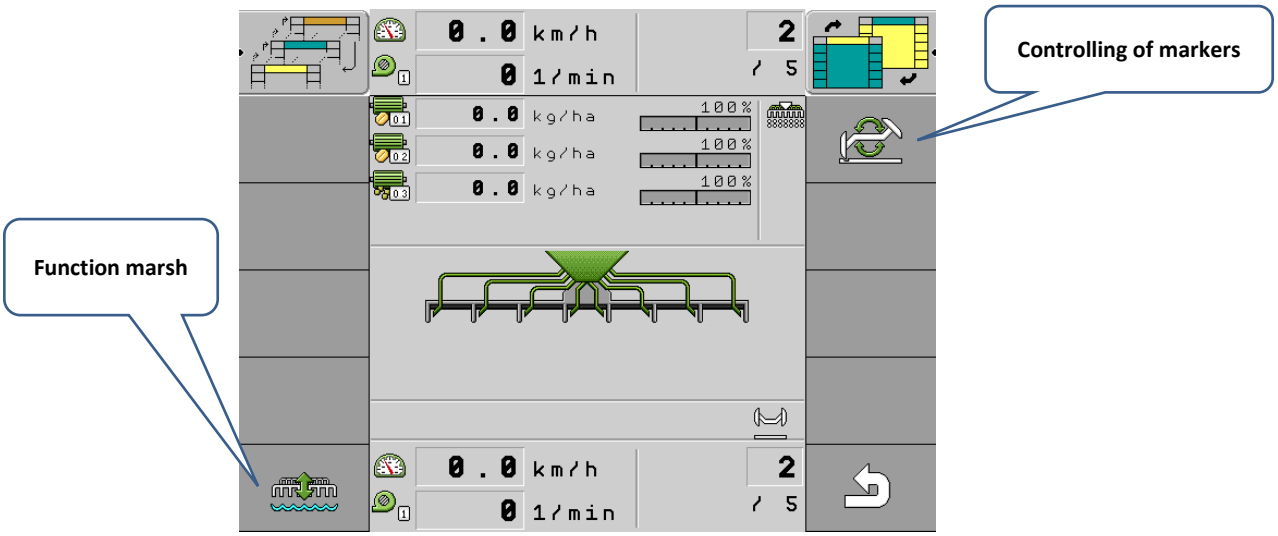


- *Controlling the rear sowing section* – controlled from the tractor using the blue hydraulic circuit when the application is activated (also possible to control when the display unit is off). Then in combination with markers.
- *Controlling the front sowing section* – controlled from the tractor using the yellow hydraulic circuit when the application is activated. For transport, it is required to close the ball valve located on the pole of the machine to prevent undesirable movement of the front section during transport.

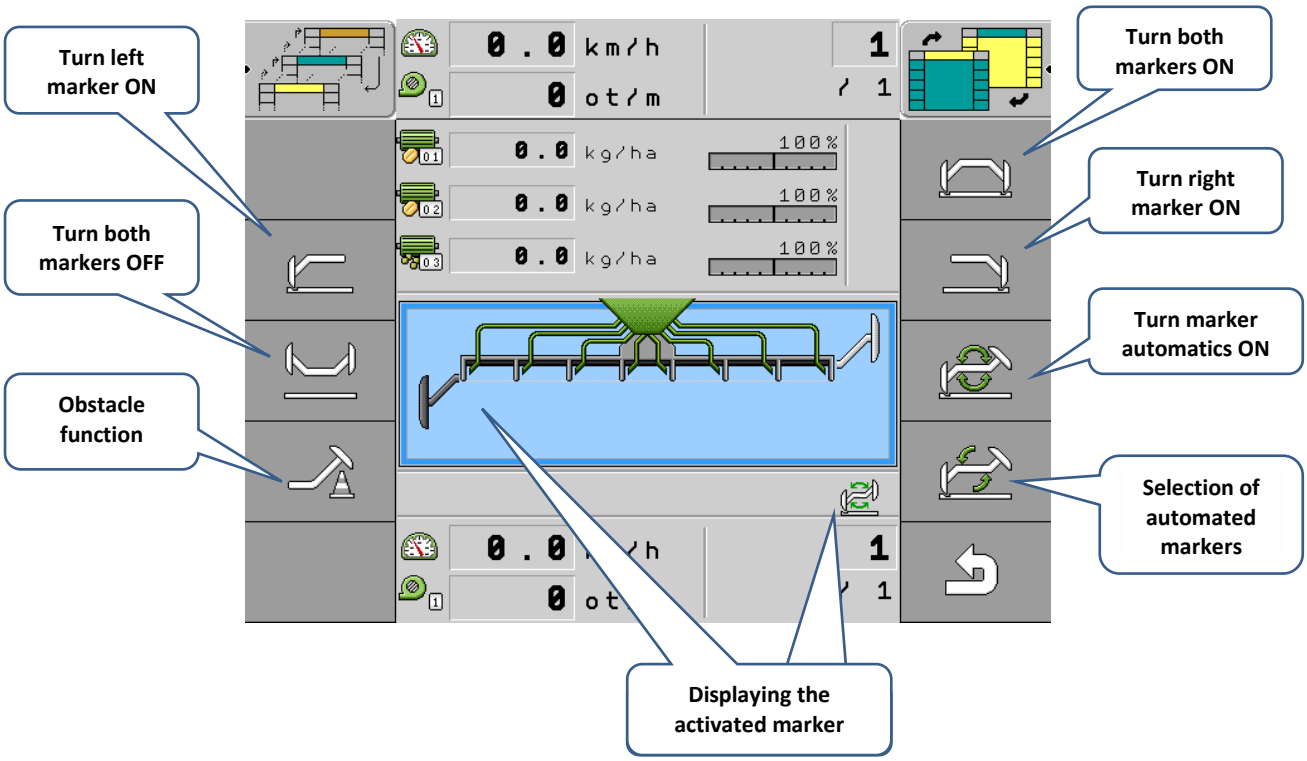
7.4.1 Controlling markers

Markers are controlled by pressing the key for markers control as shown in the picture below. On the following screen choose which marker or function you want to activate.
If no marker is selected before the run, the machine will work without them.

Picture 14 – Controlling markers

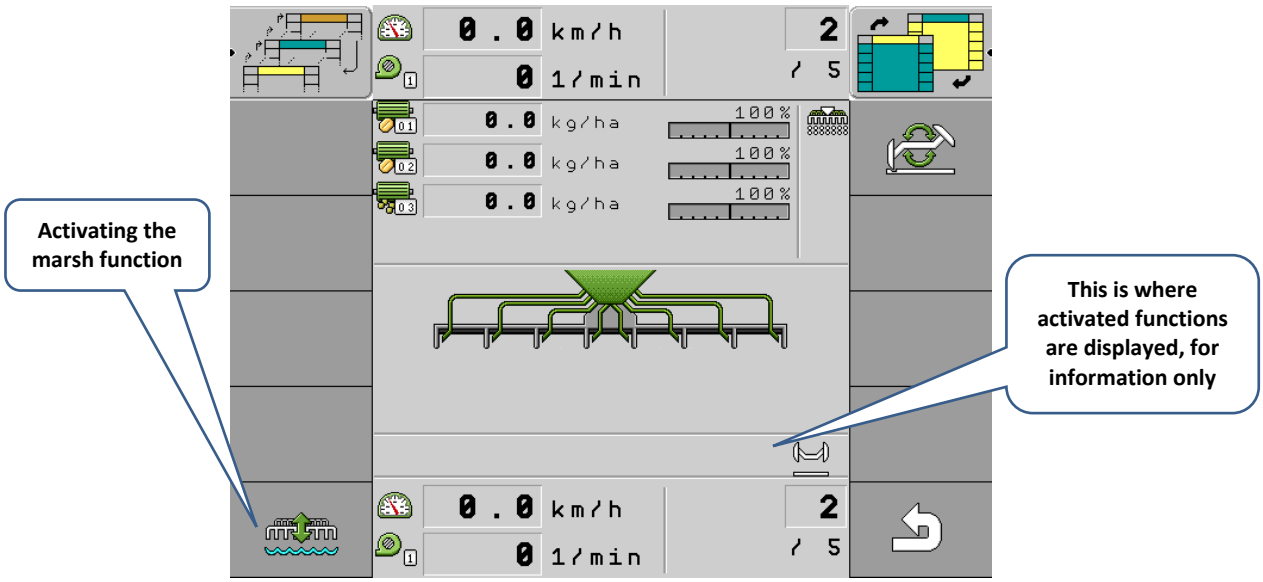


Picture 15 – Description of markers control



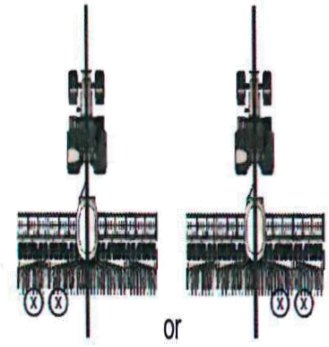
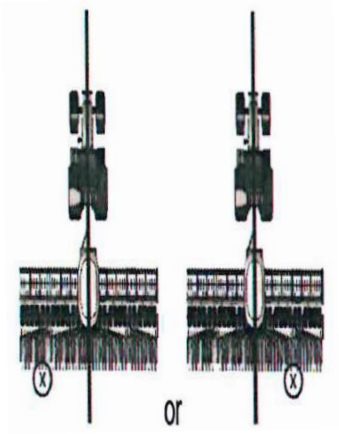
Obstacle function – used for avoiding obstacles. When this icon is activated, only the activated marker is lifted when the hydraulic circuit is pressed but the machine remains recessed and seeding. The activated element is always displayed in the right bottom corner of the display unit.
Marsh function – if it is necessary to drive through wet spots (marshes) during seeding or when the machine accidentally ends up in a marsh, then this function can be activated by pressing the corresponding hydraulic circuit that lifts the sowing section but the machine continues sowing. This increases the passage ability of the machine through wet spots.

Picture 16 – Description of functions



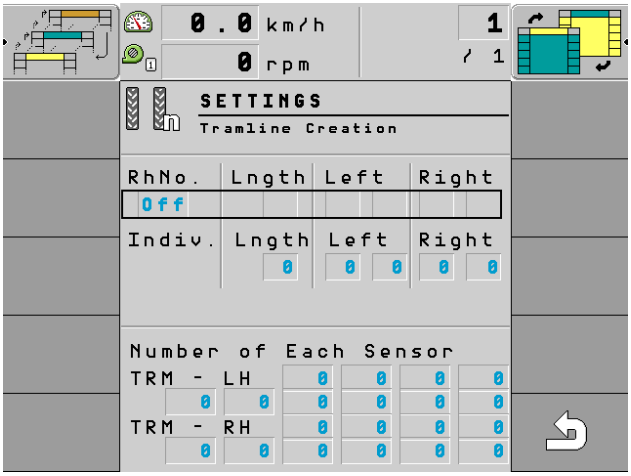
7.5. RAIL LINES SETTING SYSTEM

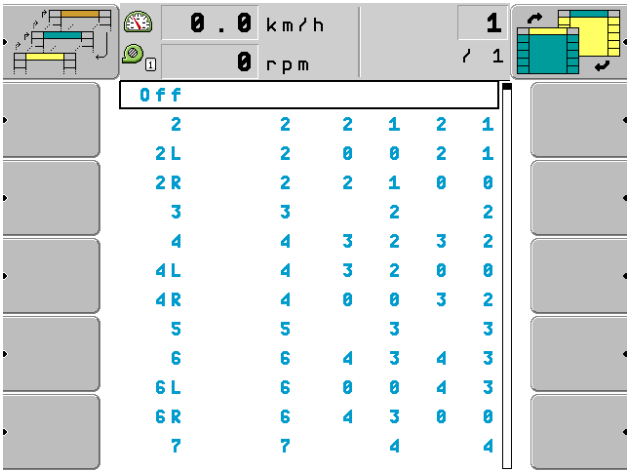
The Müller electronic system allows various rail lines setting.
For basic rail lines setting, you need to know where and how many rail flaps are installed and used on the machine. Graphic illustration follows.

A) 	• Two rail flaps on both sides of the machine • Our most frequently used solution • This layout of rail flaps always corresponds with an odd number of passes of the seed drill per width of the sprayer • It is also possible to set the rhythm of rail lines for even number of passes of the machine, but that requires the execution of a “zero pass”
B) 	• Two rail line flaps on one side of the machine (on the right or on the left) • The location of the flaps on the right or on the left depends on which side of the field seeding starts on
C) 	• One rail line flap on one side of the machine

7.5.1 Setting rail lines rhythm

This specific setting of the rail lines is accessed via the first screen where we press the button of the relevant rail lines icon. Then press the button for rail lines setting (a symbol of rail lines with lower-case letter "n" in the right bottom corner). There you select the required configuration of the rail lines rhythm; the configuration depends on the versions (A, B, C) described above.





Line No.	• Number of the rail line (number of passes of the machine per width of the sprayer)
Length	• Number of passes that determines the rail lines rhythm repetition
Left, Right	• Determines the pass during which a rail line is created (left, right)
Individual Setting	• Here you can choose your own settings

Individual steps for setting the correct rail lines rhythm

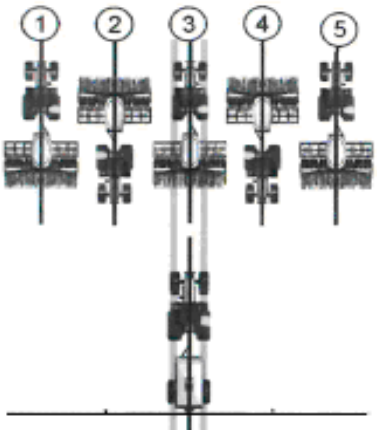
1. We know the width of the machine
2. We know the width of the sprayer
3. We know the number of rail flaps on the machine and we know exactly where they are located (which side, number…)
4. We have to do a simple calculation
   Structural width of the sprayer: Structural width of the machine
5. Select the rail lines rhythm on the appropriate screen based on the facts above

Version A) Rail lines are formed during one pass of the seed drill

a.

Possible flap positions	Calculation result	Line No.	Resulting rhythm	Left flaps		Right flaps	
	3	3	3		2		2
	5	5	5		3		3
	7	7	7		4		4
	9	9	9		5		5
	11	11	11		6		6

Example:
The structural width of the sprayer is 30 m, the structural width of the machine is 6 m.
Procedure: 30:6=5 → Resulting rhythm – green line in the chart

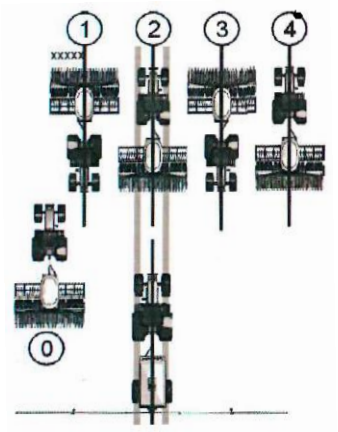


b.

Possible flap positions	Calculation result	Line No.	Resulting rhythm	Left flaps		Right flaps	
	2	2S	2		1		1
	4	4S	4		2		2
	6	6S	6		3		3
	8	8S	8		4		4
	10	10S	10		5		5

Example:
The structural width of the sprayer is 12 m, the structural width of the machine is 3 m.

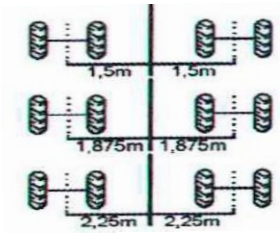
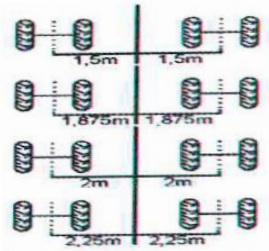
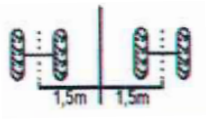
Procedure: 12:3=4 → Resulting rhythm – green line in the chart (rhythm 4S)



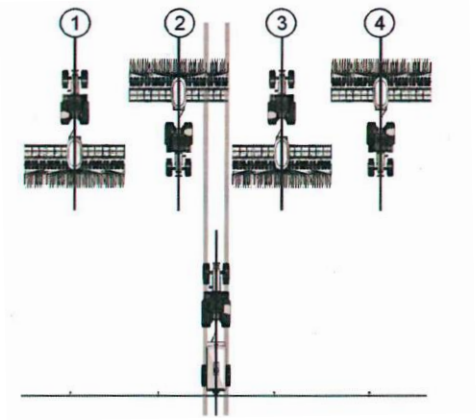
- The picture shows that the rail lines are formed during the second pass. First, a “zero” pass has to be executed during which the rail lines system must be deactivated. During the first pass, we have to sow with a half of the machine over the zero pass, or we have to turn off a half of the seed drill.

Version B) Rail lines are formed during one pass of the seed drill

Sowing starts on the left side of the field

Possible flap positions	Calculation result	Line No.	Resulting rhythm	Left flaps		Right flaps	
	2	999	2				1
	4	999	4				2
	6	999	6				3

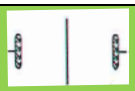
Example:
The structural width of the sprayer is 24 m, the structural width of the machine is 6 m.
Procedure: 24:6=4 → Resulting rhythm – green line in the chart



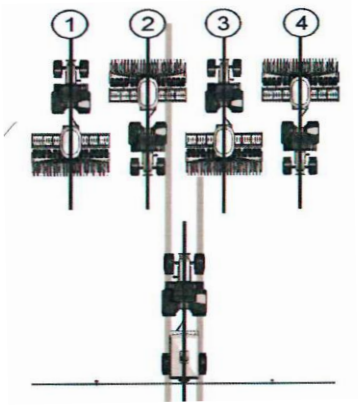
- The picture shows that the rail lines are formed during the second pass
- If the rail flaps are located on the other side of the seed bar, the procedure will be the same but sowing starts on the right side of the field and thus rail lines will be formed on the right side of the seed drill.

Version C) Rail lines are formed during two passes of the seed drill

If sowing starts on the left side of the field

Possible flap positions	Calculation result	Line No.	Resulting rhythm	Left flaps		Right flaps	
	2	999	2			1	2
	4	999	4	2	3		
	6	999	6			3	4
	8	999	8	4	5		
	10	999	10			5	6
	12	999	12	6	7		
	14	999	14			7	8

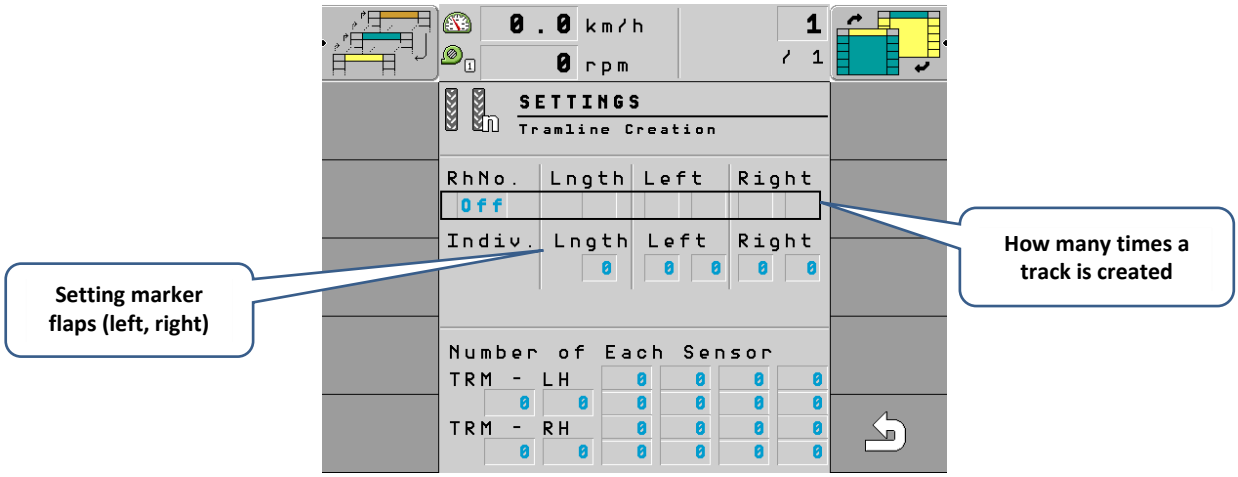
Example:
The structural width of the sprayer is 12 m, the structural width of the machine is 3 m.
Procedure: 12:3=4 → Resulting rhythm – green line in the chart



- The picture shows that rail lines are formed during the second and third pass of the seed drill.
- If the rail flaps are located on the other side of the seed bar, the procedure will be the same but sowing starts on the right side of the field and thus rail lines will be formed on the right side of the seed drill.

7.5.2 Our most frequently used rail lines setting

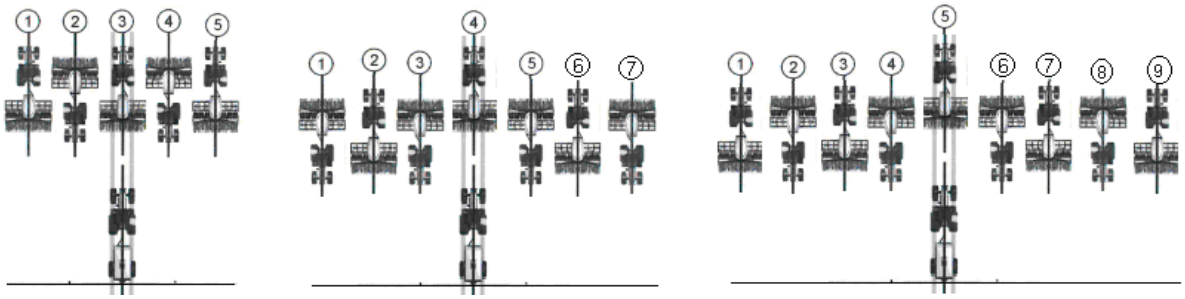
The actual setting of rail lines is performed on the rail lines setting screen. For better orientation and understanding of the rail lines setting, we provide both graphic and chart illustration. The system of setting the rhythm of the rail lines is shown both in the graphic and chart illustration.



Width of the seed drill 3 m
Width of the sprayer 15 m

Width of the seed drill 6 m
Width of the sprayer 42 m

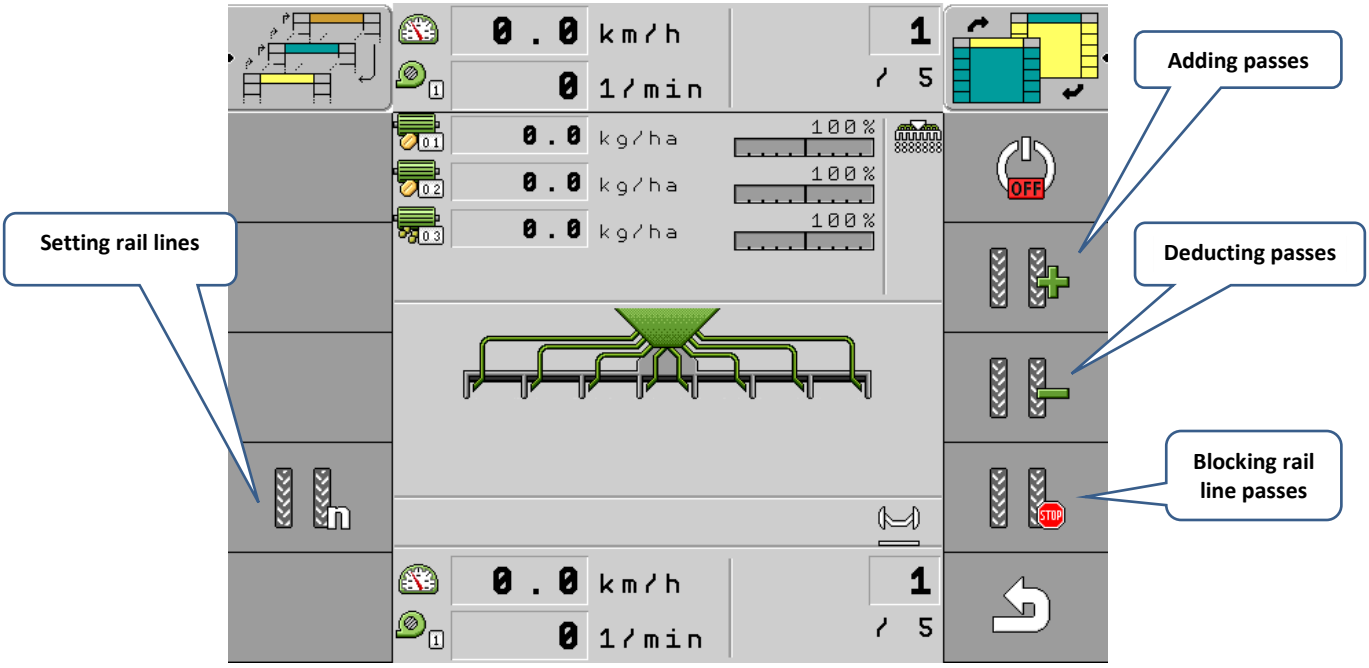
Width of the seed drill 4 m
Width of the sprayer 36 m



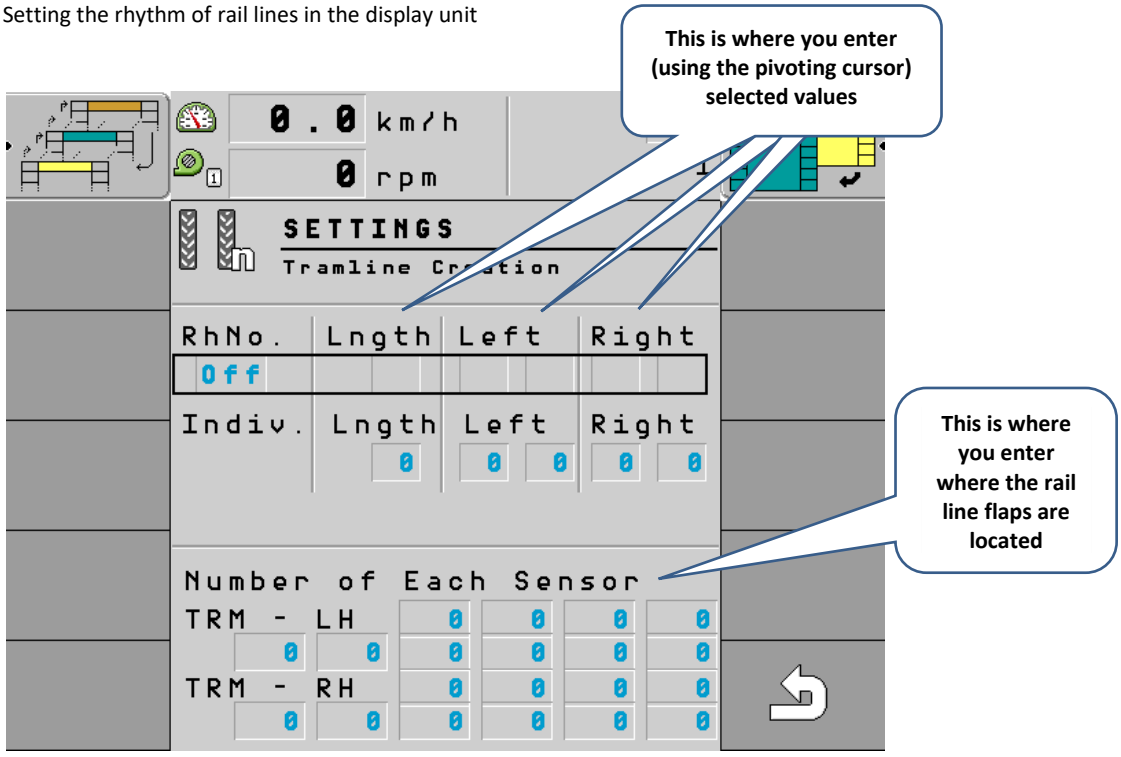
Width of the machine (m)	Width of the sprayer (m)	Program Line No.	Number of passes per machine width (length	On the left	On the right
3	15	5	5	3	3
3	21	7	7	4	4
3	27	9	9	5	5
4	20	5	5	3	3
4	28	7	7	4	4
4	36	9	9	5	5
6	18	3	3	2	2
6	30	5	5	3	3
6	42	7	7	4	4
8	24	3	3	2	2
8	40	5	5	3	3

7.5.3 Setting rail lines

Picture 18 – Setting rail lines

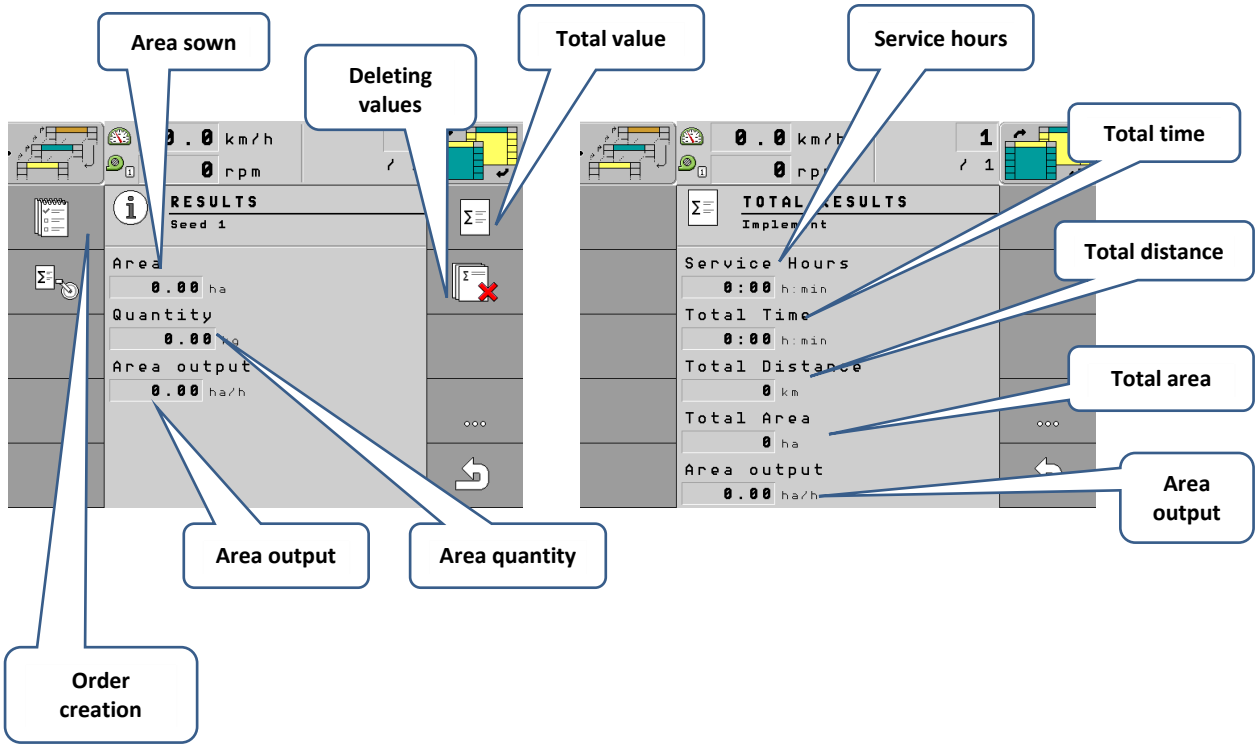


Picture 19 - Setting the rhythm of rail lines in the display unit



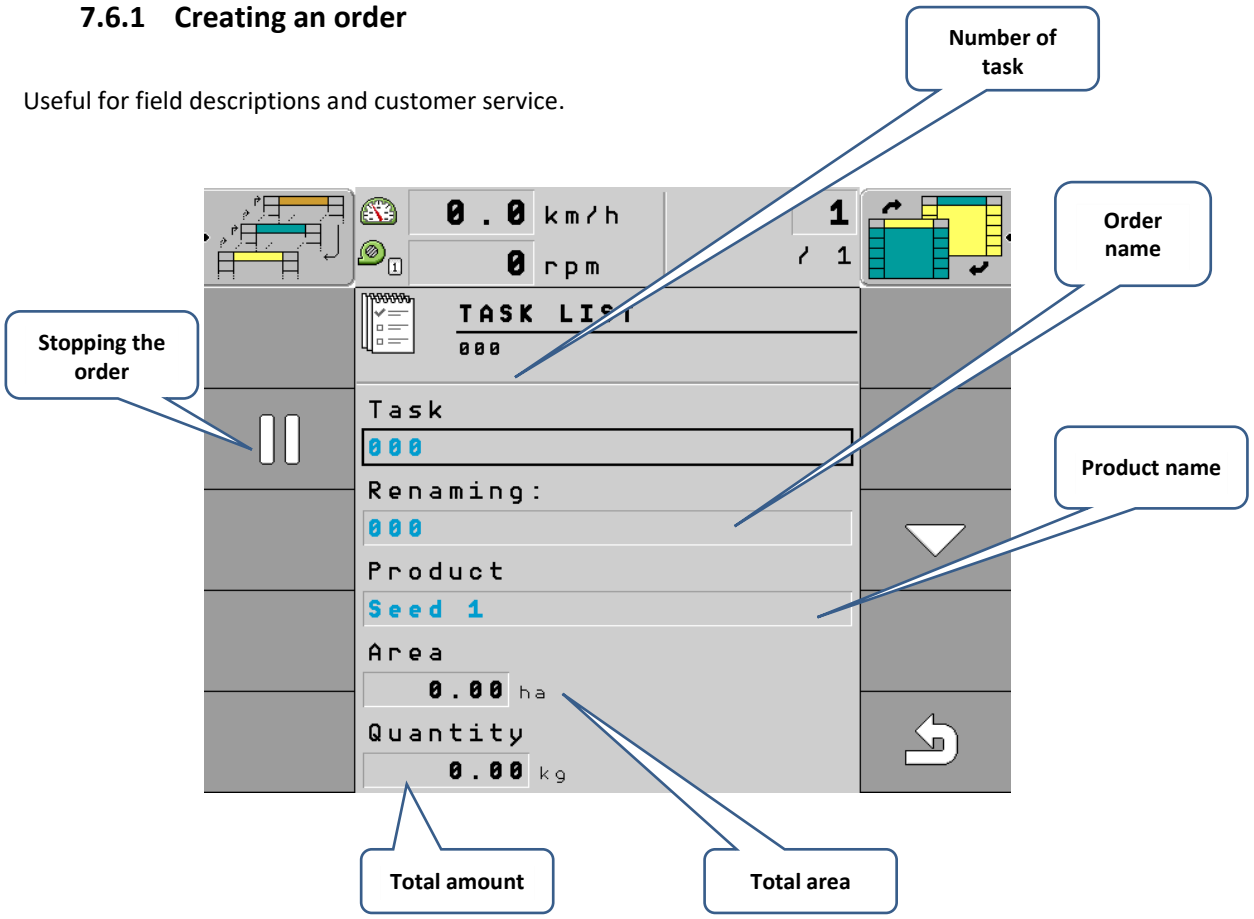
7.6. REFERENCE DATA

Picture 20 – Reference data



7.6.1 Creating an order

Useful for field descriptions and customer service.

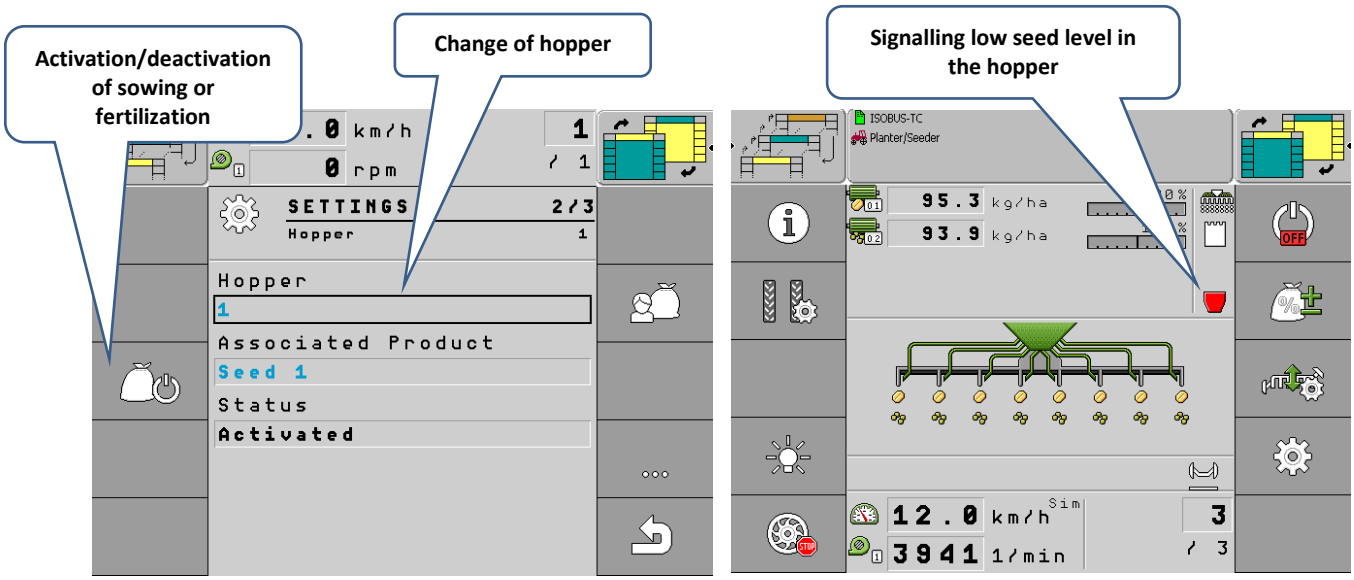


7.6.2 Levels of seeds in the hopper

There is a level sensor in the hopper that shows the remaining amount of seeds. The sensor can be adjusted by height according to the type of seeds or as required by the operator. When the amount drops below the level, the sensor illuminates a red symbol on the display (top right corner). This signalization is accompanied with a warning message.

Activation/deactivation of sowing or fertilization – this button is used for activating or deactivating sowing or fertilization: the button stops the appropriate motor driving the seeding mechanism (also, sensors in the hopper are deactivated).

Picture 21 – Activation/deactivation of sowing or fertilization



7.7. SETTING PASSAGE SENSORS

DICKEY JOHN SYSTEM

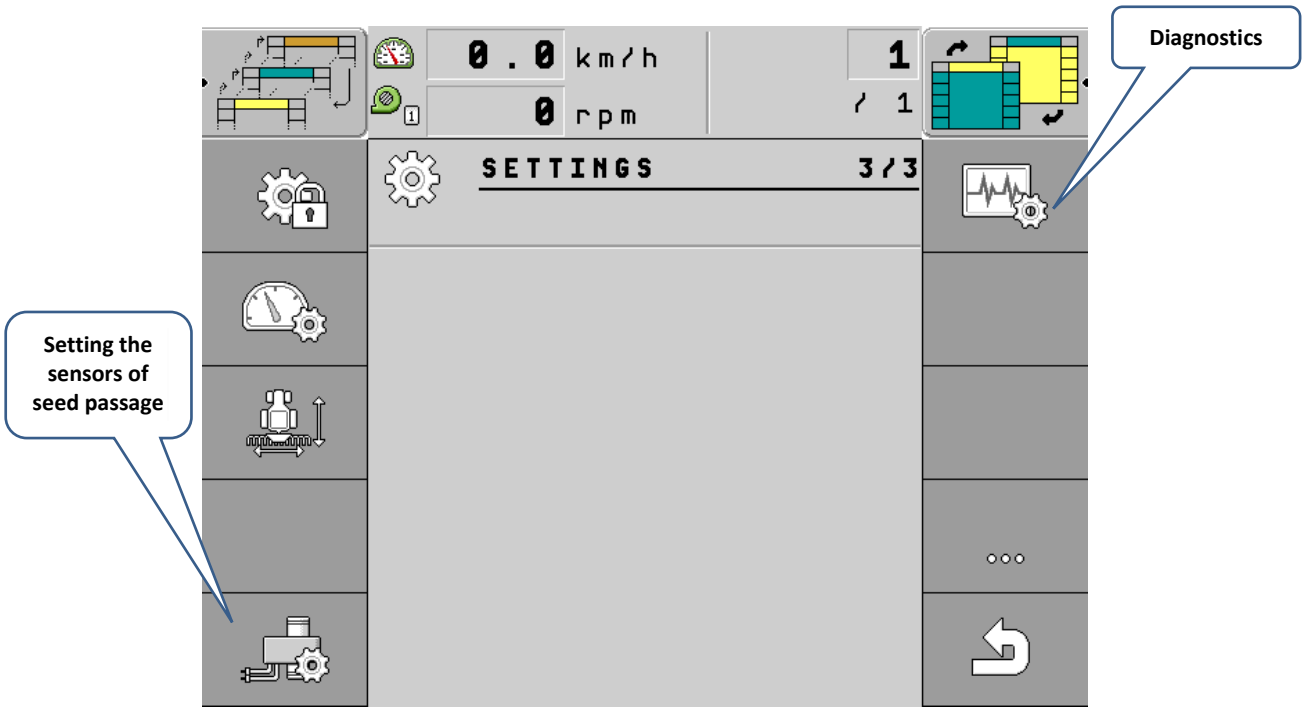
– The sensitivity setting is fully automated

AGTRON SYSTEM

With regard to the passage sensors, the sensitivity of the setting of the individual sensors is important. Practice shows that cereals should be set at 6 and fine seeds, such as rape, should be set at 3.

If none of the sowing hoses is clogged, the status of sensors is not displayed anywhere. At the moment when one of the hoses gets clogged, an error message is displayed – a chart appears on the display showing which sensor is blocked (in which row).

Picture 22 – Setting the sowing sensors

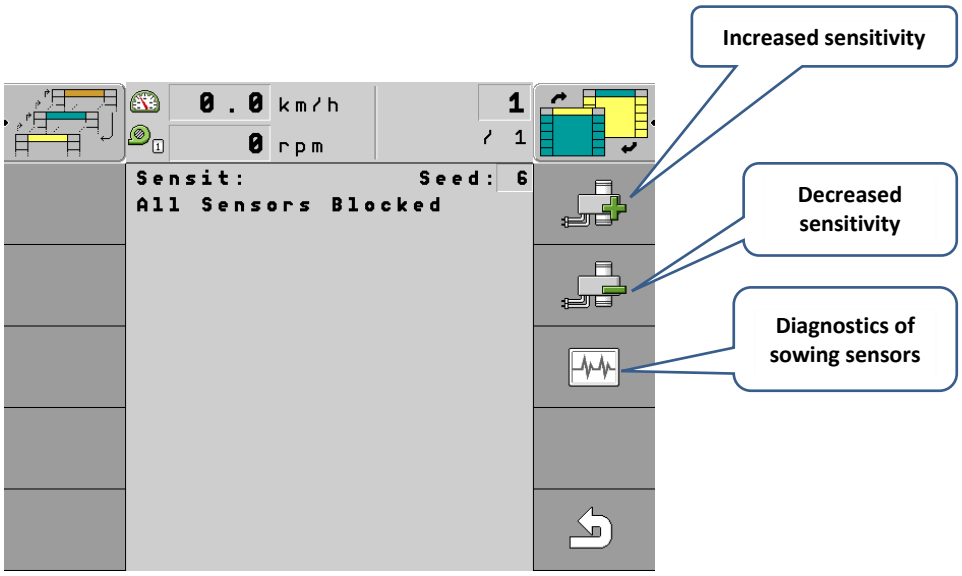


Control value of sensors – at 10 km/h

ZJ value	Type of seeds	Seed quantity per time
0		System off (no report)
1	RAPE, MUSTARD	1 seed/16s
2	RAPE, MUSTARD	1 seed/8s
3	RAPE, MUSTARD	1 seed/2s
4	WHEAT, RYE, BARLEY	1 seed/s
5	WHEAT, RYE, BARLEY, OATS	2 seed/s
6	WHEAT, RYE, BARLEY, OATS	5 seed/s
7	OATS	10 seed/s
8	OATS	20 seed/s
9		100 seed/s
10		1000 seed/s

If the defined number of seeds does not pass through during the given time, the system reports a low passage of seeds, so this is not sensitivity as such but a control parameter of the seed passage.

Picture 23 – Setting sensor sensitivity



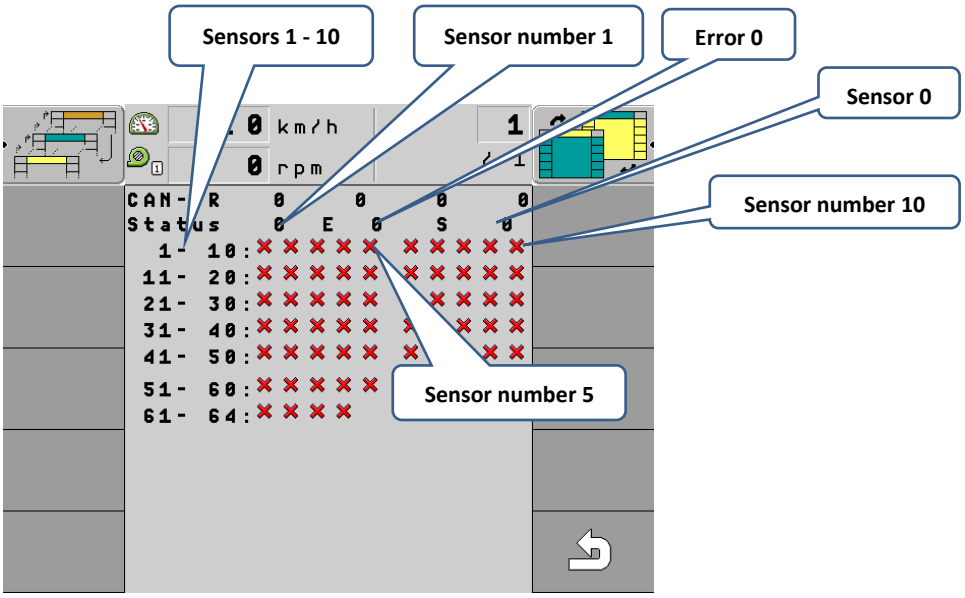
7.7.1 Seeding sensors diagnostics

This screen is used for checking the passability of the individual sowing hoses. When there are red crosses in all rows, seeds do not pass through the sensor. The passage of seeds is signalled by green ticks, i.e. when there are green ticks in all rows, all sensors are working correctly – the hoses are passable and the seeds pass through them.

The passability of seeds can also be checked during driving in the sensor diagnostics. If any of the hoses gets clogged, the passage sensor registers it and a signal in the form of a chart appears on the main screen showing which hose is blocked.

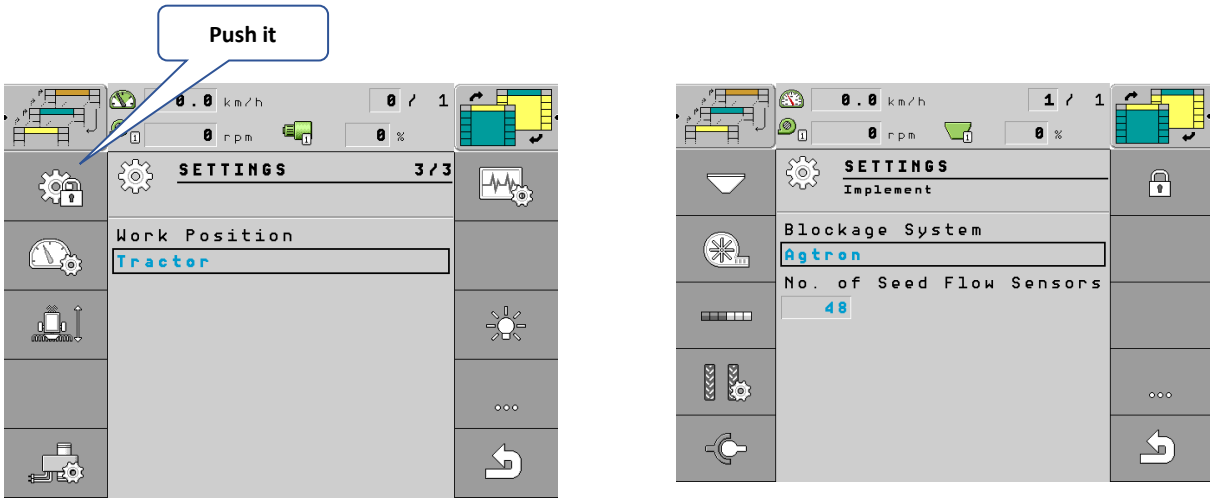
Displaying sensor diagnostics **– red crosses → seeds do not pass**
– green ticks → seeds pass

Picture 24 – Sensor diagnostics



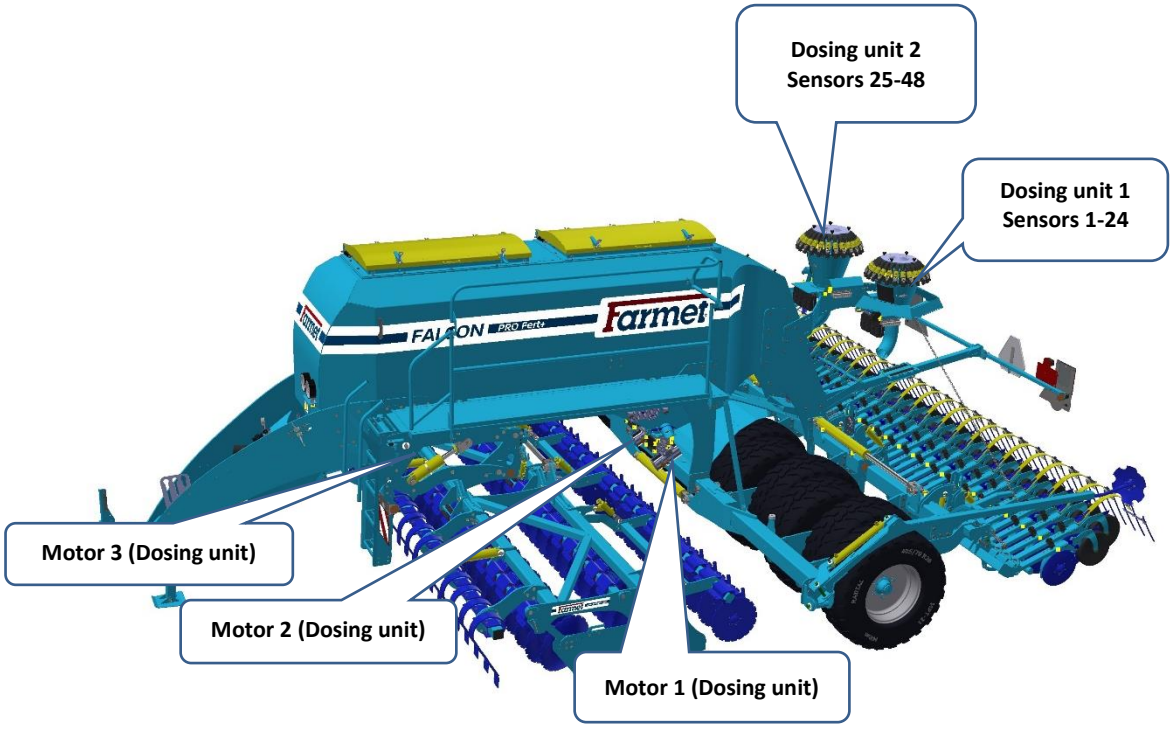
7.7.2 Switching off the seed flow system sensor

OFF/ON: when the seeding application is OFF---setting---page 3/3---Agtron/NO



7.7.3 Designation of motors and dosers

Example for Falcon 6 Fert +



8. UNFOLDING AND FOLDING MACHINE

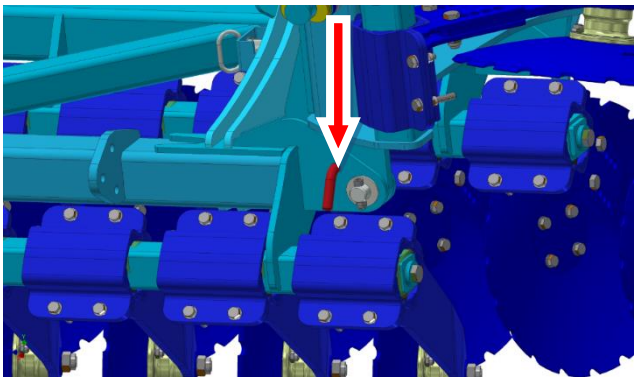
When executing any of the hydraulic movements, slow down the moving parts of the machine before position stop by choking a relevant valve on the tractor control!

- The hydraulics of the machine must be connected to a push-pull hydraulic circuit.
- The operator must ensure that there are no people or animals within the reach of the side frames during their unfolding or folding (i.e. in the place of their position stop) and that no one puts their fingers or other body parts into the area of the joints.
- Execute unfolding or folding on flat and solid surfaces or crosswise to a slope.
- Unfold or fold the machine only when it is lifted on the axle.
- Remove any soil stuck on the folding places as it may disturb the function and cause damage to the mechanics.
- Monitor the side frames during unfolding or folding and fold them smoothly until the end position.

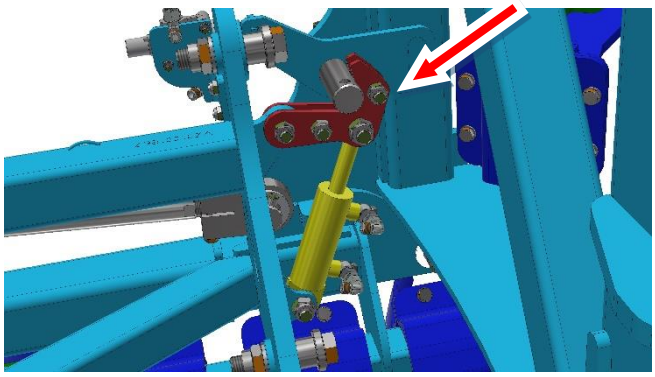
8.1. UNFOLDING THE MACHINE

1. Prior to unfolding, it is necessary to unblock the mechanical protection of the side frames on the front preparatory section. This protection is mechanical (pins in the front joints of the folding mechanism, one on each side) or hydraulic.

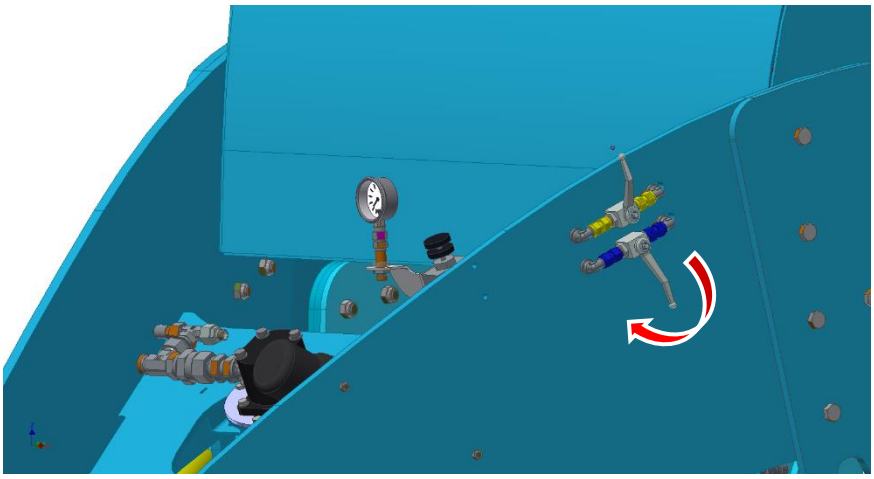
mechanical protection



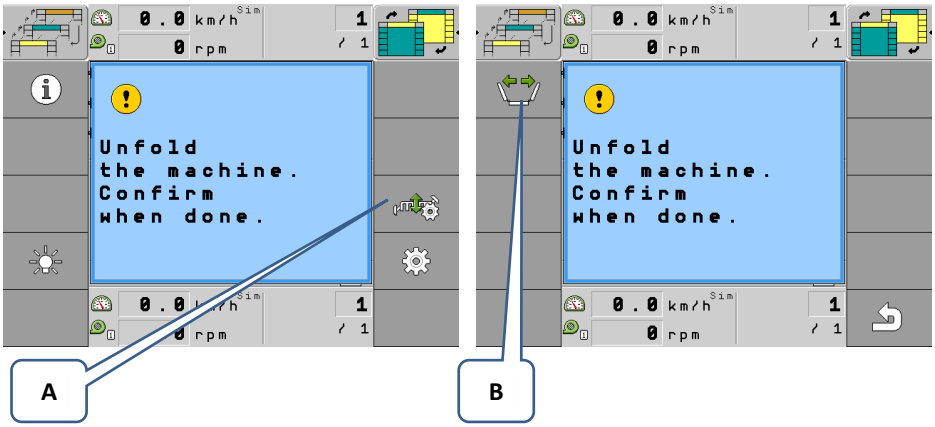
hydraulic protection



2. Open the blue ball valve (**MUST STAY OPEN FOR WORK**)

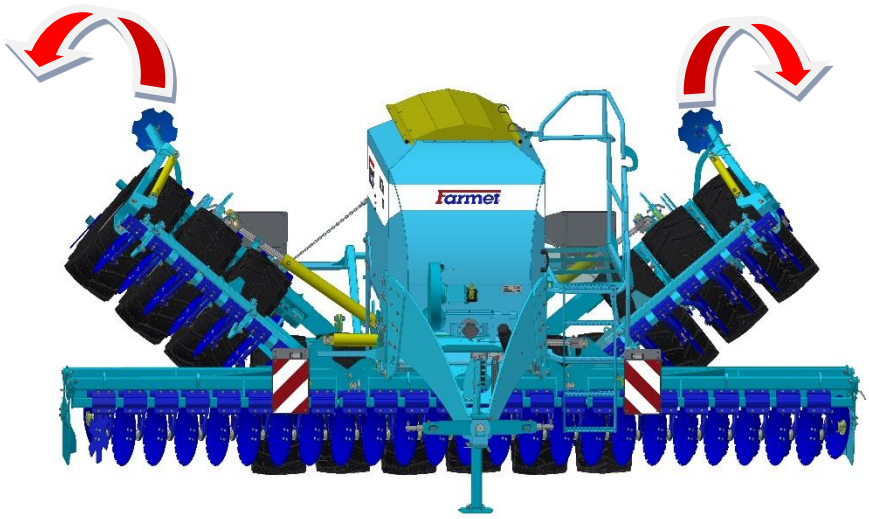


3. Press the key for machine hydraulics control (A) on the display unit screen, then press the key for unfolding/folding (B).



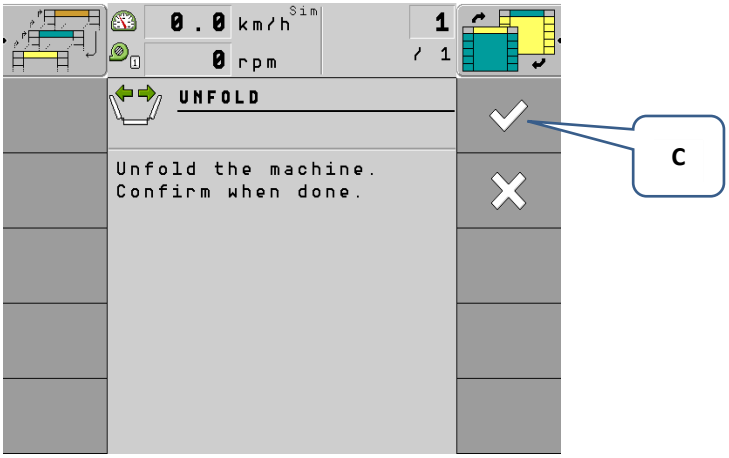
4. Release the pressure oil into the hydraulic circuit so that the machine unfolds. The left front side of the preparatory section unfolds first, then the other parts of the machine unfold.

Picture 25 - Unfolding the machine



5. When the machine is completely unfolded and the circuit has been pressurized, confirm the task of unfolding (C). The machine is now completely unfolded and the sowing application can be activated.

Picture 26 – Task confirmation

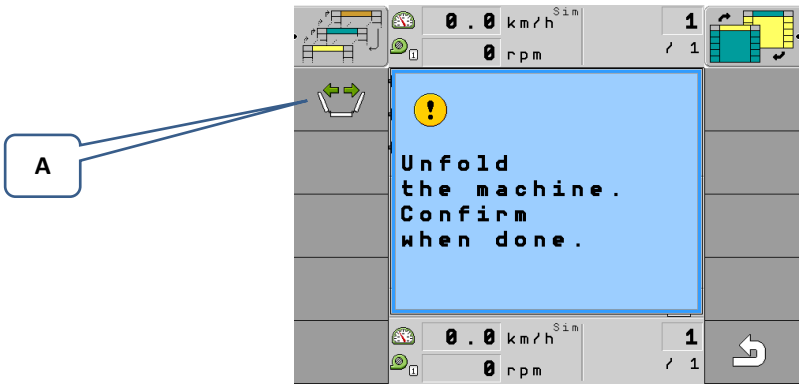


8.2. FOLDING THE MACHINE

When folding the machine, progress in a reversed way:

1. Lift the machine fully and close the valve of the front preparatory section (see Picture 30).
2. Turn on the folding/unfolding function on the display unit, see Picture 27.

Picture 27 - Unfolding/folding on

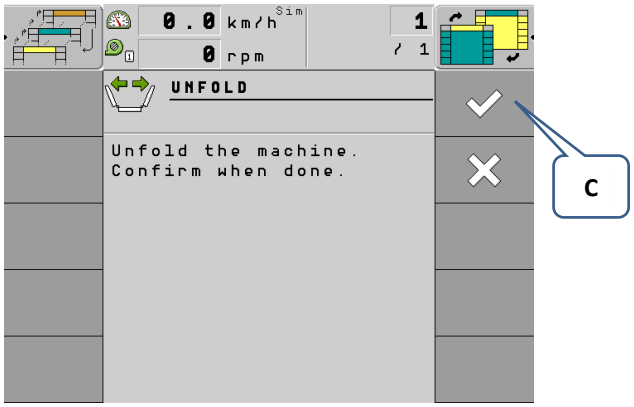


3. Release the pressure oil so that the machine folds into the transport position.

Picture 28 – Folding the machine

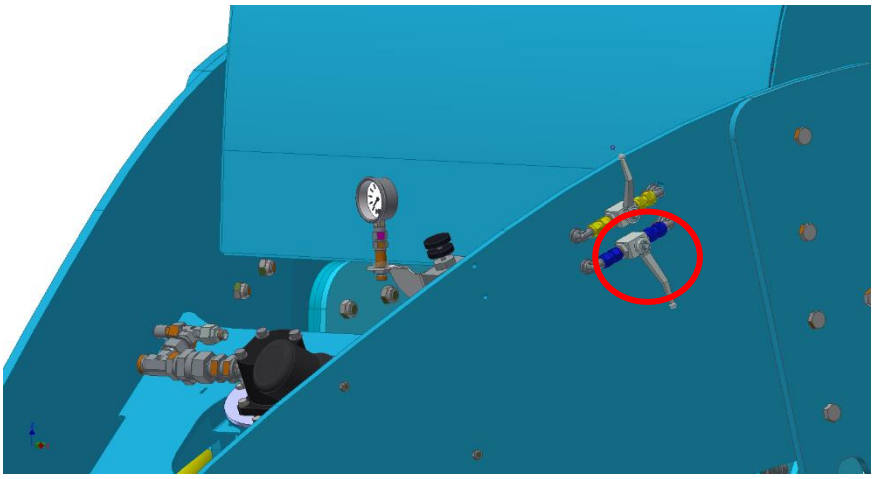
4. Then, the task of folding the machine must be confirmed (**C**)

Picture 29 – Task confirmation



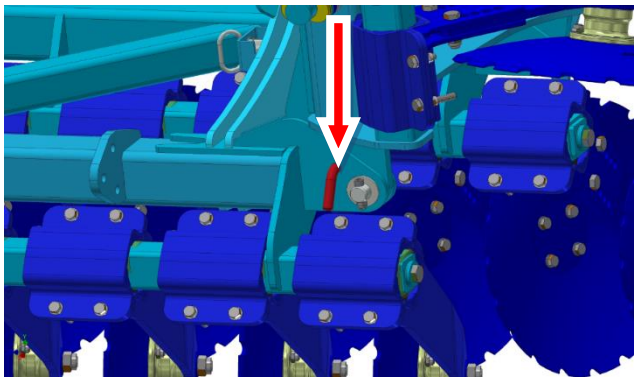
5. Close the blue ball valve.

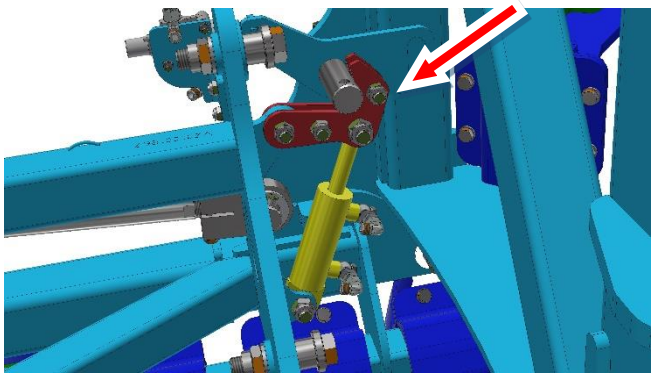
Picture 30 – Closing the folding valve



6. Secure the front section for transport, either mechanically or hydraulically (according to the equipment)

Picture 31 – Securing the front section

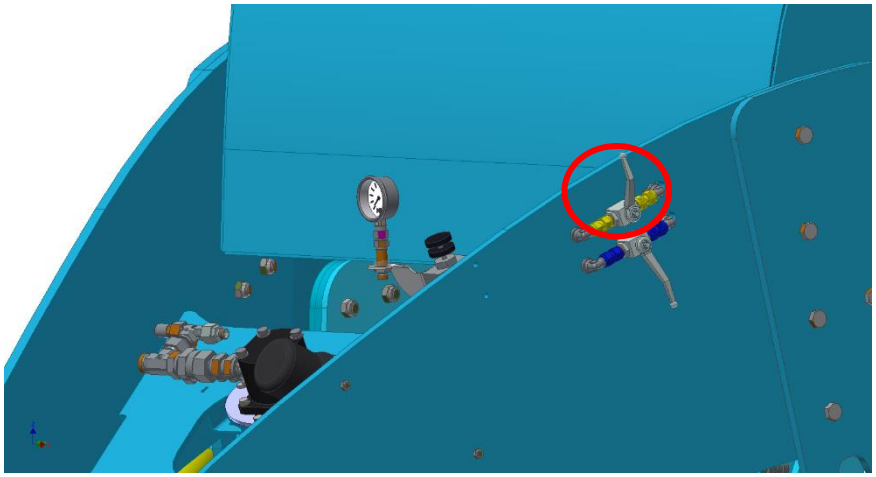




9. LOWERING AND LIFTING

1. Open the tap of the ball valve of the piston-rods for lifting the front preparatory section.

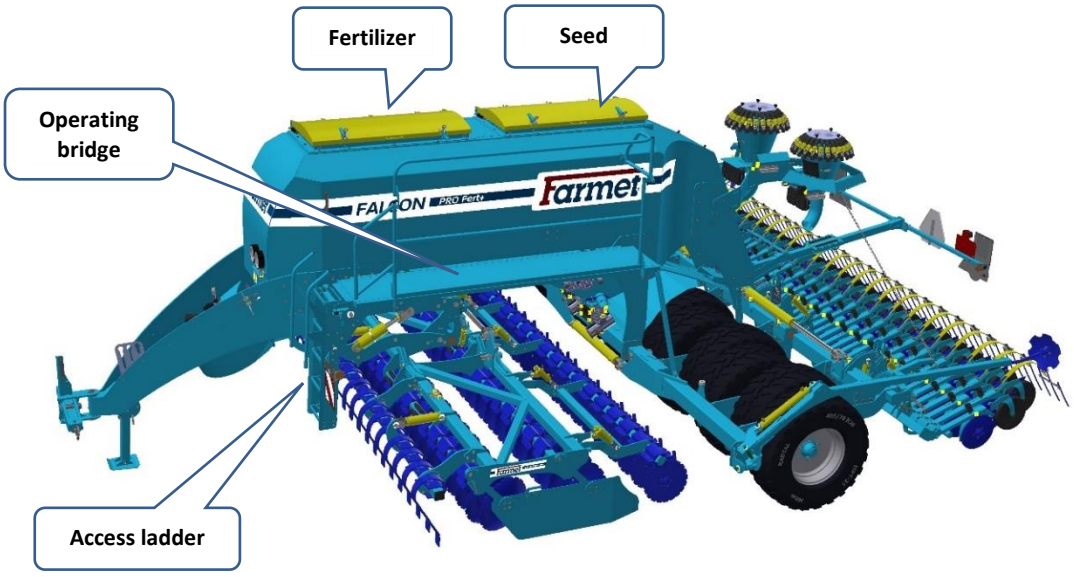
Picture 32 - Ball valve, front section, position **OFF**



10. FILLING UP THE SEED/FERTILIZER CONTAINER

- When filling up the container, always observe safety regulations and instructions.
- The machine must be fully unfolded and must be resting on the working bodies on the ground.
- Only fill up the container on a solid and flat surface and when the machine is standing still.
- Use the access ladder for access to the service platform.
- Remove and store the canvas.
- Remove the central brackets of the canvas.
- Fill up the hopper with the required type and volume of seeds/fertilizer.
- Return the central brace rods back and cover the hopper with the protecting canvas
- The platform is only intended for the operator for filling up the container.
- It is strictly forbidden to use the platform during driving and operation of the machine.
- The bearing capacity of the platform is limited to **3 persons or 280kg at the most!**
- Be extra careful when moving on the platform.
- **It is strictly forbidden to transport persons or cargo on the machine!**

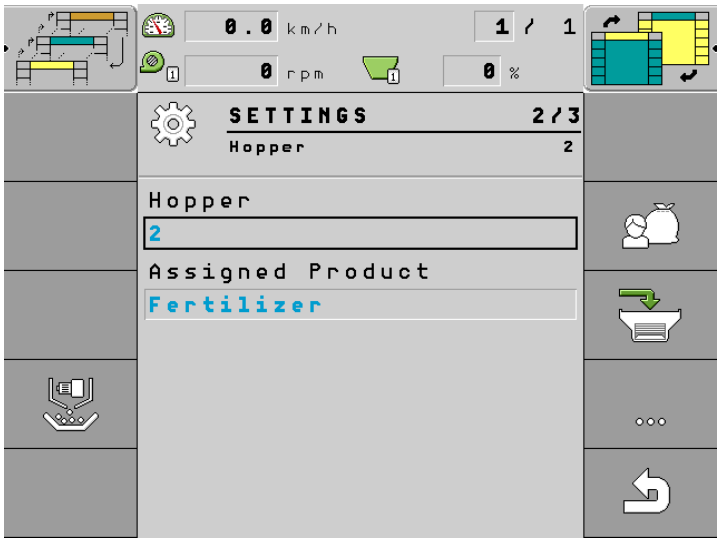
Picture 33 – Filling up the container



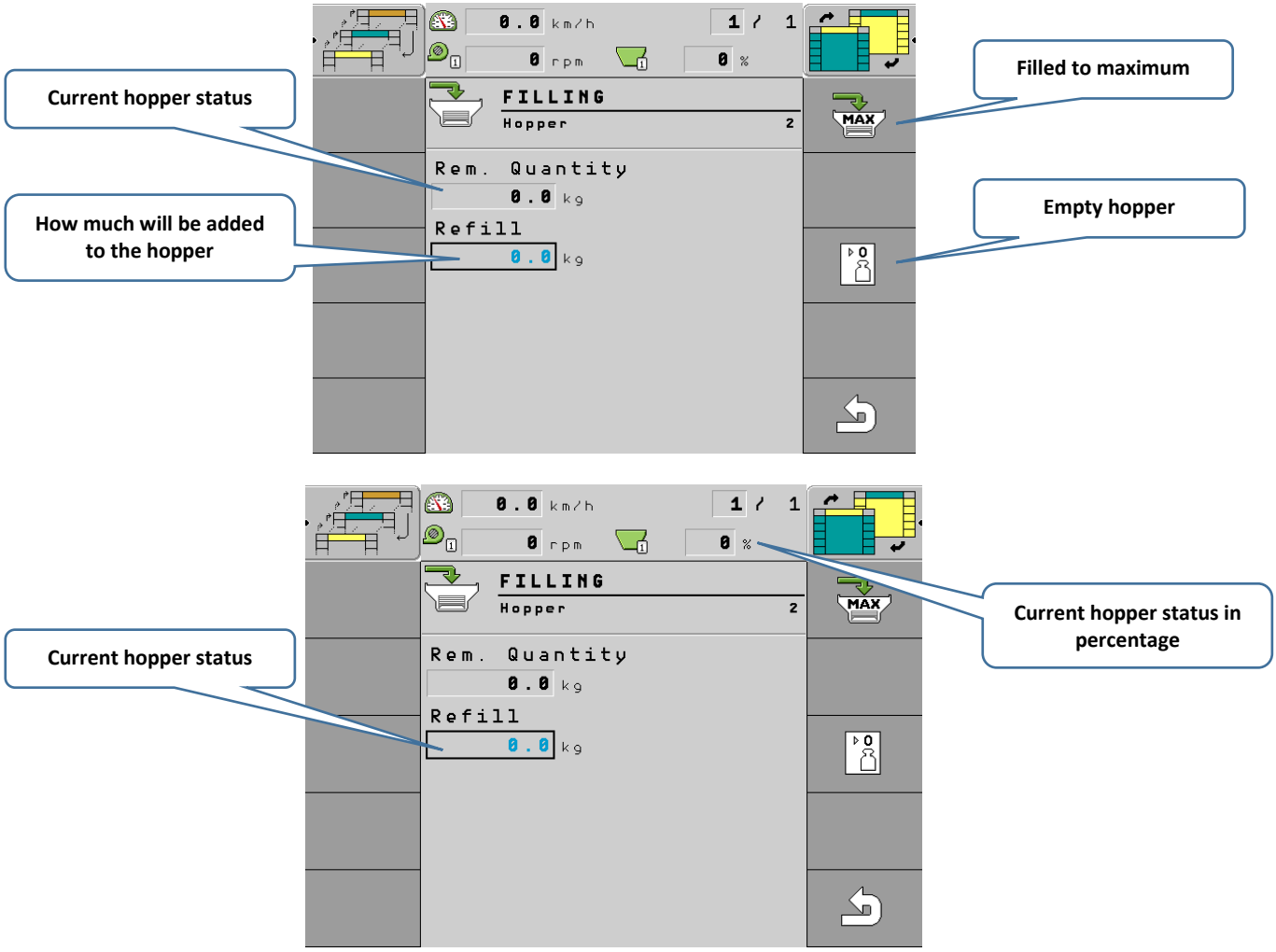
11. SETTING THE FILLED SEEDS/FERTILIZER

(NOT REQUIRED FOR WORK)

1. Select the icon of filling the hopper in the machine setting on page 2/3.

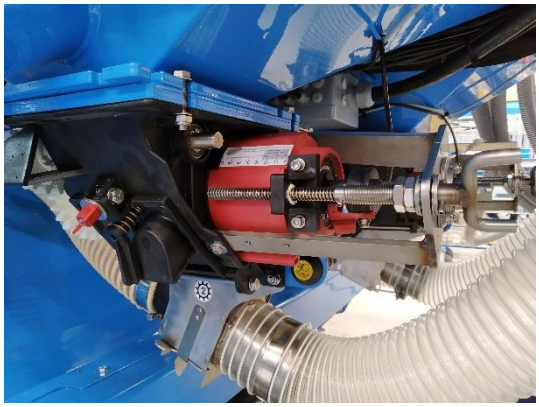


2. Write down the weight that you poured into the hopper (**use the rotary knob on the side of the terminal**).



12. SETTING OF THE SOWING BATCH

Accord Dispenser



The first step is to set the turnstile according to the calibration table.

CALIBRATION TABLE FOR SOWING SEEDS ACCORD DISPENSER (APPROXIMATE VALUES AT 10 km/h) FOR THE SOWING MACHINES FALCON 3 PRO 1 DISPENSER															
SEEDS		***WHEAT***		***RYE***		***BARLEY***		***OATS***		***PEAS***		***MAIZE***		***MUSTARD***	
Vol. mass kg/dm³		*0,77*		*0,74*		*0,68*		*0,5*		*0,81*		*0,79*		*0,6*	
		kg/ha	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***
Scale for fine seeds	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	7	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	10	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	15	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SCALE (mm)	**20**	40-80	75	40-80	72	40-80	65	40-60	40	60-80	73	60-80	69	30-50	67
	25	80-110	95	80-110	92	80-110	89	60-80	58	80-100	95	80-100	91	40-60	87
	30	110-150	115	110-150	112	110-150	106	80-100	70	100-120	117	100-120	113	X	X
	35	150-180	135	150-180	132	150-180	123	100-120	81	120-140	141	120-140	137	X	X
	40	160-190	155	160-190	152	160-190	146	120-130	90	140-160	160	140-160	156	X	X
	45	180-210	178	180-210	175	180-210	163	130-150	105	160-180	181	160-180	177	X	X
	50	200-230	195	200-230	192	200-230	184	150-170	115	180-200	201	180-200	197	X	X
	55	220-250	222	220-250	219	220-250	202	170-190	127	200-220	224	200-220	220	X	X
	60	240-260	240	240-260	237	240-260	221	190-210	140	220-240	240	220-240	236	X	X
	65	250-280	265	250-280	262	250-280	242	210-230	152	240-260	263	240-260	259	X	X
	70	260-290	285	260-290	282	260-290	262	230-250	163	260-280	289	260-280	285	X	X
	75	280-310	302	280-310	299	280-310	281	250-260	177	280-300	308	280-300	304	X	X
	80	300-320	319	300-320	316	300-320	301	260-280	187	300-320	330	300-320	326	X	X
	85	310-330	341	310-330	338	310-330	321	280-300	201	320-340	343	320-340	339	X	X
	90	320-350	365	320-350	362	320-350	336	300-320	211	340-360	365	340-360	361	X	X
	95	340-360	382	340-360	379	340-360	360	320-340	224	360-380	391	360-380	387	X	X
	100	350-400	405	350-400	402	350-400	378	340-400	234	380-400	415	380-400	410	X	X

CALIBRATION TABLE FOR SOWING SEEDS ACCORD DISPENSER (APPROXIMATE VALUES AT 10 km/h) FOR THE SOWING MACHINES FALCON 4 PRO 1 DISPENSER															
SEEDS		***WHEAT***		***RYE***		***BARLEY***		***OATS***		***PEAS***		***MAIZE***		***MUSTARD***	
Vol. mass kg/dm³		*0,77*		*0,74*		*0,68*		*0,5*		*0,81*		*0,79*		*0,6*	
		kg/ha	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***
Scale for fine seeds	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	7	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	10	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	15	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SCALE (mm)	**20**	40-80	75	40-80	72	40-80	65	40-60	40	60-80	73	60-80	69	30-50	67
	25	80-110	95	80-110	92	80-110	89	60-80	58	80-100	95	80-100	91	40-60	87
	30	110-150	115	110-150	112	110-150	106	80-100	70	100-120	117	100-120	113	X	X
	35	150-180	135	150-180	132	150-180	123	100-120	81	120-140	141	120-140	137	X	X
	40	160-190	155	160-190	152	160-190	146	120-130	90	140-160	160	140-160	156	X	X
	45	180-210	178	180-210	175	180-210	163	130-150	105	160-180	181	160-180	177	X	X
	50	200-230	195	200-230	192	200-230	184	150-170	115	180-200	201	180-200	197	X	X
	55	220-250	222	220-250	219	220-250	202	170-190	127	200-220	224	200-220	220	X	X
	60	240-260	240	240-260	237	240-260	221	190-210	140	220-240	240	220-240	236	X	X
	65	250-280	265	250-280	262	250-280	242	210-230	152	240-260	263	240-260	259	X	X
	70	260-290	285	260-290	282	260-290	262	230-250	163	260-280	289	260-280	285	X	X
	75	280-310	302	280-310	299	280-310	281	250-260	177	280-300	308	280-300	304	X	X
	80	300-320	319	300-320	316	300-320	301	260-280	187	300-320	330	300-320	326	X	X
	85	310-330	341	310-330	338	310-330	321	280-300	201	320-340	343	320-340	339	X	X
	90	320-350	365	320-350	362	320-350	336	300-320	211	340-360	365	340-360	361	X	X
	95	340-360	382	340-360	379	340-360	360	320-340	224	360-380	391	360-380	387	X	X
	100	350-400	405	350-400	402	350-400	378	340-400	234	380-400	415	380-400	410	X	X

CALIBRATION TABLE FOR SOWING SEEDS ACCORD DISPENSER (APPROXIMATE VALUES AT 10 km/h) FOR THE SOWING MACHINES FALCON 6 PRO 1 DISPENSER															
SEEDS		***WHEAT***		***RYE***		***BARLEY***		***OATS***		***PEAS***		***MAIZE***		***MUSTARD***	
Vol. mass kg/dm³		*0,77*		*0,74*		*0,68*		*0,5*		*0,81*		*0,79*		*0,6*	
		kg/ha	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***
Scale for fine seeds	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	7	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	10	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	15	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SCALE (mm)	**20**	40-45	71	40-45	72	40-45	65	40-45	40	40-45	73	40-45	69	30-50	67
	25	50-60	92	50-60	92	50-60	89	50-60	58	50-60	95	50-60	91	40-60	87
	30	65-70	113	65-70	112	65-70	106	65-70	70	65-70	117	65-70	113	X	X
	35	75-80	132	75-80	132	75-80	123	75-80	81	75-80	141	75-80	137	X	X
	40	85-90	151	85-90	152	85-90	146	85-90	90	85-90	160	85-90	156	X	X
	45	95-105	175	95-105	175	95-105	163	95-105	105	95-105	181	95-105	177	X	X
	50	10-120	193	10-120	192	10-120	184	10-120	115	10-120	201	10-120	197	X	X
	55	125-140	219	125-140	219	125-140	202	125-140	127	125-140	224	125-140	220	X	X
	60	145-160	237	145-160	237	145-160	221	145-160	140	145-160	240	145-160	236	X	X
	65	165-180	262	165-180	262	165-180	242	165-180	152	165-180	263	165-180	259	X	X
	70	185-200	282	185-200	282	185-200	262	185-200	163	185-200	289	185-200	285	X	X
	75	205-220	300	205-220	299	205-220	281	205-220	177	205-220	308	205-220	304	X	X
	80	225-250	315	225-250	316	225-250	301	225-250	187	225-250	330	225-250	326	X	X
	85	260-290	340	260-290	338	260-290	321	260-290	201	260-290	343	260-290	339	X	X
	90	295-320	359	295-320	362	295-320	336	295-320	211	295-320	365	295-320	361	X	X
	95	325-340	380	325-340	379	325-340	360	325-340	224	325-340	391	325-340	387	X	X
	100	340-360	405	340-360	402	340-360	378	340-360	234	340-360	415	340-360	410	X	X

CALIBRATION TABLE FOR SOWING SEEDS ACCORD DISPENSER (APPROXIMATE VALUES AT 10 km/h) FOR THE SOWING MACHINES FALCON 8 PRO 1 DISPENSER															
SEEDS		***WHEAT***		***RYE***		***BARLEY***		***OATS***		***PEAS***		***MAIZE***		***MUSTARD***	
Vol. mass kg/dm³		*0,77*		*0,74*		*0,68*		*0,5*		*0,81*		*0,79*		*0,6*	
		kg/ha	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***
Scale for fine seeds	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	7	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	10	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	15	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SCALE (mm)	20	40-45	71	40-45	72	40-45	65	40-45	40	40-45	73	40-45	69	30-50	X
	25	50-60	92	50-60	92	50-60	89	50-60	58	50-60	95	50-60	91	40-60	X
	30	65-70	113	65-70	112	65-70	106	65-70	70	65-70	117	65-70	113	X	X
	35	75-80	132	75-80	132	75-80	123	75-80	81	75-80	141	75-80	137	X	X
	40	85-90	151	85-90	152	85-90	146	85-90	90	85-90	160	85-90	156	X	X
	45	95-105	175	95-105	175	95-105	163	95-105	105	95-105	181	95-105	177	X	X
	50	10-120	193	10-120	192	10-120	184	10-120	115	10-120	201	10-120	197	X	X
	55	125-140	219	125-140	219	125-140	202	125-140	127	125-140	224	125-140	220	X	X
	60	145-160	237	145-160	237	145-160	221	145-160	140	145-160	240	145-160	236	X	X
	65	165-180	262	165-180	262	165-180	242	165-180	152	165-180	263	165-180	259	X	X
	70	185-200	282	185-200	282	185-200	262	185-200	163	185-200	289	185-200	285	X	X
	75	205-220	300	205-220	299	205-220	281	205-220	177	205-220	308	205-220	304	X	X
	80	225-250	315	225-250	316	225-250	301	225-250	187	225-250	330	225-250	326	X	X
	85	260-290	340	260-290	338	260-290	321	260-290	201	260-290	343	260-290	339	X	X
	90	295-320	359	295-320	362	295-320	336	295-320	211	295-320	365	295-320	361	X	X
	95	325-340	380	325-340	379	325-340	360	325-340	224	325-340	391	325-340	387	X	X
	100	340-360	405	340-360	402	340-360	378	340-360	234	340-360	415	340-360	410	X	X

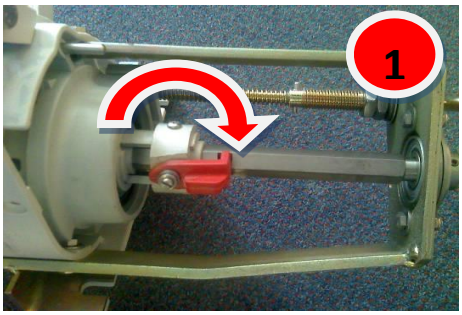
CALIBRATION TABLE FOR SOWING SEEDS ACCORD DISPENSER (APPROXIMATE VALUES AT 10 km/h) FOR THE SOWING MACHINES FALCON 9 PRO 1 DISPENSER															
SEEDS		***WHEAT***		***RYE***		***BARLEY***		***OATS***		***PEAS***		***MAIZE***		***MUSTARD***	
Vol. mass kg/dm³		*0,77*		*0,74*		*0,68*		*0,5*		*0,81*		*0,79*		*0,6*	
		kg/ha	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***
Scale for fine seeds	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	7	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	10	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	12	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	15	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SCALE (mm)	20	40-45	71	40-45	72	40-45	65	40-45	40	40-45	73	40-45	69	30-50	X
	25	50-60	92	50-60	92	50-60	89	50-60	58	50-60	95	50-60	91	40-60	X
	30	65-70	113	65-70	112	65-70	106	65-70	70	65-70	117	65-70	113	X	X
	35	75-80	132	75-80	132	75-80	123	75-80	81	75-80	141	75-80	137	X	X
	40	85-90	151	85-90	152	85-90	146	85-90	90	85-90	160	85-90	156	X	X
	45	95-105	175	95-105	175	95-105	163	95-105	105	95-105	181	95-105	177	X	X
	50	10-120	193	10-120	192	10-120	184	10-120	115	10-120	201	10-120	197	X	X
	55	125-140	219	125-140	219	125-140	202	125-140	127	125-140	224	125-140	220	X	X
	60	145-160	237	145-160	237	145-160	221	145-160	140	145-160	240	145-160	236	X	X
	65	165-180	262	165-180	262	165-180	242	165-180	152	165-180	263	165-180	259	X	X
	70	185-200	282	185-200	282	185-200	262	185-200	163	185-200	289	185-200	285	X	X
	75	205-220	300	205-220	299	205-220	281	205-220	177	205-220	308	205-220	304	X	X
	80	225-250	315	225-250	316	225-250	301	225-250	187	225-250	330	225-250	326	X	X
	85	260-290	340	260-290	338	260-290	321	260-290	201	260-290	343	260-290	339	X	X
	90	295-320	359	295-320	362	295-320	336	295-320	211	295-320	365	295-320	361	X	X
	95	325-340	380	325-340	379	325-340	360	325-340	224	325-340	391	325-340	387	X	X
	100	340-360	405	340-360	402	340-360	378	340-360	234	340-360	415	340-360	410	X	X

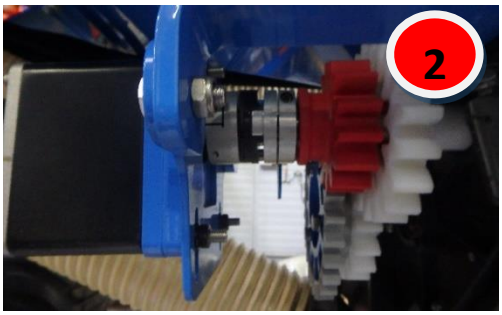
CALIBRATION TABLE FOR FINE SEEDS (APPROXIMATE VALUES AT 10 km/h) FOR THE SOWING MACHINES FALCON PRO 1 DISPENSER											
SEEDS		**RAPE**		**ROTKLLE**		**GRASS**		**PHACELIA**		**POPPY**	
Vol. mass kg/dm³		0,65		0,8		0,36		0,22		0,4	
		kg/ha	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***	***kg/ha***	***g/ot***
SCALE (mm)	4	X	X	X	X	X	X	X	X	0,5 – 1,5	2
	5	1,5 - 2	2	5	3	X	X	X	X	1,5 - 2	3
	6	2,5	3	6	4	X	X	X	X	2	4
	7	3	3	7	5	X	X	X	X	2,5 - 3	5
	8	3,5	4	9	6	X	X	X	X	X	X
	9	4	4	12	7	4	4	X	X	X	X
	10	4,5	5	15	9	6	5	5	5	X	X
	11	5	5	20	11	7	6	6	5	X	X
	12	5,5	6	22	13	10	7	7	6	X	X
	13	6	6	25	15	14	8	8	7	X	X
	15	X	X	X	X	X	X	10	7	X	X
	17	X	X	X	X	X	X	11-15	8	X	X
	20	X	X	X	X	X	X	16-20	10	X	X

Attention!!!

When sowing fine seeds, use the fine roller (micro sowing) and pull out the red wheel.

Picture 34 – Setting the feeder

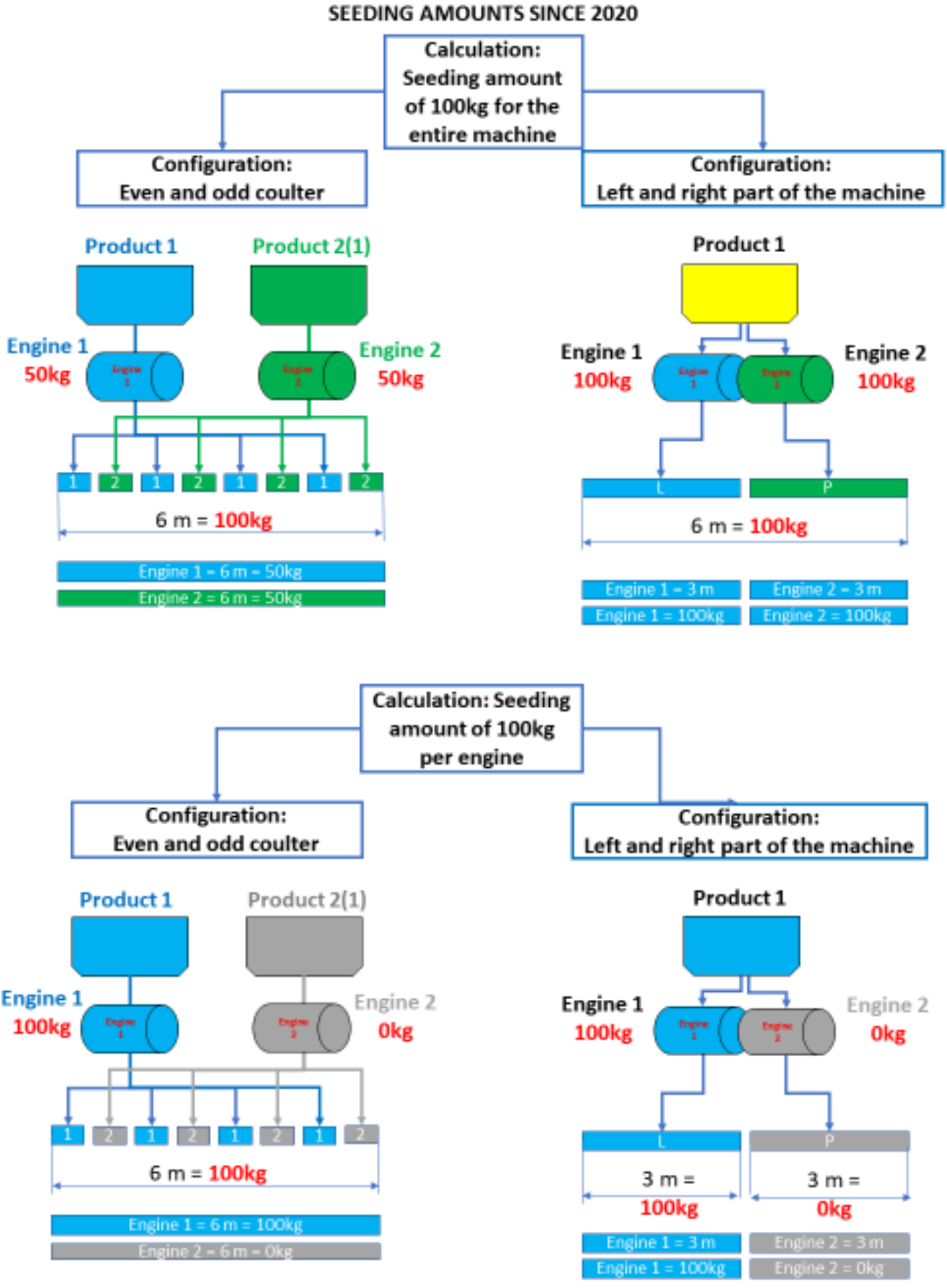




Farmet Dispenser - Roller replacement system

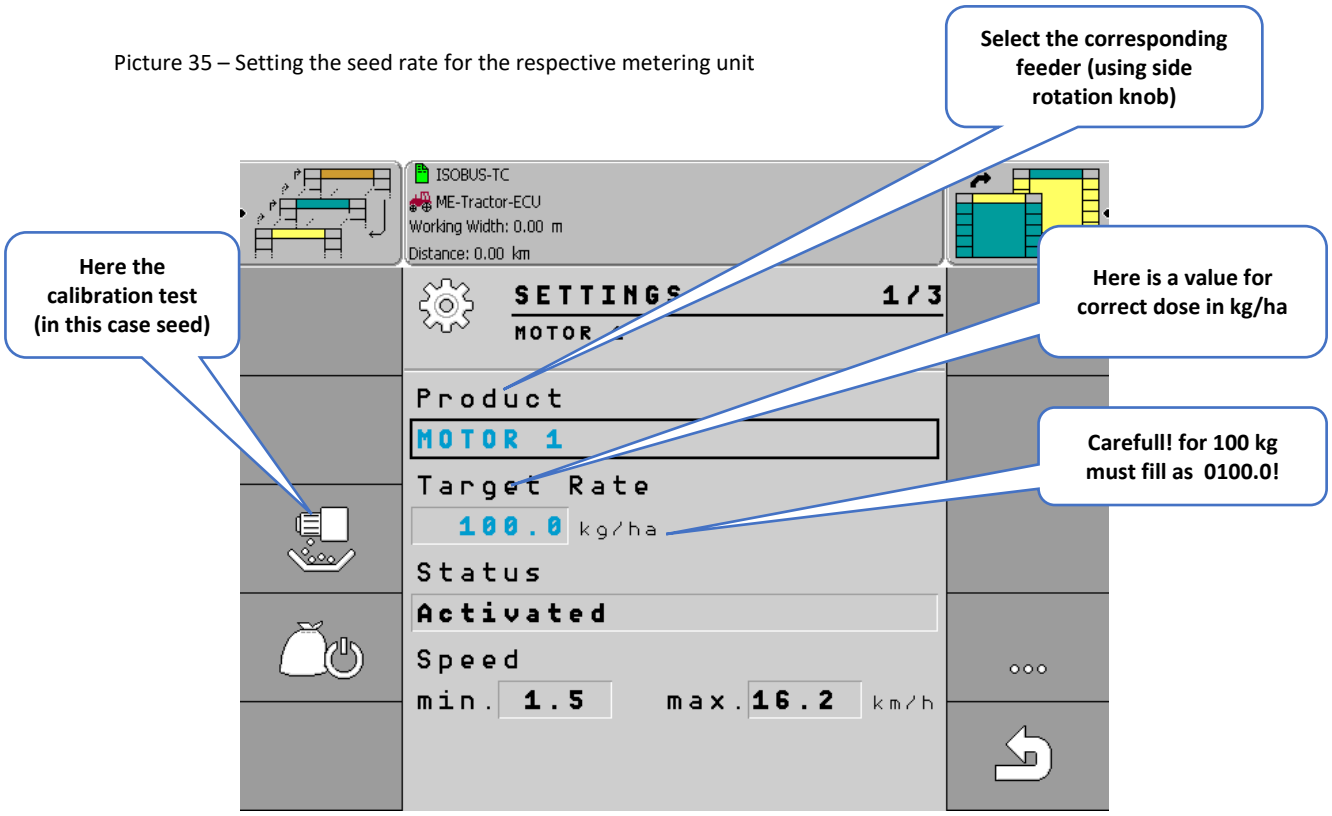
		Working width		3 m		4 m		6 m		8 m		9 m		Crop
		Number of dispensers		1	2	1	2	1	2	1	2	1	2	
V3,5		5 - 15 km/h	kg/ha min	0,9	1,8	0,7	1,4	0,5	0,9	0,3	0,7	0,3	0,6	Rape, mustard, grass seed, etc.
		5 - 15 km/h	kg/ha max	3,6	7,2	2,7	5,4	1,8	3,6	1,4	2,7	1,2	2,4	
V7		5 - 15 km/h	kg/ha min	1,8	3,6	1,4	2,7	0,9	1,8	0,7	1,4	0,6	1,2	Rape, mustard, grass seed, etc.
		5 - 15 km/h	kg/ha max	7,2	14,4	5,4	10,8	3,6	7,2	2,7	5,4	2,4	4,8	
V20		5 - 15 km/h	kg/ha min	6	12	4,5	9	3	6	2,3	4,5	2	4	Maize
		5 - 15 km/h	kg/ha max	24	48	18	36	12	24	9	18	8	16	
V40		5 - 15 km/h	kg/ha min	13	26	10	20	7	13	5	10	4	9	Grain, maize, spelt husked
		5 - 15 km/h	kg/ha max	50	100	38	75	25	50	19	38	17	33	
V100		5 - 15 km/h	kg/ha min	30	60	23	45	15	30	11	23	10	20	Grain, maize, spelt husked
		5 - 15 km/h	kg/ha max	120	240	90	180	60	120	45	90	40	80	
V250		5 - 15 km/h	kg/ha min	75	150	56	113	38	75	28	56	25	50	Grain, maize, peas, beans, soy, spelt, sunflowers
		5 - 15 km/h	kg/ha max	300	600	225	450	150	300	113	225	100	200	
V500		5 - 15 km/h	kg/ha min	150	300	113	225	75	150	56	113	50	100	Grain, maize, soy, spelt not husked, sunflowers, peas, beans
		5 - 15 km/h	kg/ha max	600	1200	450	900	300	600	225	450	200	400	

- **The second step is to set the sowing dose in the electronic system:**



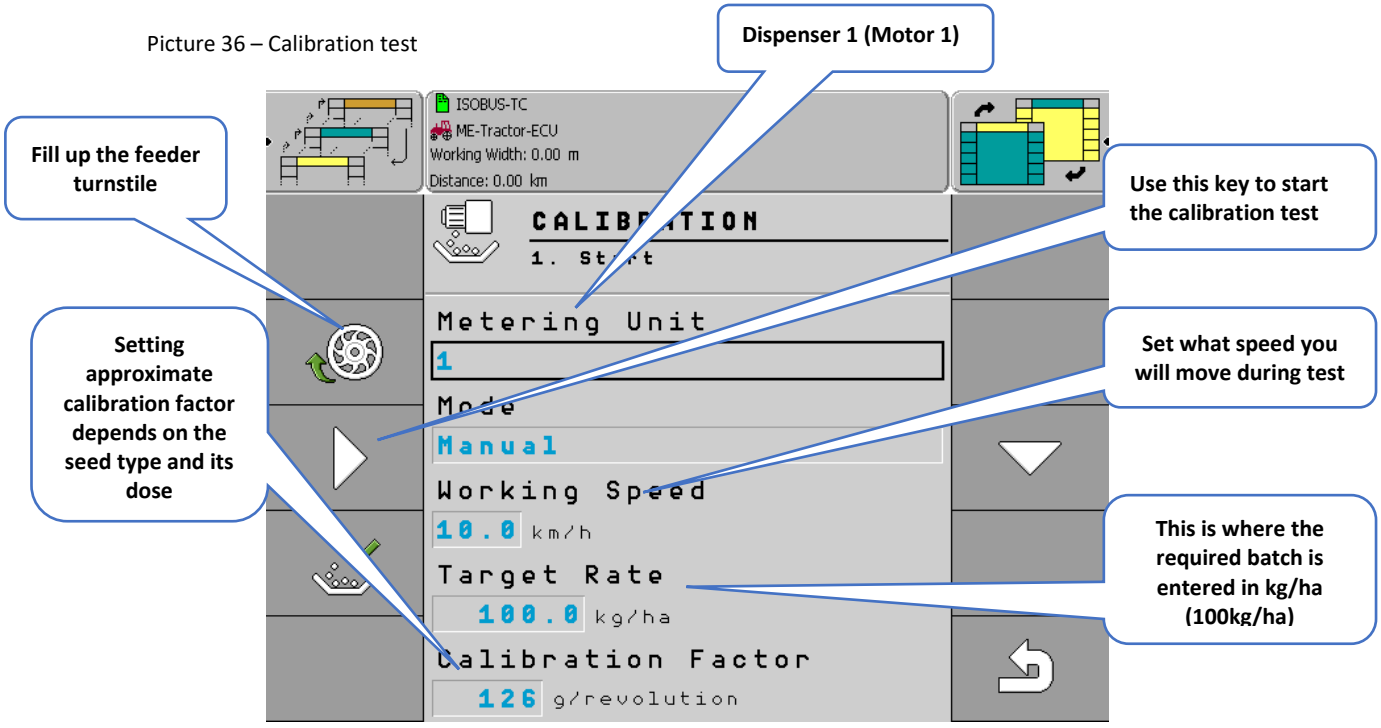
In the case of two metering units (one for odd coulters, one for even coulters), we must enter do the total sowing rate in the display unit ½ for each metering unit. Example: the required rate is 200 kg / ha - **the required rate on both engine 1 and 2 must be set at 100 kg / ha. In case of sowing two different crops, enter the required sowing rate for each crop for each metering unit. In case of sowing with only one metering unit, enter the required sowing rate for one metering unit and enter 0 kg / ha for the other.**

Picture 35 – Setting the seed rate for the respective metering unit



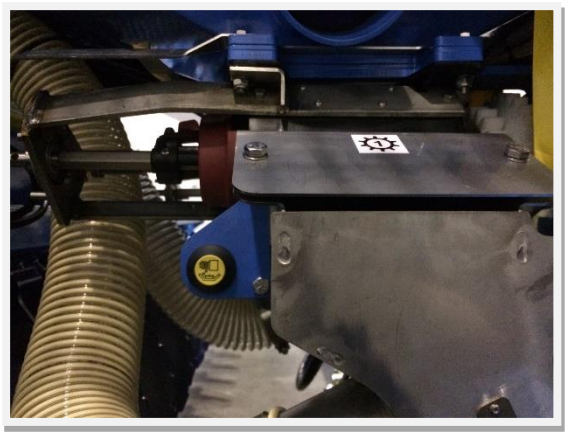
- **Third step is the calibration step:**

Picture 36 – Calibration test



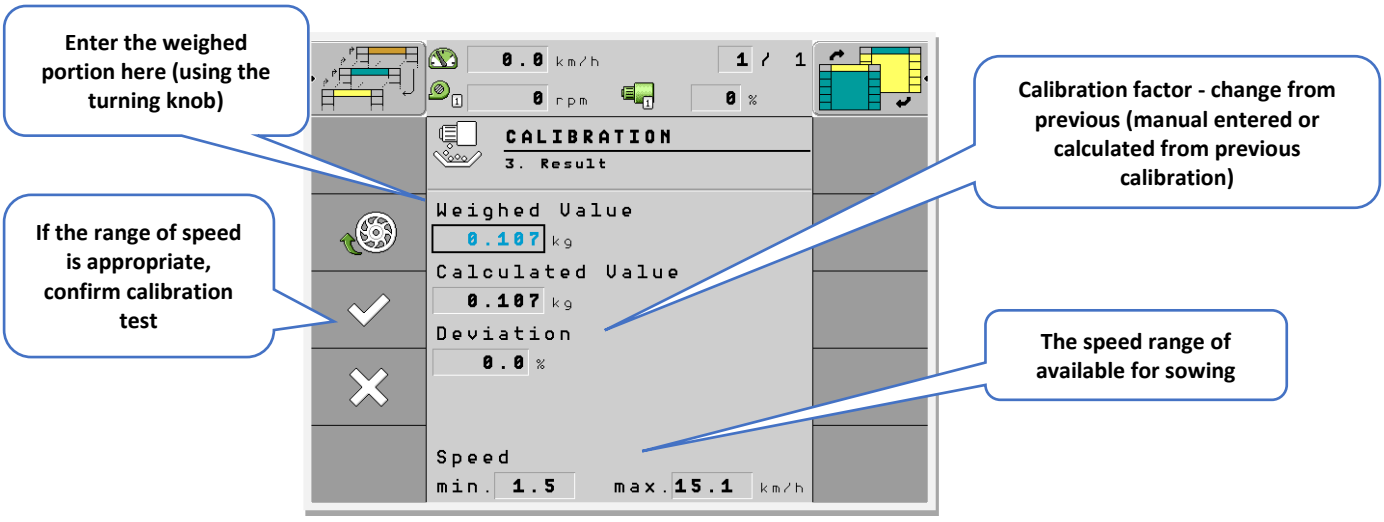
Procedure – Plug the hole through the stopper, place a bag under the sowing device, which we consider before, which prevents the seed from falling into the pipeline. After these operations, press the button to start filling the bag with seed.

Picture 37 – Filing bag



- **The fourth step is to weigh the seed bag and enter the net seed weight into the display unit.**

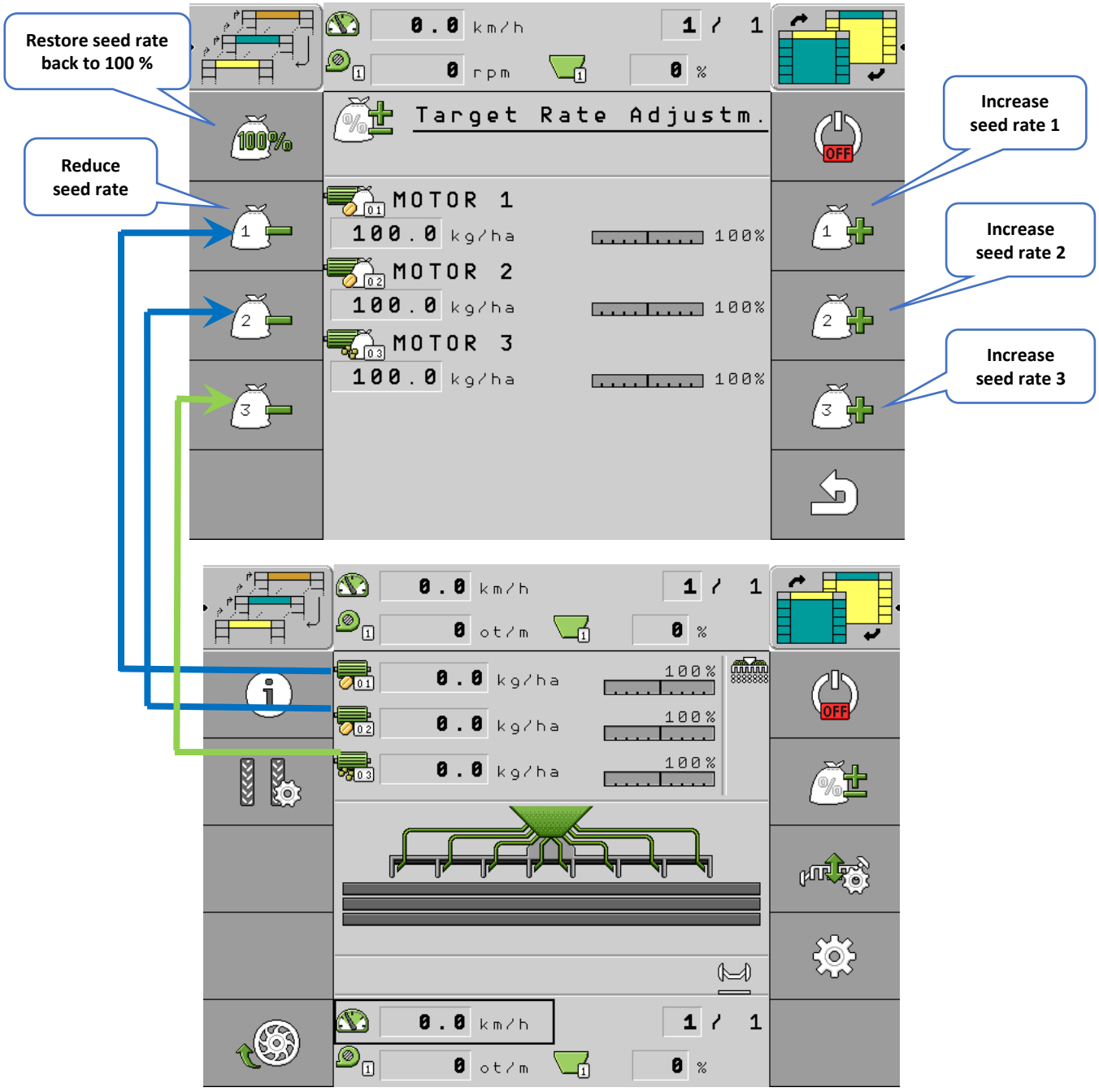
Picture 38 – Entering the weighed value



⚠ **The whole process will be carried out for the second metering unit as well as for fertilization**

- Sow rate correction - during sowing, the sow rate can be changed as shown in figure 39. The sow rate is changed in 10% step, but this setting can be changed in the user setting on the second side of the (CUSTOMIZE) setting.

Picture 39 – Adjustment of seed rate

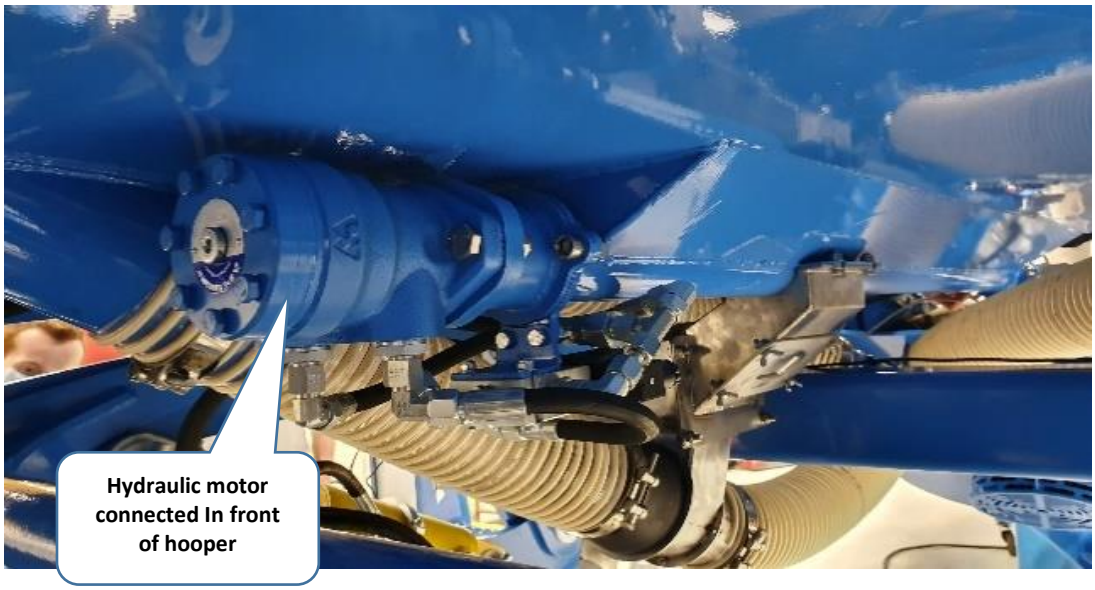


The display unit then adjusts the dosage to the newly determined seed rate.

12.1. SCREW DISPECER FOR SIDE DRESSING

1) Black hydraulic circuit.
2) The hose marked with two strips is always a pressure hose.
3) The screw dispenser does not have an adjustable turnstile - doses are regulated by the screw rotation.
4) Ideal hydraulic oil flow rate: 10-15 l/min.

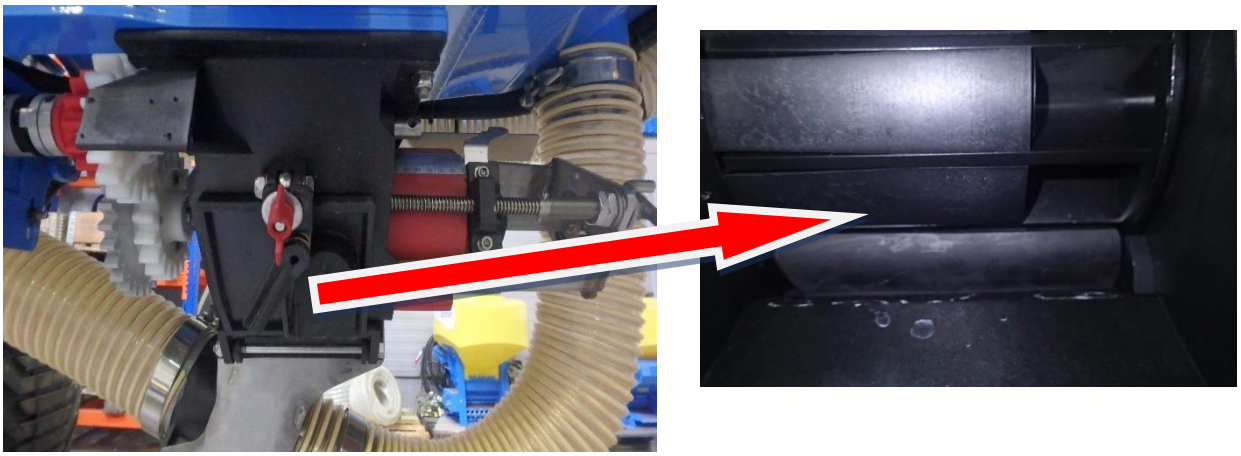
Picture 40 – Rotational direction of the fertilizer dispenser



12.2. SETTING THE FINE SEEDS SOWING

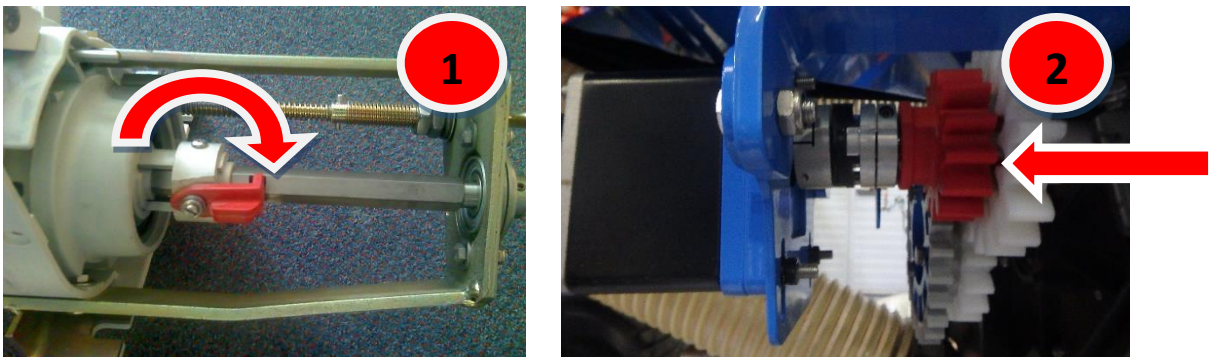
The minimum setting of the turnstile for fine seeds is 5 mm. Lower setting may cause inaccuracies in seed feeding. Poppy seeds are an exception as due to the very small size of the seeds and the seed rate the turnstile can be opened to 4 mm.

Before filling the seed into the hopper, it is very important to check the purity of the turnstile and the dosing planer on the dosing roller.



For fine seeds, set the setting roller to position **0** – the container must be cleaned and closed beforehand and the seeding mechanism must be empty. Place the closing valve on the body of the feeder into the cut on the hexagon shaft. This way the roller of the feeder can move only within the range from 0 to 25 mm.

Picture 41 – Setting of the micro-sowing



13. SETTING VENTILATOR SPEED ACCORDING TO SEEDS

SMALL FAN

For machines without fertilization

Crop	Revolution of fan (rev/min)
Cereals	4000 - 5500
Legumes	4000 - 5500
Corn	4000 - 5500
Rapessed	2500 - 2700
Clover	3000 - 3500
Grass	3000 - 3500

For fertilizing machines

Crop	Revolution of fan (rev/min)
Cereals	5000 - 5700
Legumes	5000 - 5700
Corn	5000 - 5700
Rapessed	5000 - 5700
Clover	5000 - 5700
Grass	5000 - 5700

BIG FAN

For machines without fertilization

Crop	Revolution of fan (rev/min)
Cereals	1500 - 2000
Legumes	1500 - 2500
Corn	1500 - 2500
Rapessed	1000 - 1500
Clover	1500 - 2000
Grass	1000 - 1500

For fertilizing machines

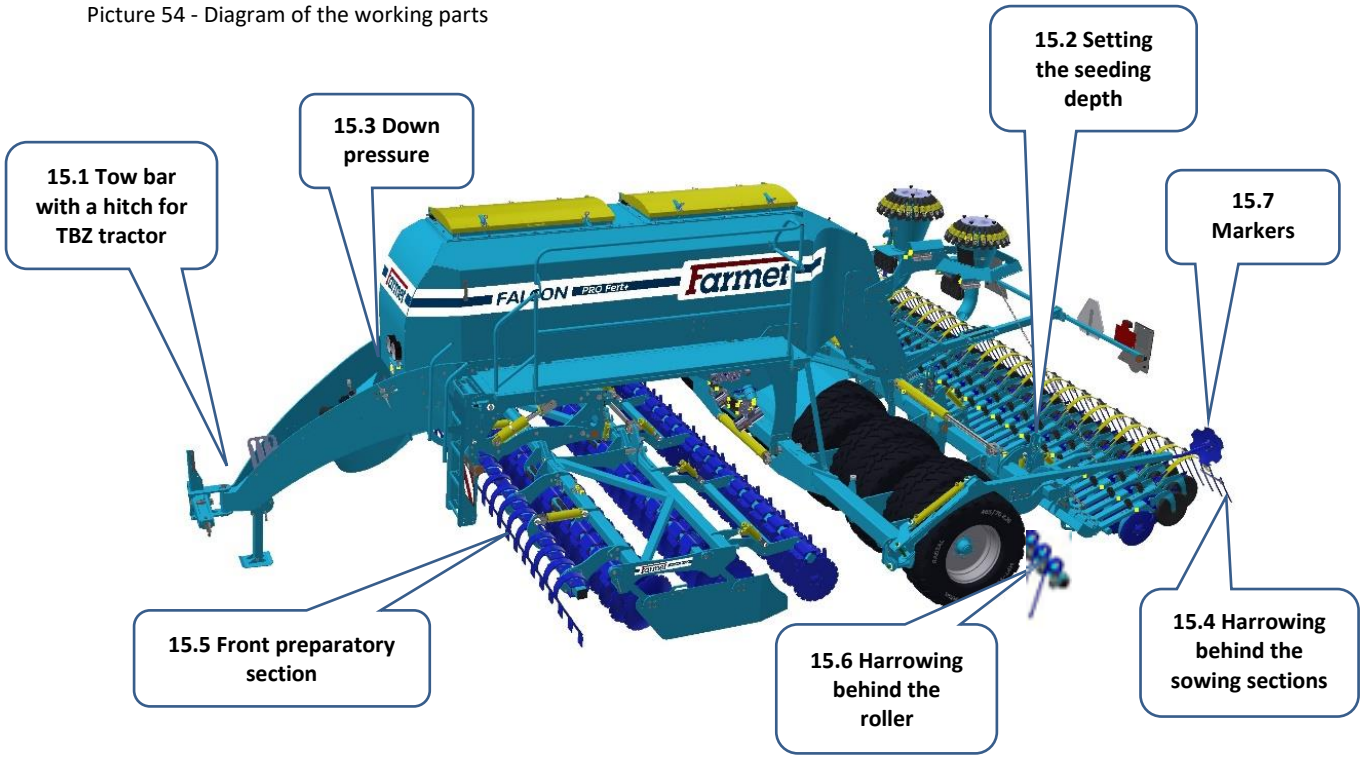
Crop	Revolution of fan (rev/min)
Cereals	2000 - 3000
Legumes	2000 - 3000
Corn	2000 - 3000
Rapessed	2000 - 3000
Clover	2000 - 3000
Grass	2000 - 3000

The values stated above are for information only.

!!! When the ventilator speed is insufficient, the seeding amount decreases, the air system gets clogged or seeds start falling out from the mixing ejector of the seeding mechanism!!!

14. ADJUSTMENT OF THE WORKING PARTS OF THE MACHINE

Picture 54 - Diagram of the working parts



15. ADJUSTING THE MACHINE WORK DEPTH

15.1 Setting TPS arms of the tractor
15.2 Setting the depth of sowing
15.3 Setting the down pressure on sowing bodies
15.4 Adjusting the levelling after the sowing bodies
15.5 Adjusting the working depth of the front preparatory section
15.6 Adjusting the levelling
15.7 Setting the markers

Tab. 9 - Sowing depths

Table of approximate sowing depths of ***FALCON*** *	
Setting the depth	**Approximate depth (mm) ***
1	10
2	20
3	30
4	40
5	50
6	60
7	70
8	80
9	90

Table of recommended sowing depths of selected farming products	
Farming product	**Recommended sowing depth (mm)**
WHEAT	30 - 50
RYE	30 - 50
BARLEY	30 - 50
OATS	30 - 50
BEANS	30 - 60
PEAS	30 - 60
LUPINE	30 - 60
VETCH	30 - 60
MAIZE	30 - 60
SWEDE	20 - 30
LUCERNE	10 - 20
GRAMINOIDS	10 - 20

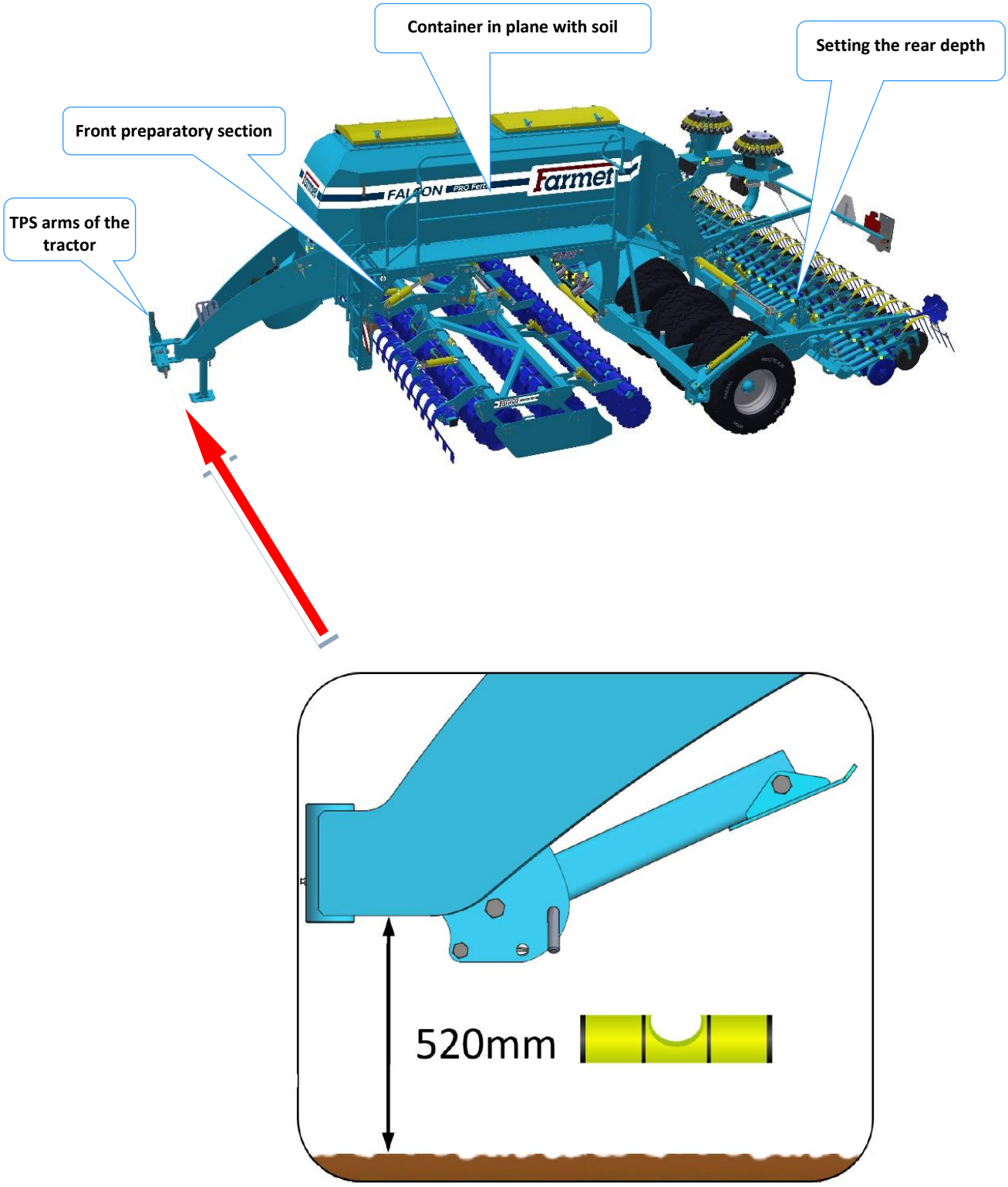
*** The number of the set working depth is for information only and it may be influenced by the soil structure and properties. The depth should always be tested on the actual field before sowing and the actual depth of depositing seeds in the soil has to be checked!!!**

There is a threat of imbalance and irregularities of growth when the sowing depth is not sufficient and there is subsequent drought!!!
The use of trail cultivators is recommended to eliminate compaction in the place of the tractor wheel tracks.

15.1 ADJUSTING THE MACHINE BY TPS ARMS OF THE TRACTOR

Set the machine so that it is on the same level as the ground with the use of TPS arms of the tractor. This will ensure the same depth of soil processing in the front and rear of the machine.

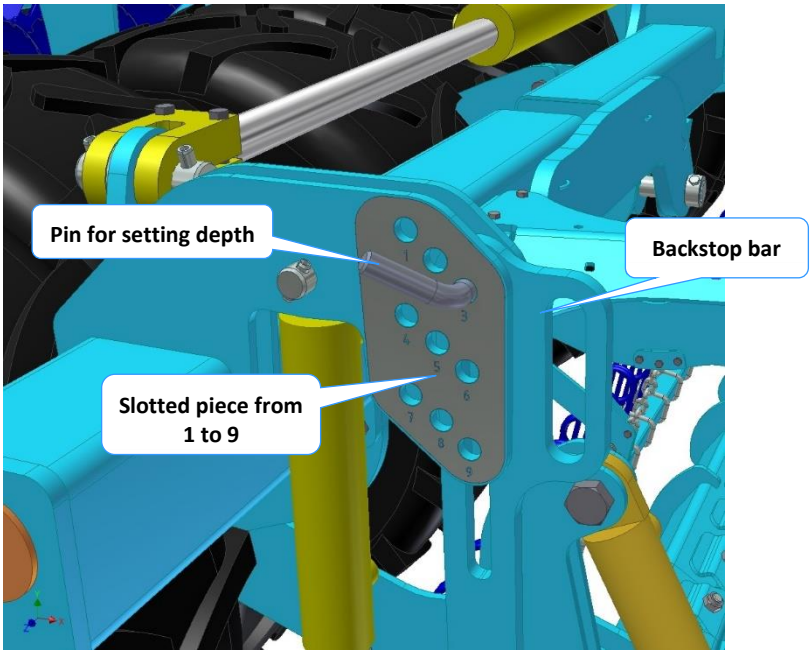
Picture 55 - TPS adjustment



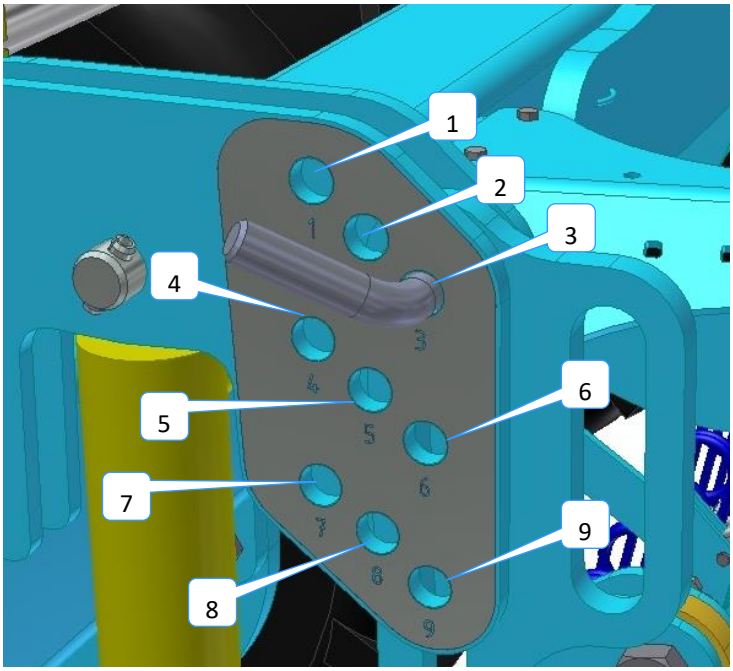
15.2 SETTING THE SOWING DEPTH

The sowing depth is set using a pin adjusted in the holes of the adjusting slotted piece. Each opening corresponds with a particular sowing depth. This only applies when the machine is on flat ground.

Picture 56 – Slotted piece of the setting depth



Picture 57 - Openings in the slotted piece



15.3 SETTING THE DOWN PRESSURE OF THE SOWING BODIES

The required down-pressure of the sowing bodies is set using the hydraulic pressure in the tractor. The circuit is equipped with a ball valve (marked green) in case of a loss of pressure due to the leakage of the hydraulics in the tractor. When you set the required pressure, the pressure will not decrease once the valve is closed.

The following parameters must be adjusted for correct setting:

1. Required sowing depth
2. Soil conditions
3. Pressure extent

The parameters above may only be set correctly in the field and tested directly under the given soil conditions. The operating staff **must** always consider the soil conditions! It is not possible to set maximum pressure in loose and soft soil conditions. On the other hand, it is not appropriate to set minimum pressure in hard and heavy soil conditions as the coulters would not cut into the soil.

When the drill coulter pressure is too high and the soil conditions have not been estimated properly, the following may occur:
The compacting wheel of the drill coulter is forced too deep into the ground, lifting the compacting pneumatic roller, resulting in drill coulters not inserted in the ground. This leads to failure in reaching the required depth of sowing, wrong turning of the drill coulters and incorrect compaction of the soil before the drill coulters, or to their complete stopping in the worst case. This may lead to errors in placing seed clusters in the soil.

Picture 58 – Location of the sowing body pressure gauge

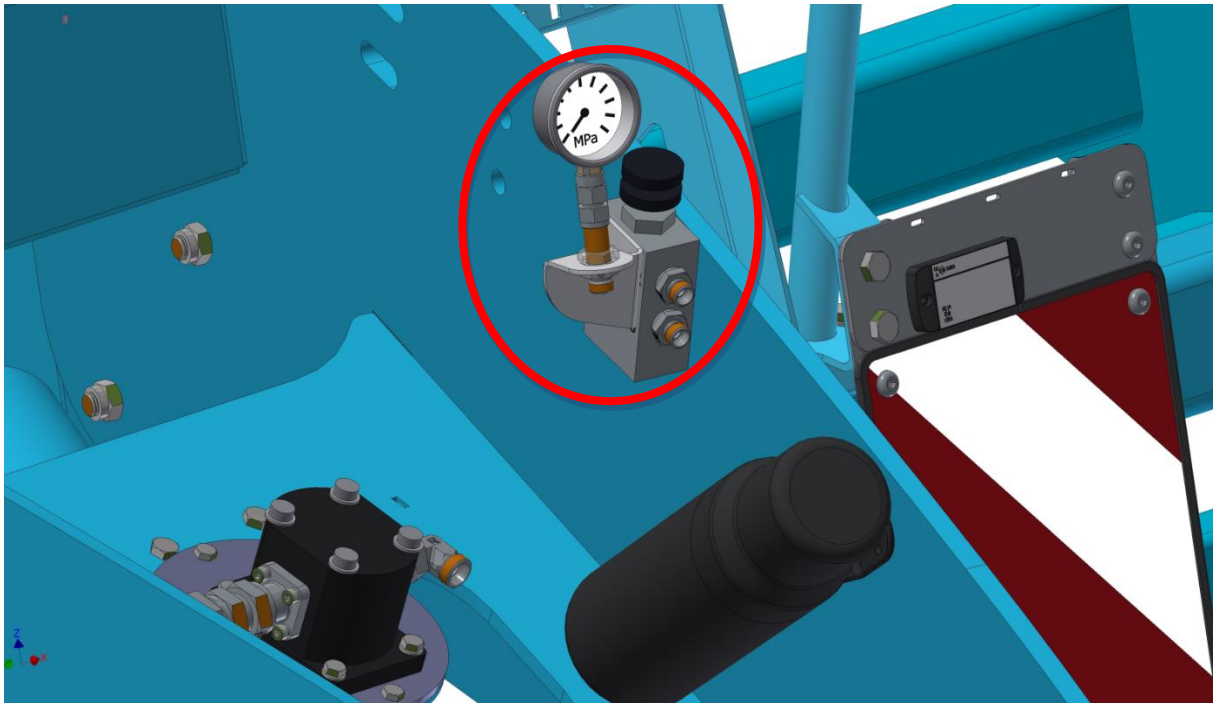
Approximate down-pressure of the sowing bodies of FALCON *	
Pressure gauge	**Pressure gauge**
20	**20**
50	**50**
100	**70**
150	**115**

Correct procedure for setting pressure and sowing depth:

1. Set the required sowing depth.
2. Decrease the pressure of drill coulters to minimum.
3. Unfold the machine into the working position and travel a few meters.
4. Check the required sowing depth.
5. Keep pushing the section down.
6. Turn the reducing valve to the right = the pressure will increase.
7. When the setting is finished, lock the valve.
8. To reduce the down pressure, lift the working section and release the reducing valve.
9. Lower the section down = the pressure is reduced

If you cannot reach the required values, repeat the procedure with the following higher depth of sowing.

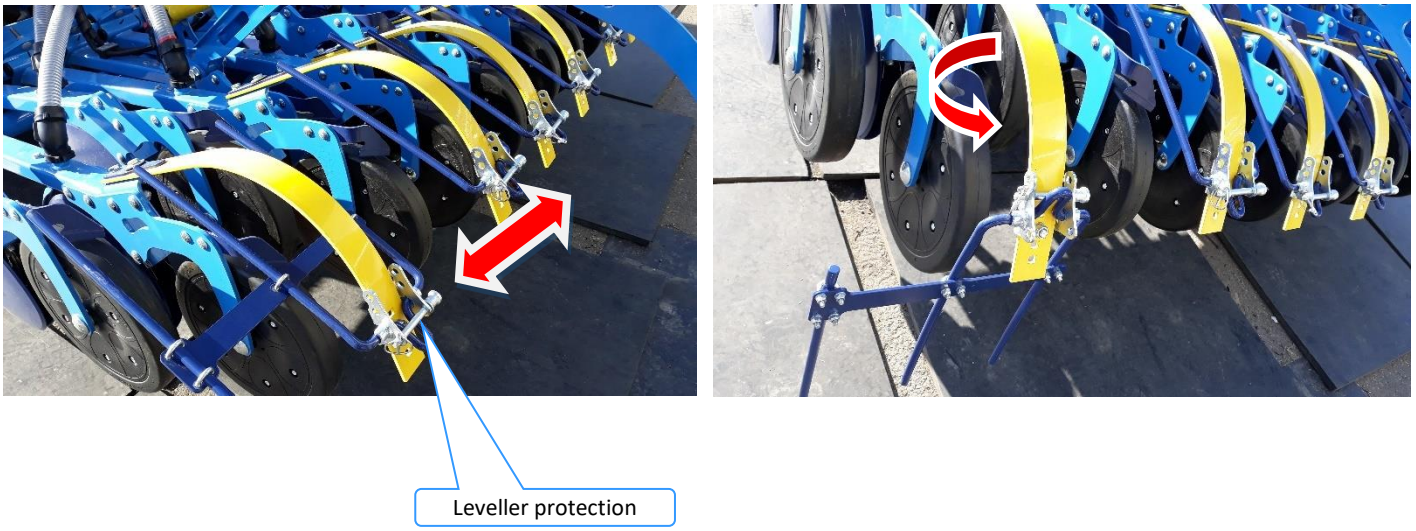
The optimal pressure setting is between **20 to 60 bar** with regard to the current soil conditions.



15.4 SETTING THE LEVELLER BEHIND THE SEED BOOTS

The depth and angle are both set in one step. By changing the angle you will achieve lower catchment of plant residues. At the same time, the depth of processing and the down-pressure will decrease.

Picture 59 – Setting of the leveller

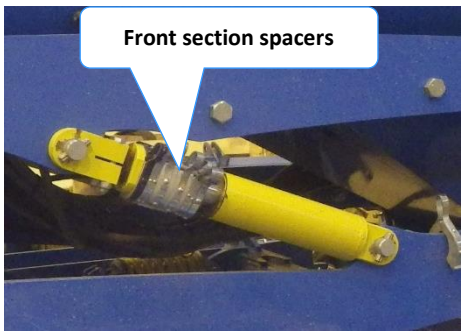


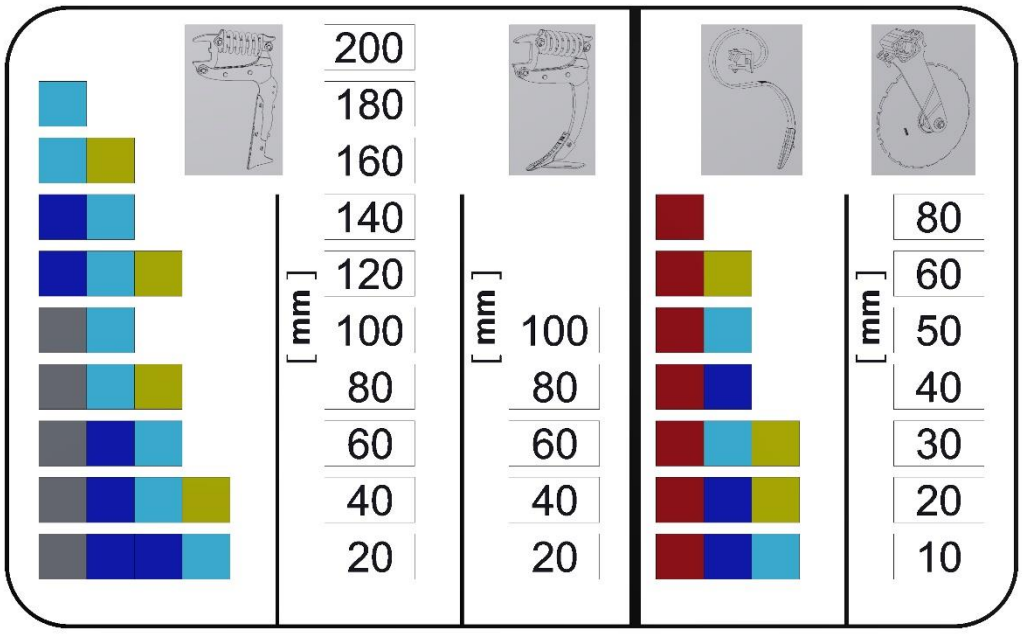
15.5 ADJUSTING THE WORKING DEPTH OF THE FRONT SECTION

The working depth of the front preparatory section is set using spacers on the piston-rod for lifting that are placed on the piston rod. The depth always corresponds to the combination of the individual spacers, see Table and the sticker on the machine.

It is important that the working depth of the front section never exceeds the required sowing depth for ideal operation of the machine.

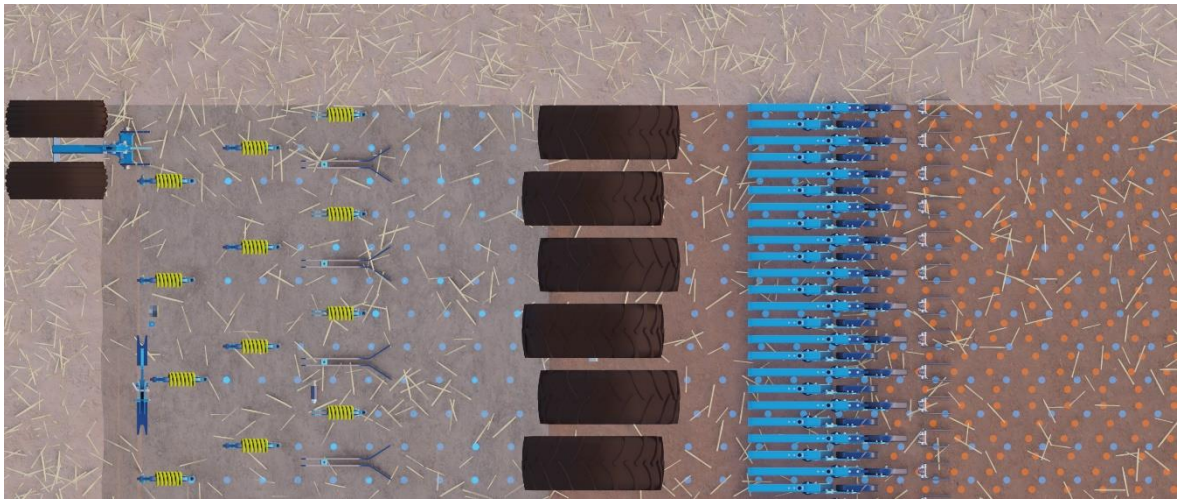
Picture 60 – Setting the depth of the front section

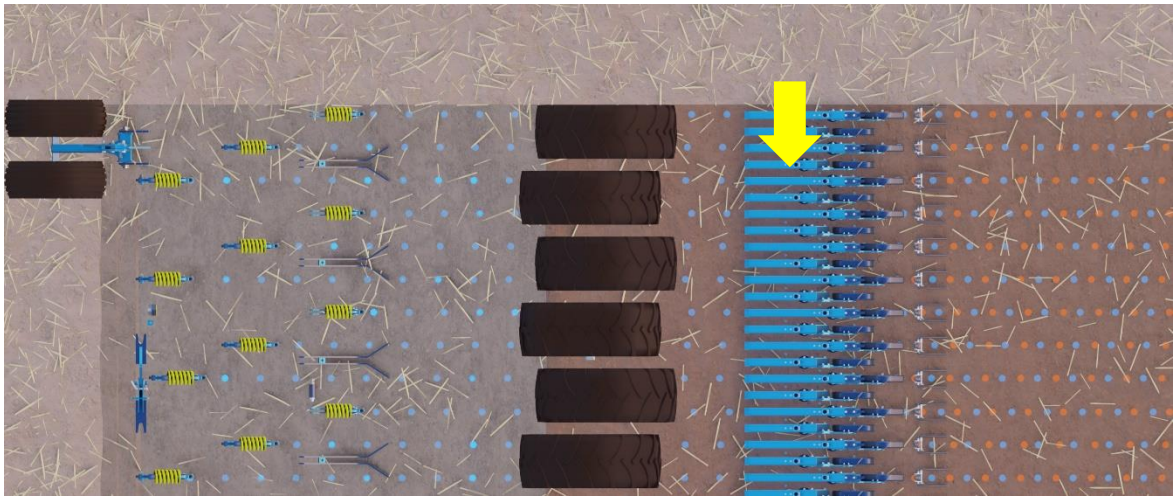


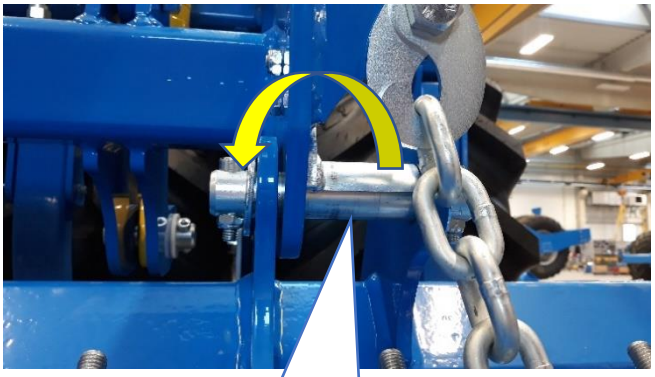


Shift of seed disc units

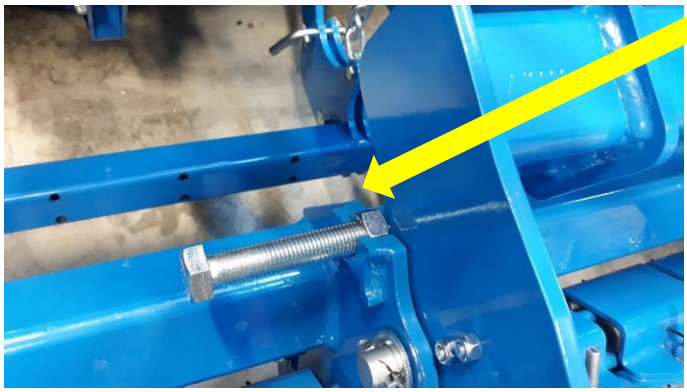
The possibility of shifting the sowing units to the same pitch of the fertilizer section (sowing every second sowing coulter, the seed is laid in the same line as the fertilizer)







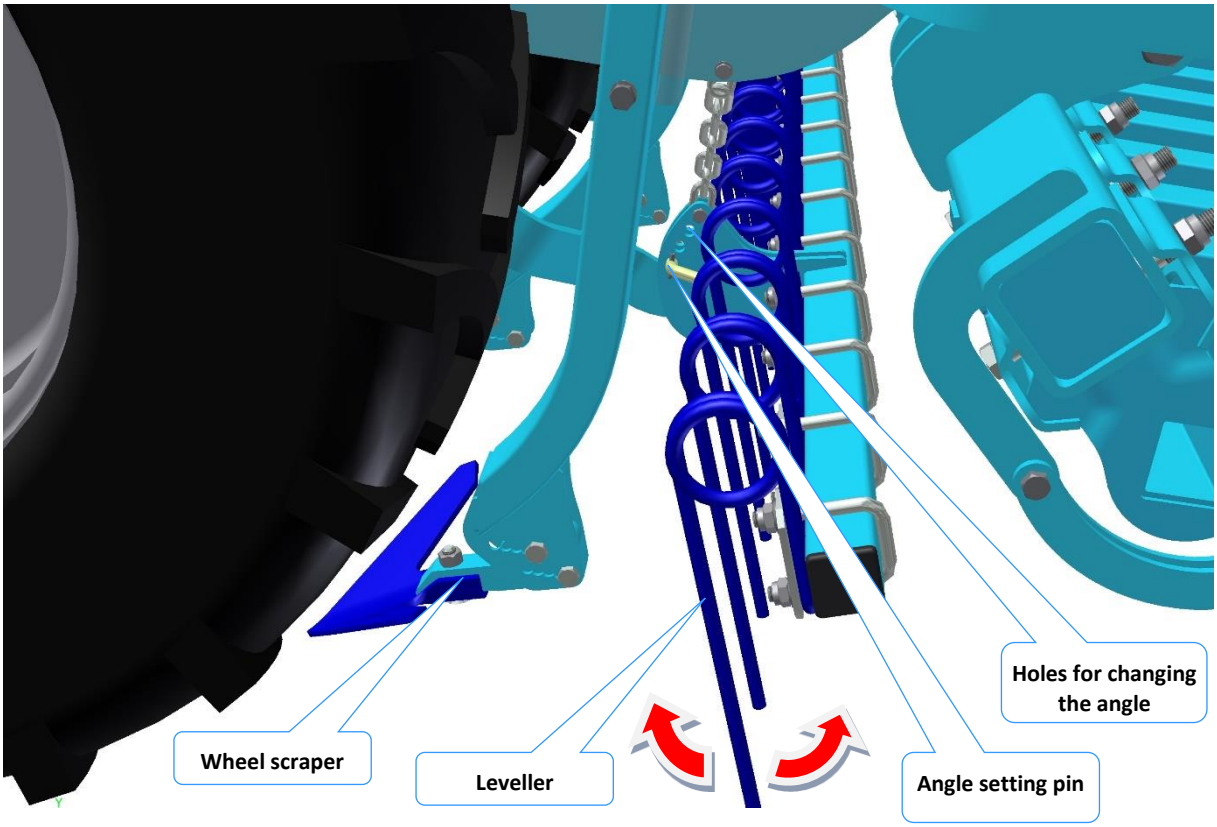
Remove the spacer sleeve, transfer the seeding units using the screw, place the spacing sleeve on the other side of the brace



15.6 ADJUSTING OF THE LEVELLING

Levelling behind the pneumatic furrow press allows adjusting the angle and its purpose is to clean the groove where seeds are placed subsequently. The height cannot be adjusted and the leveller only works using its own weight and it is automatically lifted together with the drill coulters. The angle is set using a pin that is adjusted in the holes of the slotted piece. If there are few post-harvest residues in the field, set the leveller in a perpendicular position. On the other hand, if there are a lot of post-harvest residues, e.g. after corn, the leveller must be laid to prevent clogging.

Picture 61 - Adjustment of levelling



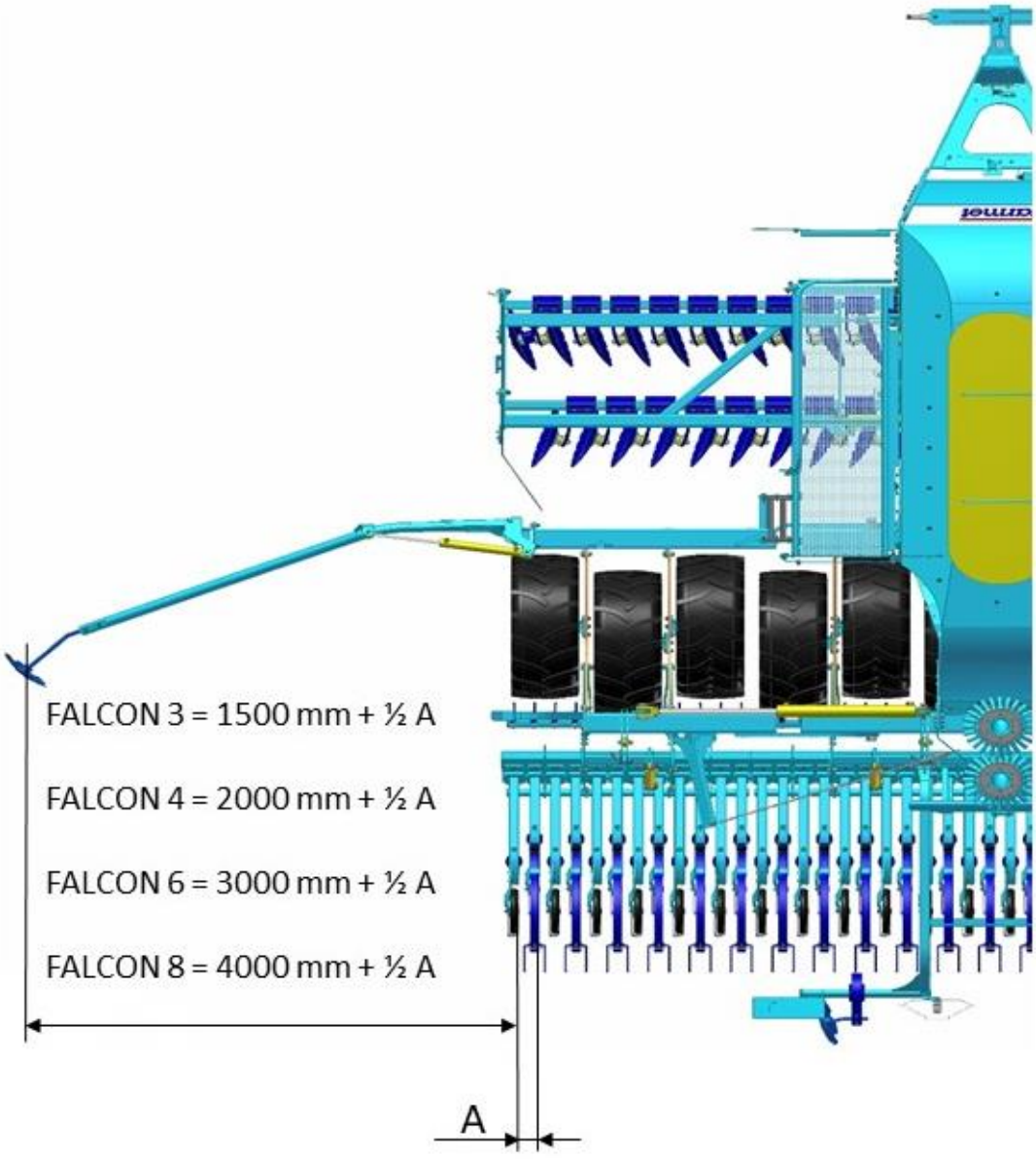
15.7 SETTING OF THE MARKERS

The markers can only be adjusted to the centre of the tractor; they trace the terrain and each marker can be controlled separately and they are hydraulically collapsible. The speed of opening a marker is regulated by choke valves. One rule applies that you should always choke the flow of oil returning from the piston-rods of the markers. That means that the valve on the oil tube returning from the marker piston-rod is throttled (regulated). Set the choke valves as needed and observe all instructions of safety at work.

The guarantee will not be accepted if there has been an unauthorized intervention in the system. In case of any defects in the system, contact the Service Department of the production plant.

The distance of the marker disk coverage is always from the centre of the outermost disc body. Always test in practice on the field.

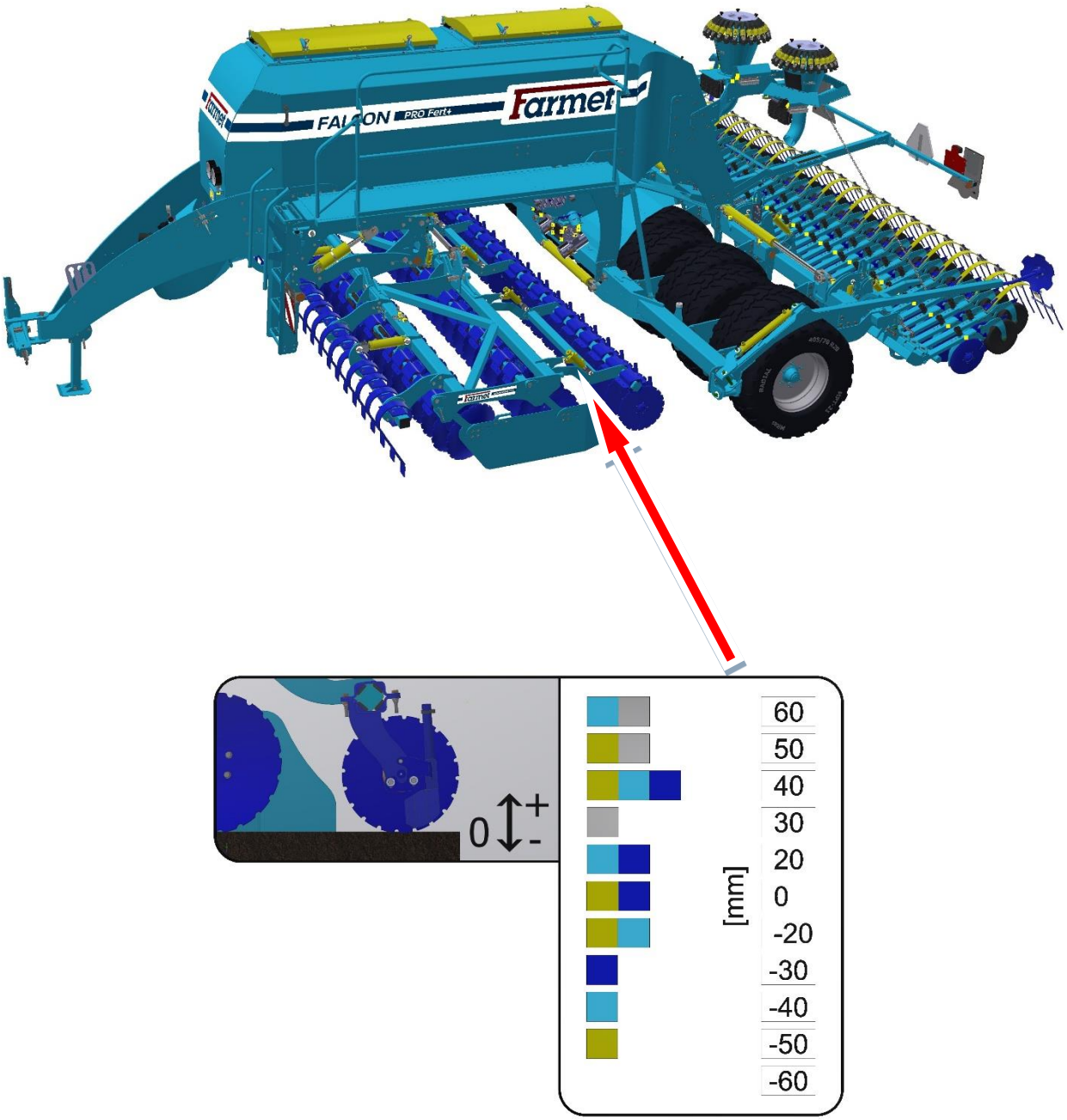
Picture 62 - Setting of the markers



15.8 SETTING OF THE DEEP FERTILIZING DISC

Depth of the fertilizer discs is adjusted to the hydroclips according to the sticker on the machine.

Picture 63 - Setting deep of fertilizing



16. ERRORS

SEED SENSORS

00 00 = no error (sensor number)

00 01 = Disconnected cable (number sensor is the last known good sensor)

00 09 = Sensor reset (sensor n / a)

Compatibility

The terminal can be incompatible with the job computer for the following reasons:

ID	Meaning
018	Undefined error occurred.
019	There is not enough available storage on the terminal.
020	The resolution of the width for function icons is too low (less than 60 pixels).
021	The resolution of the high for function icons is too low (less than 32 pixels).

ID	Meaning
022	The number of physical or virtual function icons is too low (less than 8).
023	The terminal does not support the color depth of 256 colors.
024/025	The resolution of the terminal for screens is too low (less than 200 pixels).
026	Input and output configuration seems to be wrong.

ISO alarms

ID	Alarm text	Possible cause	Possible solution
001	System has been stopped. Reboot required.	The connection to a slave job computer has been interrupted. A download manager has been activated.	Restart the job computer.
002	Configuration has been changed. The job computer is rebooting.	The configuration has been changed.	Wait until the job computer has rebooted.
003	Input is too high.	The entered value is too high.	Enter a lower value.
004	Input is too low.	The entered value is too low.	Enter a higher value.
005	Error with the reading or writing of data to the flash memory or EEPROM.	An error has occurred while the job computer was starting.	Restart the job computer.
006	Data has been successfully imported.		
007	Error detected in the configuration.	Faulty configuration.	Check the configuration.
008	Procedure is not allowed while a task is activated in the ISOBUS-TC application.	A task is activated in the ISOBUS-TC application.	Deactivate the task.
009	Speed signal from CAN bus has been lost.	The cable was disconnected.	Check the cable connection.
010	Error with the initialisation of the Control Layer configuration.	There was an error in the Control Layer configuration.	Check the configuration.
011	Several terminals have the same number.	There are several terminals with the same number on the ISOBUS (function instance).	Change the number (function instance) on the terminal.
012	Several TASK-Controllers have the save number.	There are several TASK-Controllers with this number on the ISOBUS.	Change the number.
013	The task list is full.	There are too many tasks in the task list.	Delete task data that is no longer required.
014	The recording of an internal task has been stopped because the product was changed.	The product has been changed during the recording of an internal task.	Select the initial product.

ID	Alarm text	Possible cause	Possible solution
015	The task could not be started because a different product was assigned.	A different product is stored in the task than was assigned to the hopper in the configuration.	Check which is the correct product and correct the task or the hopper assignment.
043	Dataset already exists.	An identical dataset already exists.	Check the dataset or change the name.
044	Dataset has errors.	The dataset has an error.	Check the dataset.
045	Dataset not found.	A selected dataset could not be found. You did not performed a calibration for the selected product.	Select a different data set or perform a calibration test for the selected product.
046	Loop overflow.	A conflict has occurred between the database and the implement.	Check the dataset.
047	Database is full.	The database is full.	You must first delete a dataset to be able to save a new one.
060	Entry cannot be adopted. Value has been corrected.	The boom width cannot be divided by the assigned sections.	Check the boom width and the number of sections.

Hydraulic alarms

ID	Alarm text	Possible cause	Possible solution
201	Hydraulic table is not compatible with the configuration.	The hydraulic table does not match with the configuration of the job computer.	Use a different hydraulic table or change the configuration.
202	Hydraulic table is not compatible. All hydraulic functions are deactivated.	The hydraulic table does not match with the configuration of the job computer.	Use a different hydraulic table.
203	Movement of the bout marker is paused. The speed is too low.	The working speed is too low.	Increase the working speed.
204	Bout marker time has not expired yet.	The bout marker time has not expired yet.	Wait until the bout marker time has expired.

Regulation alarms

ID	Alarm text	Possible cause	Possible solution
400	The configured target rotational speed for the fan is invalid. Product: xxxx.	The set target rotational speed is outside of the defined limits of the fan drive for the respective product.	Change the minimum and maximum limit for the target rotational speed of the product.
401	Fan is rotating too slowly.	The current fan speed is lower than the	Increase the fan speed or change the

ID	Alarm text	Possible cause	Possible solution
		defined value for the "Fan Speed Tolerance" parameter.	tolerance limit.
402	Fan is rotating too fast.	The current fan speed is higher than the defined value for the "Fan Speed Tolerance" parameter.	Reduce the fan speed or change the tolerance limit.
403	Pressure is too high.	The pressure of a linear sensor exceeds the value for the "Maximum Value" parameter.	Reduce the pressure or change the "Maximum Value" parameter.
404	Pressure is too low.	The pressure of a linear sensor is below the value for the "Minimum Value" parameter.	Increase the pressure or change the "Minimum Value" parameter.
405	The metering was stopped because the work position was not reached. Raise the machine.	The machine is not in work position.	Raise the machine.
406	The metering unit has been stopped because the machine has not been completely raised. Raise the machine.	The machine has not been completely raised.	Raise the machine.
407	Metering drive is stationary.	The current speed of the metering drive is lower than the minimum speed.	Stop immediately! Remove the cause.
408	Metering shaft is stationary.	The revolution sensor on the metering shaft does not register any metering shaft movement.	Stop immediately! Remove the cause.
410	Metering drive regulation range exceeded.	The current speed of the metering drive is higher or lower than the set speed.	Drive more slowly or faster or install a larger metering roll.
411	Metering drive cannot maintain target rate.	You are driving too fast or too slow. It is not possible to reach the target rate at the current speed.	Drive more slowly or faster, so that the job computer can control the target rate.
412	Application has been stopped because of a critical error.	Another error has occurred. This error always appears in combination with another error.	Fix the related error.
413	Application has been stopped because the forward speed was too high.	The forward speed is too high.	Reduce the driving speed.
414	The metering unit has been stopped because the machine has not been completely raised. Raise the machine.	The machine has not been completely raised.	Raise the machine.
415	Fan is rotating too fast. Metering	The current fan speed is higher than the	Decrease the fan speed or change the

ID	Alarm text	Possible cause	Possible solution
	stopped.	value of the "Max. Rotational Speed" parameter.	"Max. Rotational Speed" parameter for the fan.
416	Fan is rotating too slowly. Metering stopped.	The current fan speed is lower than the value for the "Min. Rotational Speed" parameter.	Increase the fan speed or change the "Min. Rotational Speed" parameter for the fan.
417	Calibration flap is open. Please close it.	The calibration flap is open although the seeder is currently spreading.	Close the calibration flap.
418	Calibration flap is closed. Please open it.	The calibration flap is closed although a calibration test is currently being performed.	Open the calibration flap.

Machine-specific alarms

ID	Alarm text	Possible cause	Possible solution
602	Connection lost.	The connection to an ERC module has been lost.	Check the cable.
603	Connection disrupted.	The connection to an ERC module has been disrupted.	Check the cable.
604	Supply voltage is too low.	The supply voltage for the ERC modules is too low.	Check the supply voltage and check the vehicle battery.
605	Short circuit	There is a short circuit in the ERC modules.	Check the cable.
606	Open load circuit	An open load circuit has been detected in the ERC modules.	Check the cable and check whether the shut-off clutch is available.
607	Error detected in ERC module.	Faulty configuration.	Check the configuration of the inputs and outputs.
608	No seed flow detected.	The blockage system has not detected any seed flow.	Check the blockage system.
609	Seed flow detected.	Seed flow has occurred in a tramline.	Check the tramline control.
611	Hopper is low.	There is not enough seed or fertilizer in the hopper.	Fill the hopper.
612	Hopper is empty.	There is no more seed or fertilizer in the hopper.	Fill the hopper.
613	Timeout during section switching.	The switching of the left section is taking too long.	Check if something is stuck.

ID	Alarm text	Possible cause	Possible solution
617	The charger does not work.	There is a malfunction in the alternator of the charger.	Check the alternator of the charger.
618	No product flow detected in active row.	No product flow has been detected in an active row.	Check the product flow, there may be a blockage in one of the supply lines.
619	Excessive product flow detected in active row.	Excessive product flow has been detected in an active row.	Check the calibration.
620	Insufficient product flow detected in active row.	Insufficient product flow has been detected in an active row.	Check the calibration.
621	There is no dataset for this product.	The calibration was not performed yet for the respective product.	Perform a calibration before working with the product.
622	Calibration button is activated.	The calibration button has been activated before the calibration screen has been called up.	Let go of the calibration button.
630	Connection lost.	The connection to an MRC module has been lost.	Check the cable.
631	Undefined Module Index.	A software error has occurred.	Contact Customer Service.
636	No seed during pre fill.	No seed or too little seed was detected during pre-metering.	Ensure that enough seed is available.
638	Motor is at standstill.	The MRC motor is at a standstill.	Check the cable.
639	Current too high.	The MRC motor requires too much current.	Check if something is stuck.
640	Rot. speed not reached.	The MRC module has not reached the required rotational speed.	Check the cable. Check the seeding units.
641	Power voltage too low.	The power voltage on the MRC module is too low.	Check the cable.
642	Electronic voltage too low.	The electronic voltage on the MRC module is too low.	Check the cable.
643	Sensor voltage too low.	The sensor voltage on the MRC module is too low.	Check the cable.
650	Connection lost.	The connection to the AIRidium® sensor has been disconnected.	Check the cable.
651	Undefined Module Index.	An error has occurred on the AIRidium® module.	You must contact Customer Service.
660	Connection lost.	The connection to the CAN repeater has	Check the cable.

ID	Alarm text	Possible cause	Possible solution
		been disconnected.	
663	Voltage is too low.	The voltage is lower than the pre-set minimum supply voltage.	Check the cable and the power supply.
664	Error detected in PLANTirium® sensor. Degree of conta. too high.	The sensor is soiled. The sensitivity does not match the selected product.	Clean the sensor and/or change the sensitivity in the product.
665	Error detected in PLANTirium® sensor. Sensor transmit. defective.	The sensor transmitter is defective.	Check the cable on the sensor.
666	Error detected in PLANTirium® sensor. Supply voltage undercut.	The minimum supply voltage has been undercut.	Check the cable.
667	Error detected in PLANTirium® sensor. LIN bus communication error	A LIN bus communication error has occurred. The sensor does not receive messages from the LIN bus.	Check the cable.
668	Working speed is outside the speed range..	The working speed is too high or too low.	Make sure that you are in the speed range that was determined during calibration.
669	Error detected in PLANTirium® sensor. Connection lost.	The connection to the PLANTirium® sensor has been disconnected.	Check the cable on the sensor.
670	Error in blockage system. Error: Sensor:	An error has occurred in the blockage system.	Check the blockage system.
671	Error in blockage system.	An error has occurred in the blockage system.	Check the blockage system.
672	Product flow detected in inactive row.	Product flow has been detected in an inactive row.	Check the shut-off.
680	Connection lost.	The connection to the monitoring/control module has been disconnected.	Check the cable.
681	Undefined Module Index.	A non-configured monitoring/control module has been found.	Check the number of configured or connected modules.
686	Supply voltage is too low.	The supply voltage on the monitoring/control module is too low.	Check the cable.
688	Target rate is out of reach. Coulter pressure	The required target rate for the linear actuator has not been reached.	Check the linear actuator for blockage.
689	Target rate is out of reach. Working depth	The required setpoint for the linear actuator has not been reached.	Check the linear actuator for blockage.
690	Error detected in CAN repeater. 5 V - Voltage faulty.	The CAN repeater is faulty.	You must contact Customer Service.

ID	Alarm text	Possible cause	Possible solution
691	Error detected in CAN repeater. 3.3 V - Voltage faulty.	The CAN repeater is faulty.	You must contact Customer Service.
692	Error detected in CAN repeater. 2.5 V - Voltage faulty.	The CAN repeater is faulty.	You must contact Customer Service.
693	Error detected in CAN repeater 12 VE - Voltage faulty.	The electronic voltage source is faulty.	Check the cable.
694	Error detected in CAN repeater. 12 VL - Voltage faulty.	The power voltage source is faulty.	Check the cable.
695	Error detected in CAN repeater. Error in AD conversion.	The CAN repeater is faulty.	You must contact Customer Service.
696	Error detected in CAN repeater. Error in address assignment.	An error was detected during the address teach-in procedure.	Check the cable.
697	Error detected in CAN repeater. Error in the parameter block.	The CAN repeater is faulty.	You must contact Customer Service.
698	Transmission of the log file has started. Message, when finished.		
699	Transmission of the log file completed.		

n.	Fault	Cause	Type of cause	Removal
1	The fan speed fluctuates	Incorrectly adjusted fan sensor	Electronic	Sensor settings according to the instructions
		Faulty fan sensor	Electronic	Check sensor function, replace
		Incorrect or insufficient oil flow	Hydraulic	Checking the flow rate of the tractor control, correct adjustment according to tractor type
		Small size of free return quick coupling	Hydraulic	The size of the free return quick coupler must be min. ISO20
2	The beams are in the upper position at different heights	Badly welded beams, crooked frames	Mechanical	Inspection of beams and frames, or replacement
		Unscrew one of the lifting pistons to the end position	Hydraulic	Check the piston rods, check the nozzles to prevent any of them from clogging
3	Beam of sowing coulters are receding at different heights	Unscrew one of the lifting pistons to the end position	Hydraulic	Check the piston rods, check the nozzles to prevent any of them from clogging
		Set different depths of stitches on individual frames	Mechanical	Check the setting of the end depth stops, correct setting on all the same
		Set too much pressure on seed drills	Hydraulic	If the soil is very hard and too much pressure is applied to the seed drill, you can not cut any more
		When standing on the ground and recessing the bots.	Mechanical	Due to soil resistance, individual beams at different heights can only be lifted so that all the boots are evenly cut into the ground and the beams align themselves
		Collisions of individual beams between themselves.	Mechanical	The beams are locked in place after the recess. Sometimes you only need to climb and the beams align.

4	From the dispenser or mixer, the seed flies out	Clogged air system	Mechanical	If the main air line is clogged from the dispenser to the distributor, the seed can not pass and flies out of the dispenser.
		Too high airflow	Mechanical	When the airflow is set too high, the mixer nozzle can generate resistance and instead of leaving the seed further into the distributor, it flows into the mixer to swirl and flutter out.
		Too much seed or fertilizer	Electronic	The mixer is beyond the limit of functionality, it does not take more seed and clogs. Reduce the sowing rate or add more air if possible.
5	The dispenser motors do not spin after the recess	Badly adjusted antenna sensor	Mechanical	Set the sensor so that the sensor turn on
		Incorrectly adjusted pressure sensor	Hydraulic	If the sensor is set to low pressure, then at any pressure tip the engine stops. The sensor needs to be tightened.
6	Sowing sensors often report a flow error	Incorrectly set sensitivity to the seed	Electronic	Check the sensitivity settings and change the setting according to the instructions for the type of seed

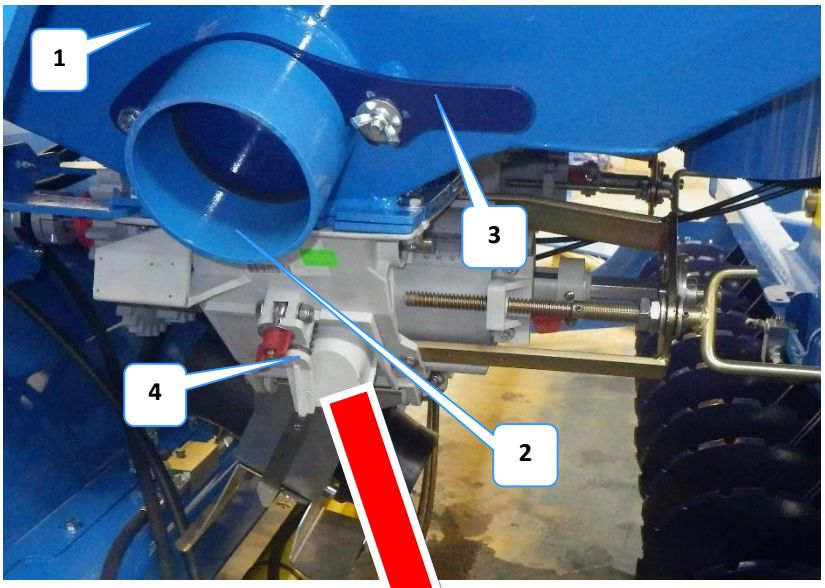
7	The machine does not unfolding as it is, the footpath goes into a collision with the front section	Disconnected or faulty quick couplings at the front section	Hydraulic	Check the correct connection of the hydraulic hose couplings to the front section connection.
		Faulty end valve for unfolding the front section	Hydraulic	Check that the end valve is not stuck or the stop is in the correct position.
8	The wheels are above the surface, they do not rotate and do not work	Poor pressure set	Hydraulic	Set either very low pressure or very large against a very hard surface. Check and optimize.
9	The main wheels of the main cylinder are in the air	the machine is not unfolded	Hydraulic	The machine is not fully tilted, not tilted by the appropriate hydraulic function.
10	Error: The dispenser does not rotate	Allowed mechanical coupling of doser and engine	Mechanical	Check the clutch to see if it is allowed, so the motor rotates and the dispenser is standing. Tighten the clamp on the coupling.
		Incorrectly adjusted dispenser sensor	Electronic	The engine rotates, but the sensor does not respond and does not count the speed, the system behaves as though the engine was standing. Check whether the diode is illuminated on the sensor or adjust the sensor distance from the star according to the instructions.

11	Disagree about 50%	Bad dosages required	Electronic	Check the sowing batch and set the sowing method, or set it all again according to the instructions.
		Incorporated half gears on the dispenser	Mechanical	Check the sowing gears and the correct setting of the dispenser.
		Poorly performed and entered the seed test	Electronic	Check the seed drill procedure. For example, you can also exclude the bag weight option. Perform the sowing test again.
12	Does not approve sowing up to 20%	Badly done seed drill	Electronic	Check the seed drill procedure. For example, you can also exclude the bag weight option. Perform the sowing test again.
13	do not correspond to the hectares worked per computer	It disagrees with the speed of the radar and reality	Electronic	
		Wrong insertion of the machine on the computer	Electronic	

17. COMPLETION OF SOWING

If there are seeds in container ***1*** after the sowing has been finished, place a vessel under the discharge chute of the container ***2*** (see Picture 64) and release the lid ***3***. Use the turnstile door ***4*** for seeds that cannot be emptied using the discharge chute.

Picture 64 – Detail of emptying the container



Clean of the doser roller

When you empty the container, we recommend “sowing” a few metres with the empty machine and running fan in order to remove the residues of seeds from the feeder and the whole system of the machine.

Prompt removal of the seed residues, especially when you do not use the machine for a longer period of time, prolongs its usable life and prevents complications in the following operation.

Fertilizer metering drive

Located below the fertilizer hopper (earlier in the front) → possibility of pulling out the auger without disassembling the drive, trouble-free cleaning.

18. MAINTENANCE AND REPAIRS OF THE MACHINE

Observe the safety instructions for maintenance and treatment.

- Only persons according to Chapter **A.3**/p. 9 may perform repairs of the machine. When leaving the tractor cabin, the operator must switch off all hydraulic circuits and appliances on the machine (ventilator) and the engine and the operator must prevent unauthorized access to the tractor.
- The replacement of worn discs can only be executed when the machine is standing still (not operating).
- If you have to use welding during a repair and have the machine connected to the tractor, make sure that all supply cables are disconnected from the alternator and accumulator.
- Check that all screws and other assembly points are tight before each use of the machine and whenever needed.
- Regularly check the wear and tear of the working parts of the machine or replace the worn working parts with new ones.
- Adjusting, cleaning and lubricating the machine may only be performed when the machine is standing still (the machine is stopped and is not working).
- When the machine is lifted, use an appropriate supporting device propped at designated places or at appropriate places.
- When adjusting, cleaning, maintaining and repairing the machine, secure those parts of the machine that could put the operator in danger by fall or other movement.
- Repairs of the hydraulic circuits may be performed only when the machine is unfolded and resting on the working bodies on the ground.
- When repairing the hydraulic circuits of the machine, first remove pressure from the hydraulic circuits of the machine with the use of control levers of the hydraulic system in the tractor cabin.
- For attaching the machine when manipulating it with the use of lifting equipment, use only places marked by stick-on labels with the symbol of a chain „ ⛓ “.
- If there is a defect or damage on the machine, immediately turn off the tractor engine and secure the engine from turning on, secure the machine against movement ⇒ then you can remove the defect.
- When repairing the machine, use only original spare parts, suitable tools and protective equipment.
- Check the prescribed pressure in the tyres of the machine and the condition of the tyres regularly. Execute potential repairs of tyres in a professional workshop.
- Keep the machine clean.

Do not use a high-pressure cleaner or direct water jet for cleaning hydraulic rolls (piston rod) and bearings and electronic parts. The bearings and seals are not waterproof under high pressure.

18.1. REPLACEMENT OF WORN DISCS

- When replacing discs, always observe safety regulations and directives.
- The machine must be aggregated with the tractor according to Chapter “**6.1**/P.18” for the replacement of the discs. The tractor engine must be switched off and the operator or the mechanic must prevent unauthorized access to the tractor.
- The machine must be lifted on the transport axle and in the arms of the tractor for the replacement of the discs.
- Raise the rear tractor TPS shoulders with the aggregated machine to the maximal position and secure it from falling. Then you may perform the replacement of worn shares.
- The ball valve of the axle must be in the “closed” position, see Picture **30**/P.49. You must ensure mechanical supports under the pole of the machine in case the tractor hydraulic system is not tight.
- Only replace the discs on a firm and flat ground and when the machine is in standstill.

18.2. MAINTENANCE PLAN

MAINTENANCE PLAN

Perform planned maintenance according to the instructions:

Maintenance task	Daily (season)	1x week	Before the season	After the season	Time interval
Machine in general					
• Visual check of the machine • Monitoring undesirable sounds, vibrations and excessive wear and tear	X				
• Checking crucial nodes: pins, bearings, rollers, working parts	X		X	X	
• Cleaning the machine • Storing the machine under the roof, if possible • Record the mileage of the machine/season (ha)		X		X	
• Complete inspection • Checking the frame	X			X	
 Do not use a high-pressure cleaner or direct water jet for cleaning hydraulic rolls (piston rod) and bearings and electronic parts. The bearings and seals are not waterproof under high pressure.					
Hydraulic system					
Checking the function, tightness, mounting and worn spots of all hydraulic components and hoses		X	X		
Hydraulic hoses – replacement: • Damaged outer casing of the hose (mechanically or rotten) • Fluid leakage (mostly in end pieces) • Bulges or blisters on the hose • Deformed or corroded end piece • Loosened end piece – the hose spins	X			X	
Hydraulic hoses – replacement: • Useful life of the hose is exceeded  					6 years

!!! PREVENTION means removing the problem according to the plan, outside the season, without stress and comfortably, before a secondary problem, accident or risk of injury occurs.

MAINTENANCE PLAN

Perform planned maintenance according to the instructions:

Maintenance task	Daily (season)	1x week	Before the season	After the season	Time interval	
Screw connections						
Visual check of screw and hydraulic connections, tighten any loosened connections with a corresponding torque (tab. Torque)	X				X	
Wheels – tighten all wheel nuts. • **First, after 10 hours of operation** • **Wheel replacement, after 10 hours of operation** M 18 x 1.5 – 300 Nm M 20 x 1.5 – 400 Nm M 22 x 1.5 – 500 Nm			X	X		
Brake system						
Brake line and hoses – checking the function, tightness, mounting and clamping, or breaking	X			X	X	
Brake components – checking the function, tightness, mounting	X			X	X	
Air nozzle – draining with the drain valve			X		X	
Drain valve – checking the function, cleaning and replacement of sealing				X	X	
Pipe filter – cleaning				X	X	
Brake/parking brake – checking the function, adjustment **25-45mm**	X					
Brake lining – checking the condition of the brake lining, min. thickness 3mm					X	
Wheels/axle						
Checking tyre pressure 405/70 R20	X				X	
For FALCON PRO only						
Transport axle bearings – check and adjustment of allowance (in the workshop)					X	

MAINTENANCE PLAN

Perform planned maintenance according to the instructions:

Maintenance task	Daily (season)	1x week	Before the season	After the season	Time interval
Pneumatic system					
Fan: Revolution setting function	X				
Fan guard: • Checking the condition, removal of debris	X				
Fan impeller • Checking the condition and mounting, removal of debris • Checking the mounting of the fan drive		X			
Fan, seeding hoses, mixer: • Tightness, clamping points, clogging, overall condition	X			X	
Hydraulic joints and hoses: • Tightness of all components and permeability	X				
Distributor: • Checking for foreign particles. Unscrew the lid of the distributor and check the outlets • Checking the function and position of rail line flaps	X				
Seeding mechanism (dispenser)					
Checking the overall condition, setting, wear and tear, tightness			X		
Checking for foreign particles	X				
Checking the condition of the drive, motor bearings		X			
Checking the tightness of the roller board			X		

!!! PREVENTION means removing the problem according to the plan, outside the season, without stress and comfortably, before a secondary problem, accident or risk of injury occurs.

MAINTENANCE PLAN

Perform planned maintenance according to the instructions:

Maintenance task	Daily (season)	1x week	Before the season	After the season	Time interval
Checking for damage, potential replacement		X	X		
Safety equipment					
Lighting and safety hatched boards – checking the condition, function and cleanliness	X		X		
Warning and safety labels – checking that they are installed and legible		X			
Machine lubrication plan					
Drawbar knuckle/lifting lug – plastic lubricant	X			X	
Hand brake bolt – plastic lubricant or suitable grease	X			X	
Axle bearings – plastic lubricant containing Lithium – check, refill when needed				X	

After the season

Whole machine

- Treat and clean the machine; do not spray oil or similar agents on the plastic parts
- Spray the piston-rods of the hydraulic rollers with suitable anti-corrosion agents
- Check that all screw and plug-in connections for tightness (see the table of Torque)
- Check for any damage of the electric lines and replace them when needed

Brake system

- Use anti-free liquid (approx. 0.1 L) without ethanol before the last drive, acc. to the recommendation of the tractor manufacturer.
- Secure the machine against movement with scotch blocks.
- Release the parking brake, let the air out of the air nozzle and close the brake lines.
  The operating brake and hand brake must be released during winter to prevent sticking to the brake drum.

Points of lubrication

- Lubricate the points of lubrication according to the plan, use plastic lubricant **KP2P-20 Likx acc. to DIN 51 502**

!!! PREVENTION means removing the problem according to the plan, outside the season, without stress and comfortably, before a secondary problem, accident or risk of injury occurs.

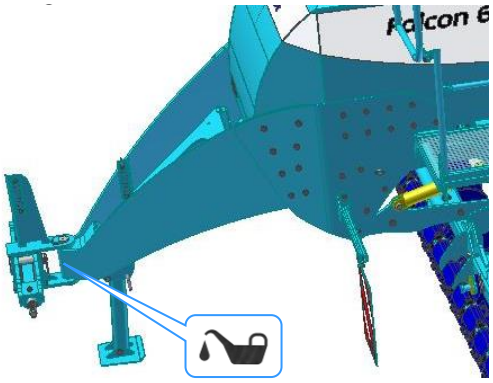
18.3. MACHINE LUBRICATION SCHEDULE

Tab. 10

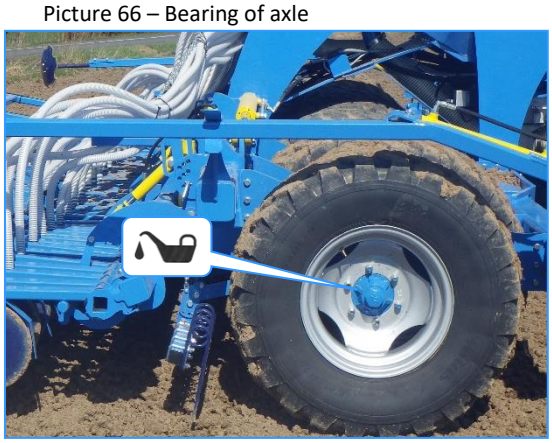
LUBRICATION POSITION		INTERVAL	LUBRICANT
Pole joint	Picture 65	**1 x week ***	Plastic lubricant **K EP2 - 30**
Bearings of axle	Picture 66	**1 x year ***	DIN 51 502

***-**Applies to the period when the machine is used on the field**.**

Picture 65 – Pole joint



Picture 66 – Bearing of axle



18.4. MANIPULATION WITH LUBRICANS

- Handle lubricants and oils as hazardous waste according to the valid acts and regulations.
- Protect yourself from direct contact with oils by using gloves or protective lotion.
- Wash oil stains on skin thoroughly with warm water and soap. Do not clean the skin with petrol, diesel oil or other dissolving agents.
- Oil is poisonous. If you swallow any, immediately seek a doctor.
    - Keep lubricants out of reach of children.

18.5. THE PRESSURE IN THE TYRES

FALCON PRO 3,4,6,8				
	Empty machine weight			
TYRES	**FROM**	**TO**	**Transport wheel pressure**	**Side wheel pressure**
Mitas 405/70R20	0 kg	7 920 kg	1,5 Bar	1,5 Bar
	7 920 kg	10 242 kg	2,0 Bar	1,5 Bar
	10 242 kg	12 306 kg	2,5 Bar	2,0 Bar
	12 306 kg	14 280 kg	3,0 Bar	2,5 Bar
Mitas 420/65R20	0 kg	6 570 kg	0,6 Bar	0,6 Bar
	6 570 kg	7 530 kg	0,8 Bar	0,8 Bar
	7 530k g	8 460 kg	1,0 Bar	1,0 Bar
	8 460 kg	9 330 kg	1,2 Bar	1,2 Bar
	9 330 kg	10 350 kg	1,4 Bar	1,4 Bar
	10 350 kg	11 400 kg	1,6 Bar	1,6 Bar
BKT 440/65R20	0 kg	7 680 kg	0,6 Bar	0,6 Bar
	7 680 kg	8 970 kg	0,8 Bar	0,8 Bar
	8 970 kg	10 290 kg	1,0 Bar	1,0 Bar
	10 290 kg	11 430 kg	1,2 Bar	1,2 Bar
	11 430 kg	12 570 kg	1,4 Bar	1,4 Bar

FALCON COMPACT 3,4	
TYRES	**PRESSURE**
BKT 7,50-16 10PR AS08TT	3,5 Bar

18.6. RECOMMENDED TIGHTENING TORQUES OF BOLTING

BOLTING	TIGHTENING TORQUES	NOTE
M8x1	8Nm	Fastening screws of house bearings
M8 (8.8)	25Nm	
M12 (8.8)	87Nm	Share screws
M16 (8.8)	210Nm	House bearings
M 20 (8.8)	50Nm	Rotary harrowing screws
M20 (8.8)	410Nm	Protection screws, axle rubber-tyred roller wheels
M24 (8.8)	710Nm	Hopper screws
HYDRAULIC + AIR JOINTS		
M16x1,5	60Nm	Hydraulic screwing, air screwing
M22x1,5	140Nm	Hydraulic screwing, air screwing

19. STORING THE MACHINE

When you put the machine out of operation for a longer-period of time:

- Store the machine under a roof, if possible.
- Store the machine on an even and solid ground with sufficient bearing capacity.
- Clean the machine before storing and make sure that the machine is not damaged during the storage. Pay special attention to all labelled lubricating places and lubricate the machine according to the lubrication plan.
- Store the machine with folded frames in the transport position. Leave the machine on the axle and the standing leg; secure the machine against movement with wedges or other suitable instruments.
- The machine must not be leaning on the discs as they may get damaged.
- Prevent access by unauthorized persons to the machine.

20. PROTECTION OF ENVIRONMEN

- Check the tightness of the hydraulic system regularly.
- Replace or repair hydraulic tubes or other parts of the hydraulic system showing signs of damage, before oil starts to leak.
- Check the condition of hydraulic tubes and execute their timely replacement. The usable life of hydraulic tubes also includes the storage time.
- Deal with oils and fats according to valid acts and regulations on wastes.

21. DISPOSAL OF THE MACHINE AFTER THE END OF ITS USABLE LIFE

- The operator must make sure that the steel parts and parts in which the hydraulic oil or lubricant is used are separated for disposal.
- The operator will cut the steel parts according to safety regulations and hand them over to the scrap yard for secondary raw materials. For other parts follow the valid acts on wastes.

22. MAINTENANCE AND TERMS OF GUARANTEE

22.1. MAINTENANCE

Maintenance is provided by a business representative after a consultation with the producer or by the producer. Spare parts are provided through the sales network of individual sellers all over the Czech Republic. Use only spare parts according to the Spare Parts Catalogue officially published by the producer.

22.2. GUARANTEE

- The producer provides 24-month guarantee for the following parts of the machine: main frame, axle and pole of the machine. The producer provides 12-month guarantee for the remaining parts of the machine. The guarantee starts on the date of the sale of the new machine to the end consumer (user).
- The guarantee applies to hidden defects that appear during the proper use of the machine during the guarantee period and according to the terms and conditions stated in the operating manual.
- The guarantee does not apply to spare parts that can be worn out, i.e. to regular wear and tear of replaceable working parts (shares, blades etc.).
- The guarantee does not apply to indirect consequences due to potential damage, such as decrease in the usable life etc.
- The guarantee is related to the machine and does not cease to exist when the owner changes.
- The guarantee is limited to disassembly and assembly, or replacement or repair of the faulty part. The contractual service of the company Farmet a.s. decides whether the faulty part will be replaced or repaired.
- Only the authorized service technician of the producer may perform repairs or other interventions in the machine during the guarantee period, otherwise the guarantee will not be accepted. This provision does not apply to the replacement of spare parts that can be worn out.
- The guarantee is conditioned by the use of original spare parts of the producer.

Issued by: Technical Department, Farmet a.s., Jiřinková 276, Česká Skalice 552 03,
on 11/08/2020, Changes are reserved

2017/001/02

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(F) DÉCLARATION CE DE CONFORMITÉ
(R) СЕРТИФИКАТ СООТВЕТСТВИЯ ЕС
(PL) DEKLARACJA ZGODNOŚCI WE

1. (CZ) My (G) We (D) Wir (F) Nous (R) Мы (PL) My:

Farmet a.s.
Jiřinková 276
552 03 Česká Skalice
Czech Republic
DIČ: CZ46504931
Tel/Fax: 00420 491 450136

(CZ) Vydáváme na vlastní zodpovědnost toto prohlášení. (G) Hereby issue, on our responsibility, this Certificate. (D) Geben in alleiniger Verantwortung folgende Erklärung ab. (F) Publions sous notre propre responsabilité la déclaration suivante. (R) Под свою ответственность выдаем настоящий сертификат. (PL) Wydajemy na własną odpowiedzialność niniejszą Deklarację Zgodności.

2.

(CZ) Strojní zařízení:	- název	:	**Diskový secí stroj**
(G) Machine:	- name	:	**Disc sowing machine**
(D) Fabrikat:	- Bezeichnung	:	**Scheibensämaschine**
(F) Machinerie:	- dénomination	:	**Semeuse à disques**
(R) Сельскохозяйственная машина:	- наименование	:	**Дисковая сеялка**
(PL) Urządzenie maszynowe:	- nazwa	:	**Siewnik talerzowy**
	- typ, type	:	**FALCON**
	- model, modèle	:	**FALCON 3; 4; 6; 8**
	- **PIN/VIN**	:	
	- (CZ) výrobní číslo	:	
	- (G) serial number		
	- (D) Fabriknummer		
	- (F) n° de production		
	- (R) заводской номер		
	- (PL) numer produkcyjny		

3. (CZ) Příslušná nařízení vlády: č.176/2008 Sb. (směrnice 2006/42/ES). (G) Applicable Governmental Decrees and Orders: No.176/2008 Sb. (Directive 2006/42/ES). (D) Einschlägige Regierungsverordnungen (NV): Nr.176/2008 Slg. (Richtlinie 2006/42/ES). (F) Décrets respectifs du gouvernement: n°.176/2008 du Code (directive 2006/42/CE). (R) Соответствующие постановления правительства: № 176/2008 Сб. (инструкция 2006/42/ES). (PL) Odpowiednie rozporządzenia rządowe: nr 176/2008 Dz.U. (Dyrektywa 2006/42/WE).

4. (CZ) Normy s nimiž byla posouzena shoda: (G) Standards used for consideration of conformity: (D) Das Produkt wurde gefertigt in Übereinstimmung mit folgenden Normen: (F) Normes avec lesquelles la conformité a été évaluée: (R) Нормы, на основании которых производилась сертификация: (PL) Normy, według których została przeprowadzona ocena: ČSN EN ISO 12100, ČSN EN ISO 4254-1, ČSN EN 14018+A1.

(CZ) Schválil (G) Approve by
(D) Bewilligen (F) Approuvé
(R) Утвердил (PL) Uchwalił

dne: 01.07.2020

Ing. Petr Lukášek
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dne: 01.07.2020

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