



*Operating Instructions
Declaration of Conformity
Spare Parts List*

*Sub-Tiller
2.5 m / 3.0 m / 3.5 m / 4.0 m (rigid)*



Important: Before using the machine, please study the Operating Instructions thoroughly to ensure that you are familiar with the safety instructions.



N. A. Christensensvej 34
DK-7900 Nykøbing Mors
Tel: +45 9772 4288
Fax: +45 9772 2112
www.he-va.com

Contents

Declaration of Conformity	4
Delivery check	5
Machine Description	5
Range of Application	5
Technical specifications.....	5
Safety instructions for Sub-Tiller	6
Safety and Instructions on Hydraulics.....	7
Labels on the machine	8
Start-up of the machine	9
General information	9
Attachment and uncoupling (rigid machines).....	9
Attachment and uncoupling (machines with hydraulic folding).....	9
Change-over between working and transport position (only machines with hydraulic folding)	9
Settings and adjustment	10
Stone protection	10
Replacement of wearing point	12
Scraper	12
Maintenance	13
Lubrication	13
Spare parts list.....	14
Frame 2.5 – 4.0 m rigid.....	14
Tine with Quick-Push shear bolt.....	16
Tine with hydraulic automatic release system	17
Accumulator for hydraulic automatic release system	18
Scraper	19
Multi-Seeder Mounting.....	20
Multi-Seeder.....	21
Spare parts list – Hydraulics.....	22
Hydraulics for depth control of the roller	22
Hydraulics for automatic release system	23
Notes	25

DS/EN 45 014

Declaration of Conformity

HE-VA ApS
N. A. Christensensvej 34,
DK-7900 Nykøbing Mors

declares under sole responsibility that the product:

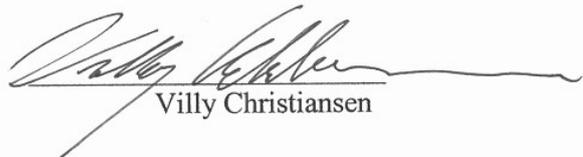
Sub-Tiller

2.5 / 3.0 / 3.5 / 4.0 m (rigid)

No.: _____

to which this declaration relates, is in conformity with the provisions of
98/37/EF (Machinery) Directive with later amendments.

Nykøbing Mors, 20 March 2007



Villy Christiansen

Delivery check

Upon delivery to the dealer/supplier as well as to the customer, check the Sub-Tiller for possible damages.

Machine Description

Range of Application

The Sub-Tiller is a sub-soiler for soil loosening from 0 cm to 60 cm depth. The work is performed either before seeding (min. tillage) or after harvest where a loosening of the tramlines in the field is desirable in order to discourage structure damages. Infinitely variable tine spacing, depending on the actual working task. The Sub-Tiller is ideal for all soil types and a V-profile roller is recommendable for moist and sticky soil types while a square tube roller is recommendable for lighter soil types. The Sub-Tiller can be mounted with HE-VA Multi-Seeder which opens up the possibility of till-seeding of rape or crops for green manure.

The Sub-Tiller is mounted in the tractor's three-point suspension, and the hydraulic depth control via the packer roller is controlled by the hydraulic system of the tractor. In order to achieve optimum control you have to be aware of the tractor wheels, and under certain circumstances a mounting of twin wheels is recommendable.

Technical specifications

	2.5 m	3.0 m	3.5 m	4.0 m	4.0 m hydr.	5.0 m hydr.
Working width	2.5 m	3.0 m	3.5 m	4.0 m	4.0 m	5.0 m
Transport width	2.5m	3.0 m	3.5 m	4.0 m	2.4 m	2.4 m
Height folded.....					2.6 m	3.0 m
Power requirement, HP	60-120	60-180	140-280	210-280	200-280	210-360
Weight w/V-profile roller and Quick-Push shear bolt	1500 kg	1850 kg	2200 kg	2380 kg	2730 kg	3260 kg
Weight w/V-profile roller and hydr. auto. release system	1605 kg	2025 kg	2440 kg	2620 kg	2970 kg	3690 kg
Weight w/square tube roller and Quick-Push shear bolt	985 kg	1230 kg	1480 kg	1560 kg	1910 kg	2240 kg
Weight w/square tube roller and hydr. auto. release system	1090 kg	1410 kg	1720 kg	1640 kg	1990 kg	2390 kg
Number of tines.....	2-3 pcs.	2-3-5 pcs.	5-7 pcs.	7 pcs.	7 pcs.	7-9 pcs.
Oil outlet	1 double-acting outlet on rigid machines					
Oil outlet	2 double-acting outlets on hydraulic machines					
Sub-Tiller complies with DS/ISO 11001-1, three-point suspension.						

Safety instructions for Sub-Tiller

Do not start-up the machine if there are persons in exposed positions* within a hazardous area**.

When persons are in exposed positions (e.g. in connection with adjustment, maintenance, attachment and uncoupling), the following conditions shall be observed:

1. The machine shall be lowered to firm ground.
2. The hydraulics shall be relieved.
3. The tractor shall be stopped and the key removed from the ignition switch.
4. The driver shall ensure that no persons are staying in exposed positions during the operation.

* Person in exposed position: Any person who is staying wholly or partly within a hazardous area.

** Hazardous area: On and under the machine within a distance of 4 m from the machine.

Most accidents that happen in connection with the operation, transport and maintenance of machines are caused by non-compliance with the most elementary safety conditions.

Therefore it is vital that anybody working at the machine carefully complies with the safety instructions as well as other instructions applying to the machine.

The machine may only be operated, maintained and repaired by persons, who are familiar with this work and who are further familiar with the possible elements of danger with this particular machine.

ATTENTION !! **Rotary parts and loose clothes are a dangerous combination.**

IMPORTANT !! **In connection with the risk of parts falling down, it may endanger the lives of persons staying on the base frame of the machine, when it is operated attached to a tractor.**

Safety and Instructions on Hydraulics

1. The maximum working pressure is 225 bar.
2. It is advisable to label the attachment parts at hydraulic connections between the tractor and the tool in order to eliminate incorrect operation!
3. When checking for hydraulic leaks, use suitable safety wear (eye protectors, gloves, etc.) High-pressure hydraulic oil may penetrate the skin and cause dangerous injuries. In case of injury, consult a doctor immediately. **RISK OF INFECTION!**
5. Before operating the hydraulics, lower the machine to firm ground. Relieve the hydraulics, stop the motor and remove the ignition key.
6. Check the hydraulic hoses on a regular basis, however, every six months as a minimum due to any cracks, wear and tear, etc. Replace any defective hoses immediately.

The life of hydraulic hoses is maximum 5 years.

New hydraulic hoses shall meet the manufacturer's requirements.

INSTRUCTIONS ON TRANSPORT ON THE PUBLIC ROADS:

Check before transport on public roads that the attachment of the machine at the tractor is in accordance with the local rules and regulations in force (permitted total weight, permitted axle load, transport width, lights, warning signs, etc.).

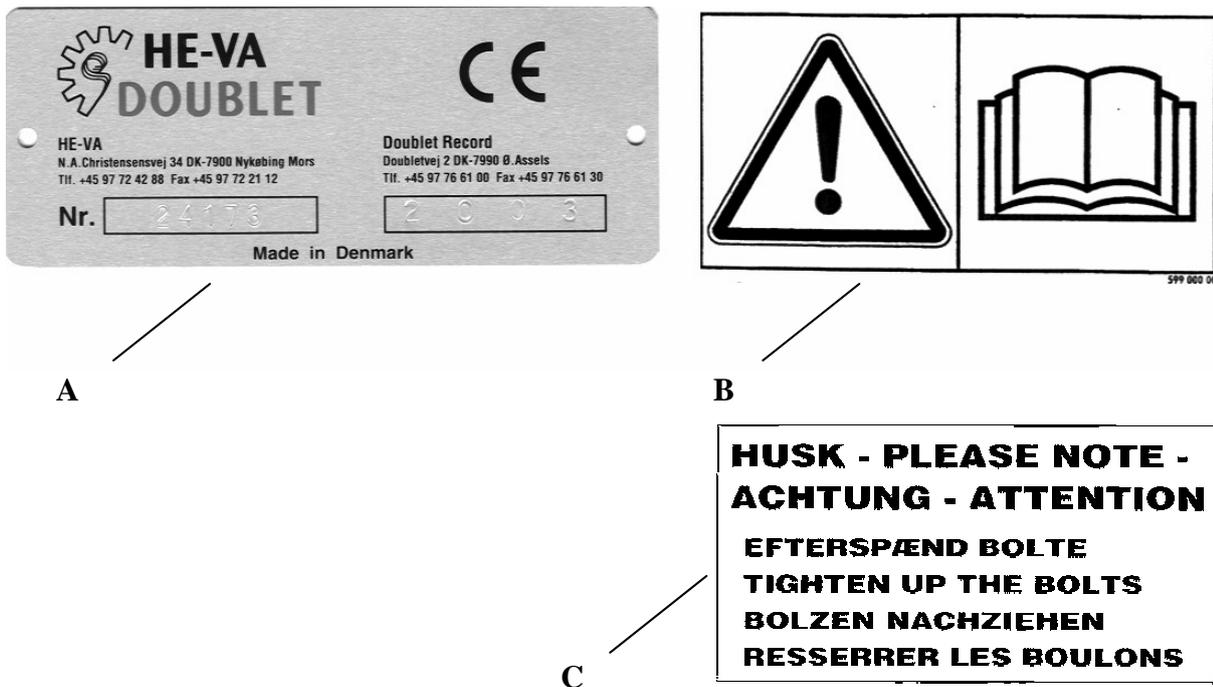
FRONT AXLE LOAD:

After the attachment of the machine and at maximum load, the driving properties of the tractor shall be ensured. Check that the front axle is sufficiently loaded. As a minimum, the front axle load shall be 20% of the tractor weight. Permitted axle load and permitted total weight for the tractor shall always be observed.

NB! The driving, controlling and braking properties are affected by the attached machine combination.

Labels on the machine

You will find several labels on your machine containing **safety** and practical instructions as regards the correct application of the machine. Please study the instructions and point out to the user the importance of the labels as well as the **safety instructions** in the Operating Instructions. Always keep the labels clean and readable – if not they must be replaced.



Explanation of the machine labels

- A Plate with number and year of manufacture.
- B Study the Operating Instructions thoroughly before any operation of the machine and observe all safety instructions.
- C Tighten up all bolts regularly. If this is not performed, our guarantee obligations will no longer apply.

Start-up of the machine

General information

The machine requires 1 double acting outlet (rigid) or 2 double acting outlets (hydraulic folding).

The hoses for depth adjustment are provided with **red** cable straps.

The hoses for the folding are provided with **blue** cable straps.

Attachment and uncoupling (rigid machines)

1. Under normal circumstances attach the tractor in the lowest lifting points of the machine both as regards the lifting arms and the top link.
2. When the machine is to be parked and uncoupled from the tractor, it is important, that the roller is placed in the lowest position, so that the machine is placed stably.
3. When uncoupling, relieve the tractor's oil outlet, and the machine's quick couplings can be uncoupled without pressure. The hydraulic cylinder which controls the roller is equipped with a pilot-controlled check valve which hermetically cuts off the oil for the hydraulic cylinder, meaning that it is locked in the chosen position regardless of the tightness of the quick couplings.

Attachment and uncoupling (machines with hydraulic folding)

1. Please note that these machines are to be attached and uncoupled in transport position.

<p>If the roller is not placed to the bottom, problems with the folding might occur.</p>

Change-over between working and transport position (only machines with hydraulic folding)

From transport into working position:

1. The machine is lifted to max. transport height.
2. The cylinder for depth adjustment is placed to the top.
3. Unfold the wing sections.
4. Adjust the working depth.

From working into transport position:

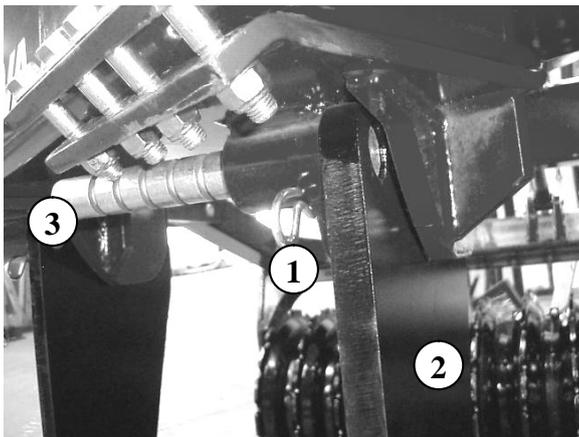
1. The machine is lifted to max. transport height.
2. The cylinder for depth adjustment (the roller) is placed to the top.
3. The wing sections can be folded in.  Be sure that the check pawls lock the wing sections.

Settings and adjustment

Stone protection

Quick-Push shear bolt.

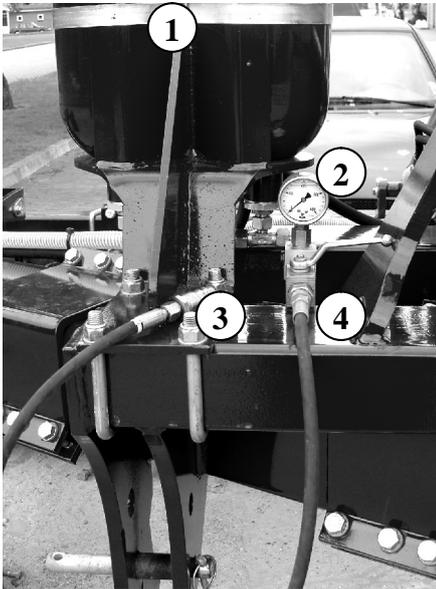
When the shear bolt is broken and the tine has been released, place the shear bolt one notch forward before the machine can operate again.



1. Pull out the R-clip (Pos. 1).
 2. Pull the tine back to normal working position (Pos. 2).
 3. Push the shear bolt (Pos. 3) **one** notch forward to a new position in the tine. Do not push the bolt totally through (it can be necessary to remove soil etc. from the hole in the tine).
- ⚠ Important: All activities under the machine are deprecated when the shear bolt is being moved or changed.
4. Push back the R-clip (Pos. 1), so that it locks the shear bolt in its place, and the machine is ready for operation.

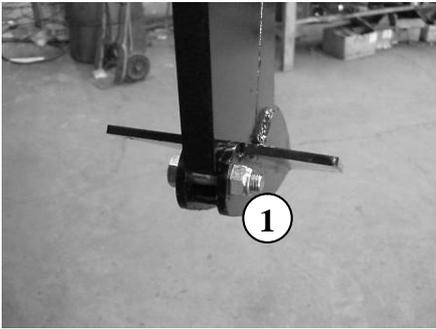
When the shear bolt is broken for the eighth time, it is used up. Be aware that the shear bolt must **never** be shorter than 65 mm.

When a new shear bolt is mounted it is important that it is placed rightly. The end of 40 mm (Pos. 3) is to turn away from the tine.

Hydraulic automatic release system.

1. Before each season it has to be controlled, that the gas pressure in the accumulator (Pos.1) is 90 bars. ⚠ This requires special tools and can only be performed by an authorized dealer.
2. Before the start-up of the machine the hydraulic pressure in the closed hydraulic stone protection system has to be controlled on the machine's pressure gauge (Pos. 2). The pressure has to be approx. 120 bar. It can be adjusted after the conditions.
3. **IMPORTANT** – the hydraulic pressure is to be controlled continuously and must never be under 190 bar.
4. If there is a need to adjust the working pressure, follow the below instructions:
 - a. Mount the quick coupling of the hydraulic hose (Pos. 3) in the tractor's oil outlet.
 - b. Turn on the ball valve (Pos. 4), and the working pressure can now be adjusted up or down with the tractor's oil outlet.
 - c. When the desired pressure is achieved, turn off the ball valve again (Pos. 4), and the tractor's hydraulic system is relieved before the quick coupling (Pos. 3) is dismantled and placed in the parking device of the machine.
5. During the operation of the machine the tine is swinging automatically to the rear if it meets an obstacle. In normal circumstances the tine will automatically return to the working position again after having passed the obstacle. At extreme obstacles and/or soil conditions it might be necessary to stop and eventually lift the machine from the soil. ⚠ It is important that no persons are near to the machine as the tine is returning to the working position with high speed and might throw with soil and stones.

Replacement of wearing point

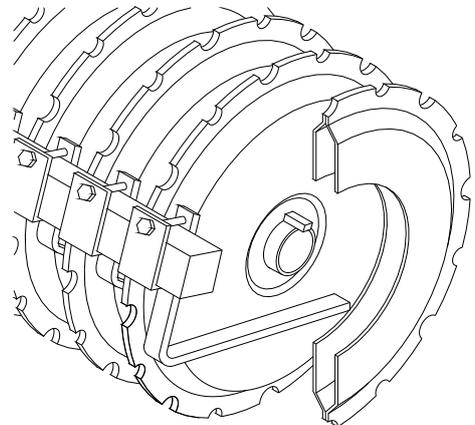
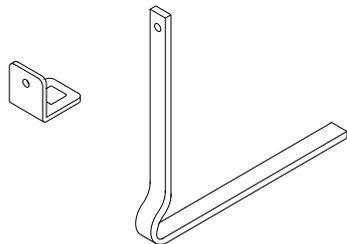


1. ⚠ Before working with the machine's wearing points, the machine is to be fastened. This can be performed by trestles under the main frame or by a support of the roller.
2. Dismount M16x65 mm bolt (Pos. 1) by means of 2 pcs. 24 mm spanners. ⚠ The wearing point might fall off, when the bolt is removed – take care of foot and leg injuries.
3. Dismount the wearing point by pushing it forward. This might be difficult due to entrance of soil, and it might be a good idea to use a hammer.
4. Mount the new wearing point, item no. 645000044 (Pos. 2), by pushing the wearing point to the rear and then in its place.
5. Check the M16 x 65 mm bolt for eventual damages and replace it as required, item no. 690103190 + 690113008.
6. Mount the M16 x 65 mm bolt (Pos. 1), lubricate and tighten it with 197 Nm.
7. Check that the breast wearing part of the wearing point is placed straight in front of the tine – otherwise loosen the bolt again (Pos. 1) and the wearing point is kept in its place while the bolt (Pos. 1) is tightened again.

Scraper

The Sub-Tiller has special designed scrapers among the packer rings on the V-profile roller.

To avoid unnecessary wear and to obtain the best scraper effect it is important to check the centering of the scrapers every day.



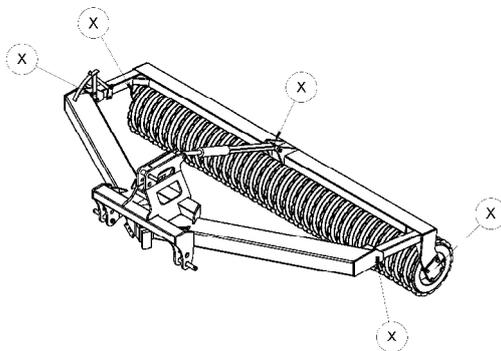
Maintenance

- After 10 hours of operation, retighten the machine. Check hydraulic hoses, fittings and cylinders for leaks and retighten.
- Further check on a regular basis that all bolts are tightened.
- Before the winter storage, wash and lubricate the machine. If you use high-pressure cleaner, do not spray directly on the ball bearings. After the washing, you may spray the machine with oil.

Lubrication

For lubrication, maintenance and repair, lower the Sub-Tiller, put the brakes of the tractor on and stop the motor.

The 2.5 – 4.0 m Sub-Tiller (rigid) have five lubricating points, the 4.0 m – 5.0 m Sub-Tiller (hydr.) have 20 lubricating points. All Sub-Tillers shall be lubricated after every 30 working hours as well as after the cleaning in order to press out any water and dirt. The lubricating points on the rigid machines are located where the bar is mounted on the frame as well as at ball bearings and cylinders.



 Lubricating point

On the hydraulic models there are further lubricating points, where the side sections are hinged on the middle section and at the locking mechanism of the side sections on the middle section. Moreover, the machines with hydraulic automatic release system have 2 lubricating points per tine which are to be lubricated after 10 hours of operation.

Attention!

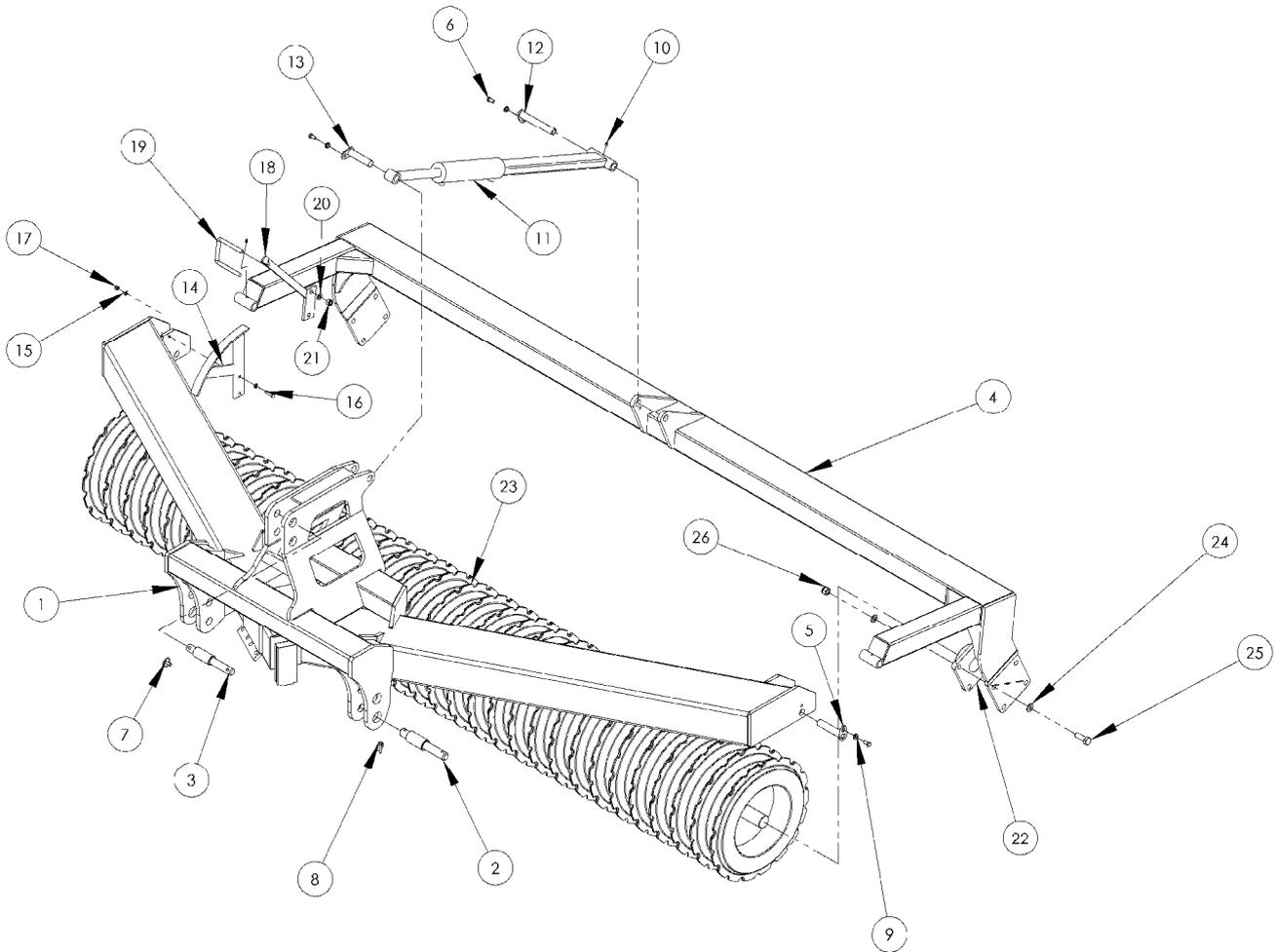
However, the double-sealed ball bearings in the roller should only be lubricated every 20 working hours and by 1-2 strokes so that the sealing rings are not pressed out.

Important!

Oil, type Hydro Texaco HD32 has been filled in the hydraulic system.

Spare parts list

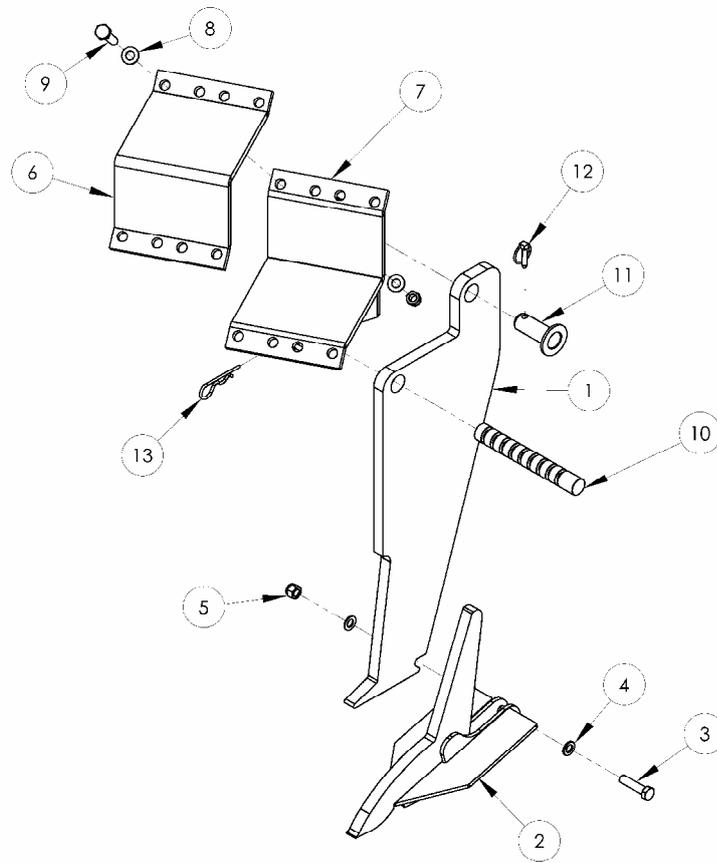
Frame 2.5 – 4.0 m rigid



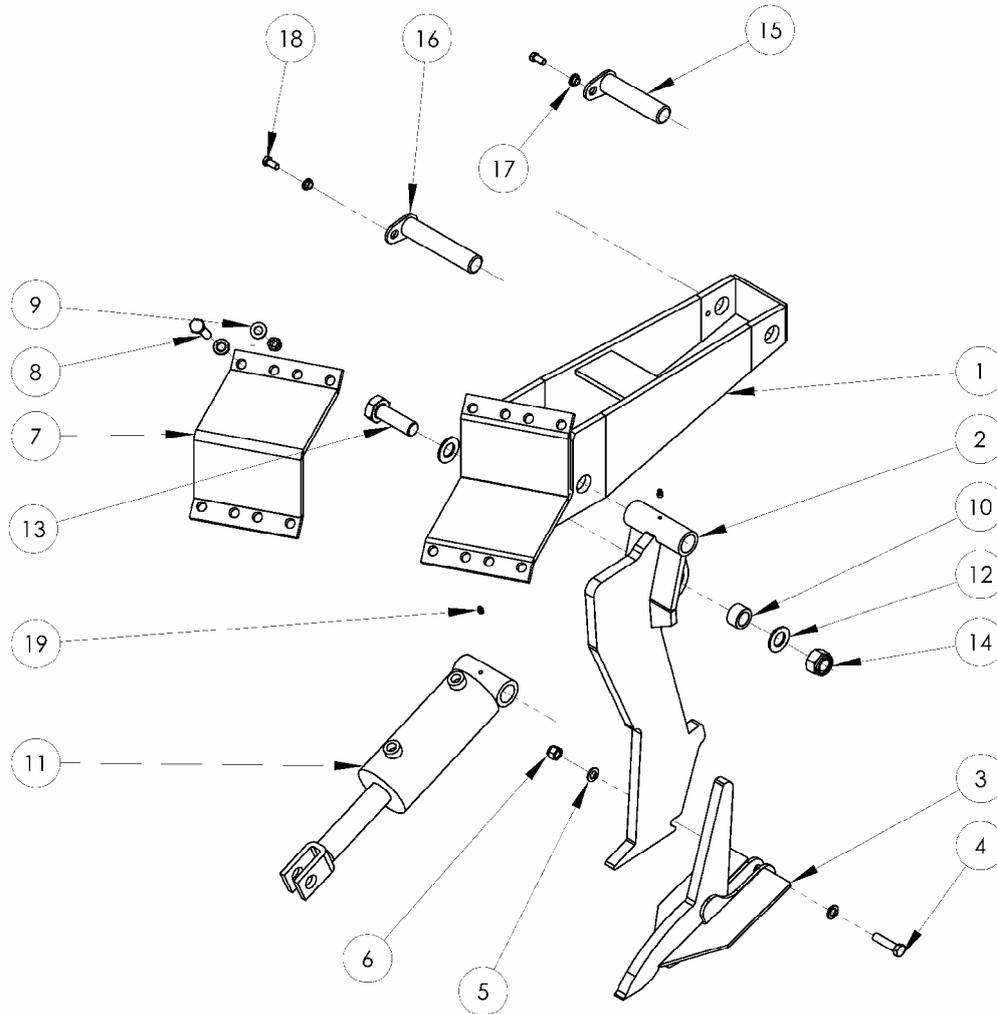
Pos.	Item no.	Designation	2.5 m	3.0 m	3.5 m	4.0 m
1	645000149	Frame 2.5 m	1			
1	645000002	Frame 3.0 m		1		
1	645000090	Frame 3.5 m			1	
1	645000138	Frame 4.0 m				1
2	69537105C	Pin for lift arm Ø37/Ø50 L=105	2	2	2	2
3	69532105C	Pin for top link Ø32/Ø45 L=105	1	1	1	1
4	645000153	Roller bar 2.5 m	1			
4	645000027	Roller bar 3.0 m		1		
4	645000156	Roller bar 3.5 m			1	

Pos.	Item no.	Designation	2.5 m	3.0 m	3.5 m	4.0 m
4	645000157	Roller bar 4.0 m				1
5	69430145G	Pin Ø30 L=145	2	2	2	2
6	690101101	Bolt M12x25 8,8 (set screw)	4	4	4	4
7	690134004	Ring pin Ø10 (ordinary head)	1	1	1	1
8	690134008	Ring pin Ø10 (big head)	2	2	2	2
9	630532600	Lock bush for pin head	4	4	4	4
10	690136029	Lubricating nipple M8	3	3	3	3
11	645000036	Cylinder for depth adjustment	1	1	1	1
12	69430200G	Pin Ø30 L=200	1	1	1	1
13	69430125G	Pin Ø30 L=125	1	1	1	1
14	645000162	Scale for depth control	1	1	1	1
15	690117012	Facet plate Ø10	4	4	4	4
16	690103076	Bolt M10x40 8.8 (set screw)	2	2	2	2
17	690113005	Self-locking nut M10	2	2	2	2
18	645000165	Pointer for depth control	1	1	1	1
19	690110101	U-bolt M16 100x100x100	1	1	1	1
20	690117013	Facet plate Ø16	2	2	2	2
21	690113008	Self-locking nut M16	2	2	2	2
22	690140808	Bearing UCF 312	2	2	2	2
23	630936300	V-profile roller 2435 mm	1			
23	630916300	V-profile roller 2935 mm		1		
23	630916350	V-profile roller 3435 mm			1	
23	630926300	V-profile roller 3935 mm				1
24	690117005	Facet plate Ø20	16	16	16	16
25	690103147	Bolt M20x65 8.8	8	8	8	8
26	690113009	Self-locking nut M20	8	8	8	8

Tine with Quick-Push shear bolt



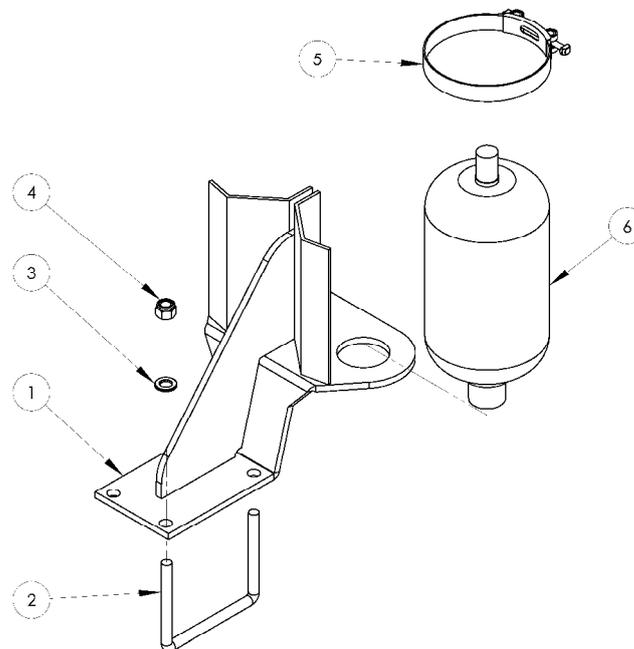
Pos.	Item no.	Designation	Number per leg
1	645000062	Tine for Quick-Push	1
2	645000044	Wearing point	1
3	690103190	Bolt M16x65 8.8	1
4	690117013	Facet plate Ø16	2
5	690113008	Self-locking nut M16	9
6	645000046	Clamping plate	1
7	645000055	Tine bracket (left)	1
7	645000051	Tine bracket (right)	1
8	690117060	Facet plate Ø16 (hardened)	16
9	690103136	Bolt M16x90 10,9	8
10	645000059	Shear bolt Ø34	1
11	69435070F	Pin Ø35 L=71	1
12	690134004	Ring pin Ø10	1
13	0377600	R-clip 6 mm electroplated	1

Tine with hydraulic automatic release system


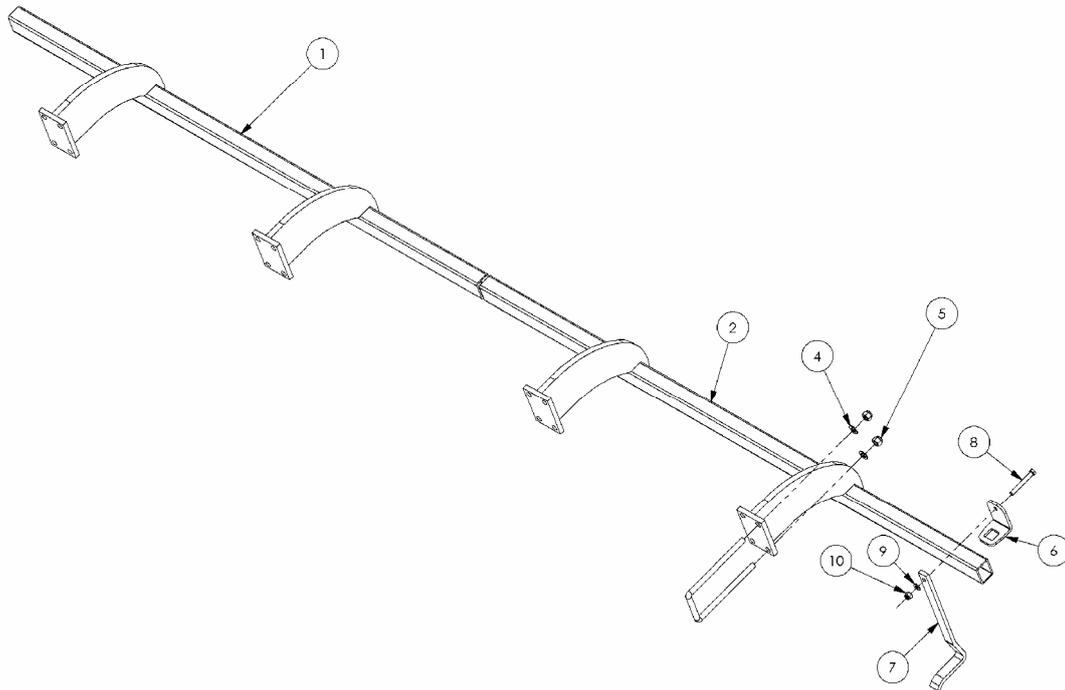
Pos.	Item no.	Designation	Number per leg
1	645000124	Tine bracket for hydr. automatic release system (left)	1
1	645000072	Tine bracket for hydr. automatic release system (right)	1
2	645000086	Tine for hydraulic automatic release system	1
3	645000044	Wearing point	1
4	690103190	Bolt M16x65 8.8	1
5	690117013	Facet plate Ø16	2
6	690113008	Self-locking nut M16	9
7	645000046	Clamping plate	1
8	690103136	Bolt M16x90 10,9	8
9	690117060	Facet plate Ø16 (hardened)	16
10	645000113	Bush for hydraulic tine	1
11	690200305	Cylinder 110/50x165 with yoke	1
12	690115014	Facet plate Ø30	2

13	690103868	Bolt M30x95 10.9	1
14	690113018	Self-locking nut M30	1
15	69440165G	Pin Ø40 L=165	1
16	69440195G	Pin Ø40 L=195	1
17	630532600	Lock bush for pin head	2
18	690101101	Bolt M12x25 8,8 (set screw)	2
19	690136029	Lubricating nipple M8	2

Accumulator for hydraulic automatic release system

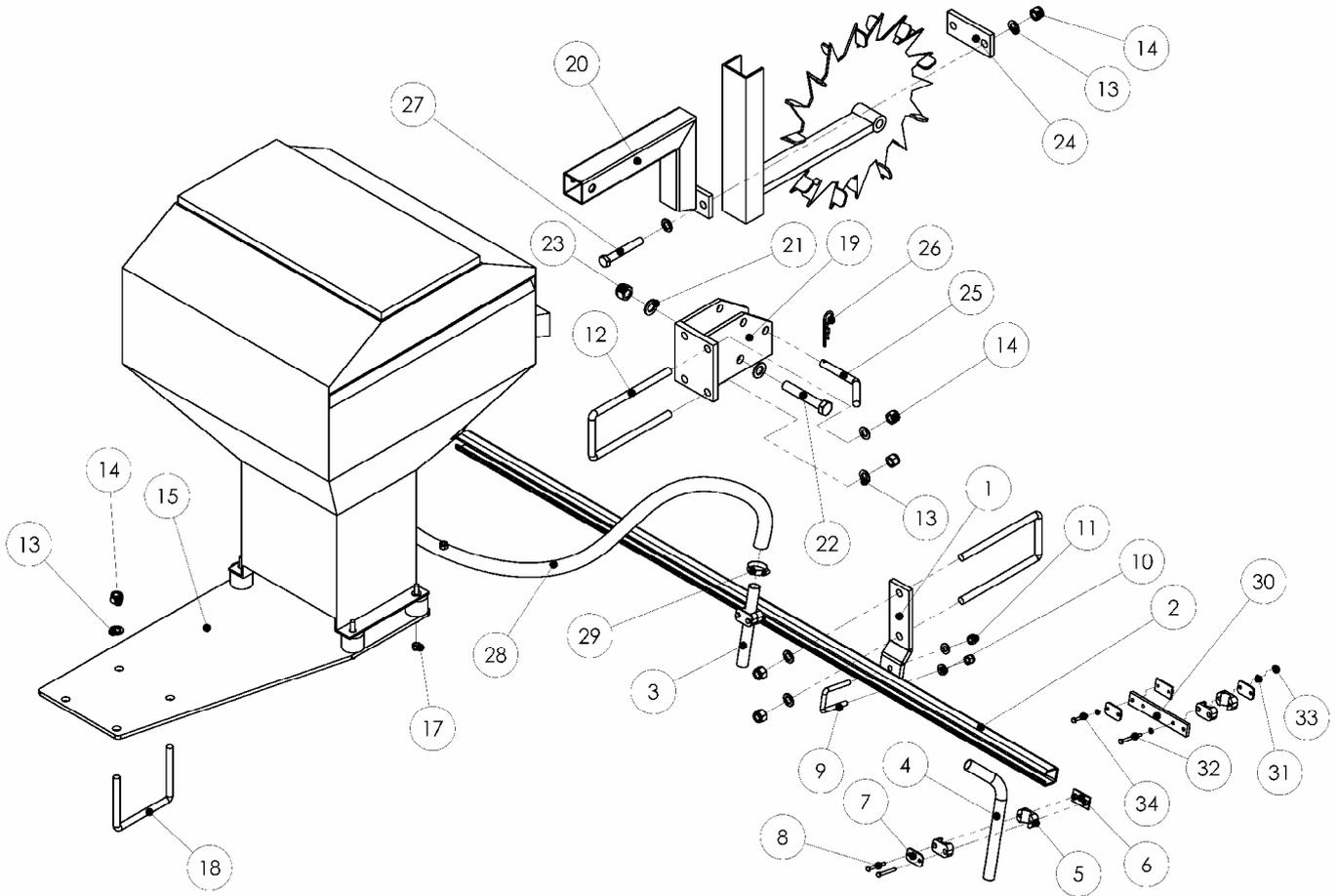


Pos.	Item no.	Designation	Number
1	645000125	Support for accumulator for rigid frame	1
2	690110103	U-bolt M16x100x150x100	2
3	690117013	Facet plate Ø16	4
4	690113008	Self-locking nut M16	4
5	690206516	Clamp (175 -> 187 mm)	2
6	690206513	Accumulator 4l 185 bar	2

Scraper


Pos.	Item no.	Designation	2.5 m	3.0 m	3.5 m	4.0 m	4.0 m hydr.	5.0 m
1	645000287	Scraper bar with bracket	1					
1	630918550	Scraper bar with bracket		1				
1	630918150	Scraper bar with bracket			1			
1	630928550	Scraper bar with bracket (right)				1	1	
1	630938550	Scraper bar with bracket (right)						1
2	630928560	Scraper bar with bracket (left)				1	1	
2	630938560	Scraper bar with bracket (left)						1
3	690110106	U-bolt M16x200x100x2000	4	4	4	8	8	8
4	690117013	Facet plate Ø16	8	8	8	16	16	16
5	690113008	Self-locking nut M16	8	8	8	16	16	16
6	630938522	Clamp for scraper (50x70)	19	23	27	31	31	39
7	630938526	Scraper, short, fixed roller bar	19	23	27	31	31	39
8	690103086	Bolt M12x90 8.8	19	23	27	31	31	39
9	690117014	Facet plate Ø12	19	23	27	31	31	39
10	690113006	Self-locking nut M12	19	23	27	31	31	39

Multi-Seeder Mounting



Pos.	Item no.	Designation	Number
1	645000274	Plate for mounting of C-profile	2
2	645000275	C-profile for mounting of seed tube outlet 2.5 m	1
2	645000276	C-profile for mounting of seed tube outlet 2 m	1
2	645000277	C-profile for mounting of seed tube outlet 3.5 m	1
2	645000278	C-profile for mounting of seed tube outlet 4 m	1
3	645000284	Seed tube outlet for Sub-Tiller, straight	1
4	645000285	Seed tube outlet for Sub-Tiller, bended	2-9
5	690210223	Tube support Ø25, single	2-9
6	690210224	Welding plate for single tupe-support Ø25	2-9
7	690210225	Top plate for tube-support Ø25, single	2-9
8	690103040	Bolt M6x50	6-14
9	690110050	U-bolt M12 40x40x40	2

10	690117014	Facet plate Ø12	4
11	690113006	Self-locking nut M12	4
12	690110106	U-bolt M16x200x100x200	4
13	690117013	Facet plate Ø16	16
14	690113008	Self-locking nut M16	14
15	645000065	Seed hopper plate 200 l	1
15	645000290	Seed hopper plate 400 l	1
16	690117012	Facet plate Ø10	8
17	690113005	Self-locking nut M10	8
18	690110103	U-bolt M16x100x150x100	2
19	645000099	Suspension for driving wheel	1
20	645000111	Pivoting arm for driving wheel	1
21	690117005	Facet plate Ø20	2
22	690103159	Bolt M20x120 8.8	1
23	690113009	Self-locking nut M20	1
24	645000109	Flange for suspension for driving wheel	1
25	69516094A	Pin for support stand Ø16 L=94 mm	1
26	690133005	R-clip Ø4	1
27	690103117	Bolt M16x110 8.8	2
28	0539055	Seed hose	2-9
29	690109306	Clamp 26-38 mm 12 mm wide	2-9
30	645000286	Bracket for seed tube outlet	2
31	0272240	Facet plate 6 mm, fzb	12
32	690103042	Bolt M6x60 8.8	4
33	0264040	Self-locking nut M6, fzb DIN985	4
34	690103031	Bolt M6x40	4

Attention:

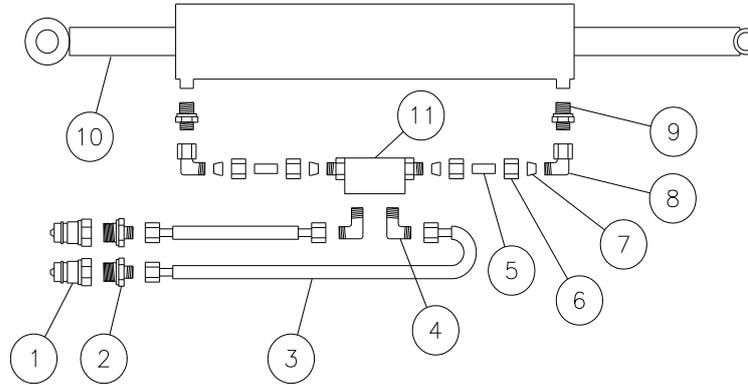
The number of hoses and hose lengths can vary - dependent on the machine type, therefore check measurements and number before ordering the spare parts.

Multi-Seeder

If the Sub-Tiller is mounted with HE-VA Multi-Seeder, we refer you to the Operating Instructions for Multi-Seeder.

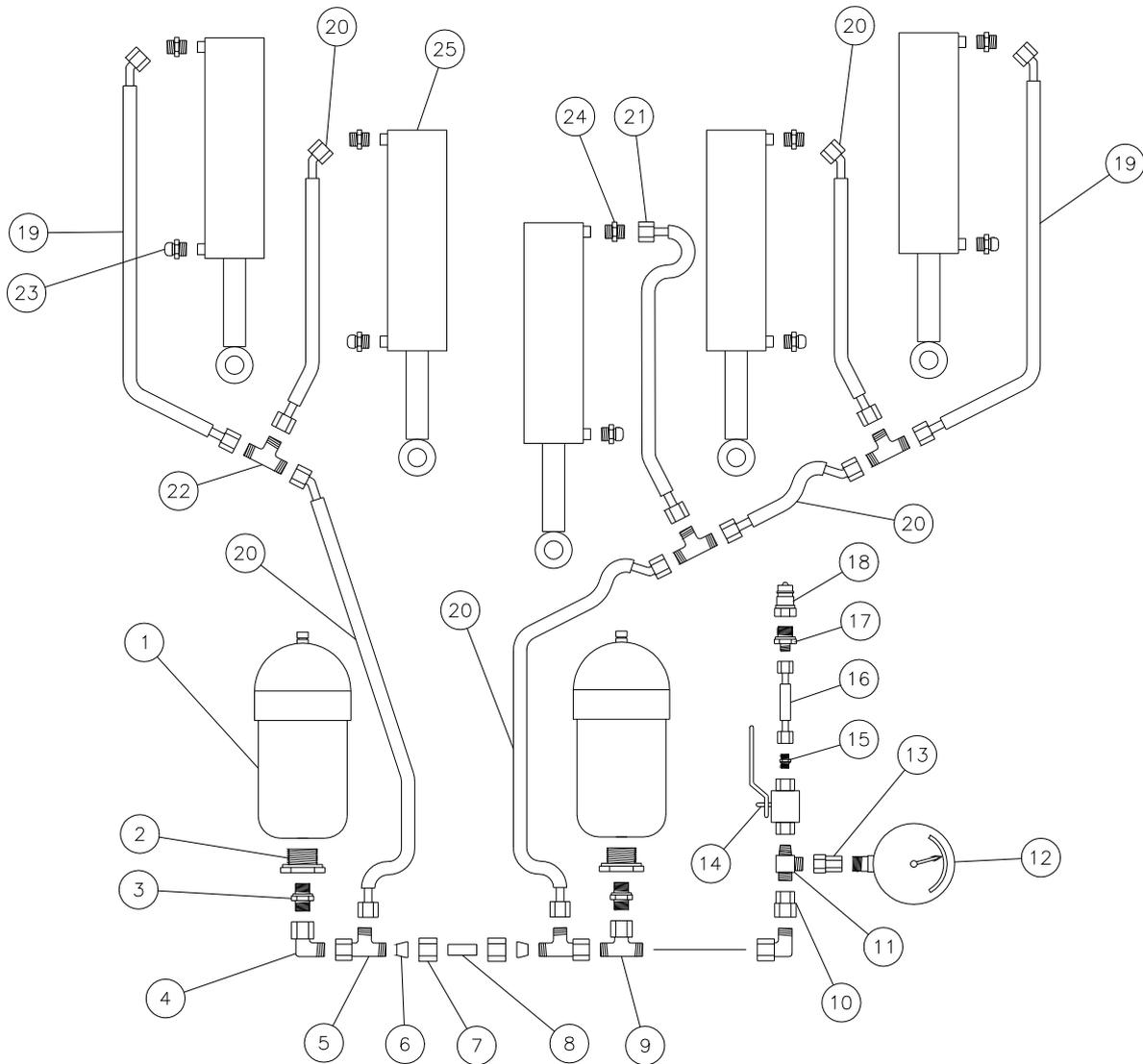
Spare parts list – Hydraulics

Hydraulics for depth control of the roller



Pos.	Item no.	Designation	2.5 m	3.0 m	3.5 m	4.0 m
1	690203001	Quick coupling, male E402 ½"	2	2	2	2
2	690203003	Fitting, straight 10-1/2" BSP	2	2	2	2
3	690201046	Hydraulic hose 1660 mm 1/4" st/st	2			
3	690201013	Hydraulic hose 1770 mm 1/4" st/st		2		
3	690201041	Hydraulic hose 1850 mm 1/4" st/st			2	
3	690201225	Hydraulic hose 1975 mm 1/4" st/st				2
4	690203006	Fitting, 90angle 10-3/8" BSP	2	2	2	2
5	662000804	Hydraulic tube Ø12 L=106	2	2	2	2
6	690203111	Union nut Ø12	4	4	4	4
7	690203110	Olive ring Ø12	4	4	4	4
8	690203016	Fitting 90angle 10 mm	2	2	2	2
9	690203002	Fitting, straight 10-3/8" BSP	2	2	2	2
10	645000036	Cylinder for depth adjustment	1	1	1	1
11	690202971	Check valve (pilot-controlled, double) 3/8"	1	1	1	1

Hydraulics for automatic release system



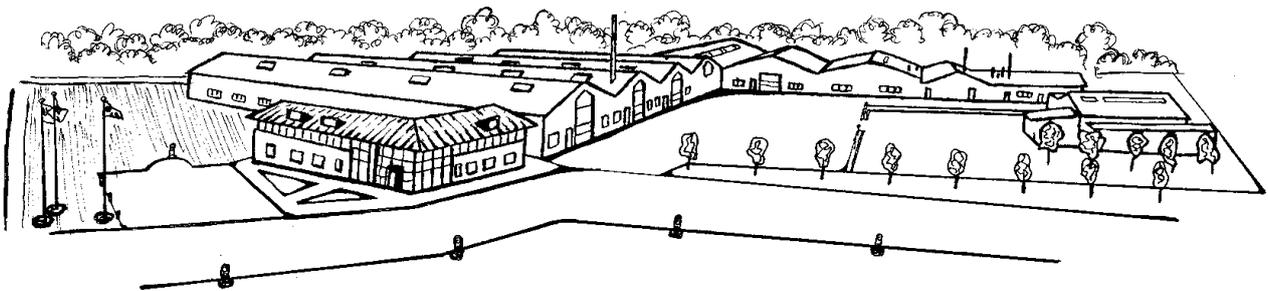
Pos.	Item no.	Designation	Number
1	690206513	Accumulator 4L 185 bar	2
2	690204501	Fitting straight 1/2" x 1 1/4"	2
3	690204512	Fitting straight 15 mm x 1/2"	2
4	690204500	Fitting 90angle Ø 15 mm	2
5	690204502	Fitting T15L	2
6	690204503	Olive ring Ø15	2
7	690204504	Union nut Ø15	2
8	662000803	Hydraulic tube Ø15 L=38	1
9	690204505	Fitting T15	1
10	690204506	Reversed fitting Ø15 / 1/2"	1

Pos.	Item no.	Designation	Number
11	690203314	Fitting T 3/8" / 12 / 12	1
12	690206824	Pressure gauge 400 bar	1
13	690206825	Pressure gauge fitting Ø12 / 1/4"	1
14	690202990	Ball valve 3/8" PN500 DN 10	1
15	690203002	Fitting, straight 10-3/8" BSP	1
16	690201032	Hydraulic hose 1130 mm 1/4" st/st	1
17	690203003	Fitting, straight 10-1/2" BSP	1
18	690203001	Quick coupling 1/2" E402, male	1
19	690201448	Hydraulic hose 1150 mm 1/2" st/45	2
20	690201430	Hydraulic hose 590 mm 1/2" st/45	0-9
21	690201447	Hydraulic hose 300 mm 1/2" st/st	0-1
22	690204507	Fitting T15	0-7
23	690206002	Filter plug (ventilation) 1/2"	2-9
24	690204512	Fitting, straight 15 mm x 1/2"	2-9
25	690200305	Cylinder 110/50x165 with yoke	2-9

Attention:

The number of hoses and hose lengths can vary - dependent on the machine type, therefore check measurements and number before ordering the spare parts.

Notes



The design is subject to modification without notice.