

UK

HE-VA

Operating Instructions
Spare Parts List
Declaration of Conformity

it looks

As good as it looks



Warning: Before using the machine it is important to read the operation instructions.

Manual no. 8000001-09 22.01.26

Disc-Roller Contour

Hydraulic: 4.5 - 5.5 - 6.5 m (2-sections)

 **HE-VA**

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Contents

EC DECLARATION OF CONFORMITY	3
SAFETY INSTRUCTIONS FOR DISC-ROLLER <i>CONTOUR</i>	5
SAFETY AND INSTRUCTIONS ON HYDRAULICS	6
COMPLAINTS	6
LABELS ON THE MACHINE	7
SAFETY – AND OTHER MARKINGS ON THE MACHINE.....	7
TECHNICAL SPECIFICATIONS / DATA	8
DELIVERY CHECK	9
SETTING-UP OF THE MACHINE	9
START-UP OF THE MACHINE	10
<i>ATTACHMENT, MOUNTED MODEL</i>	10
<i>ATTACHMENT, TRAILED MODEL</i>	10
<i>TRANSPORT POSITION TO WORKPOSITION</i>	10
TRANSPORT	11
<i>UNCOUPLING, MOUNTED MODEL</i>	11
<i>UNCOUPLING, TRAILED MODEL</i>	11
SETTINGS AND ADJUSTMENT	12
DRAWBAR.....	12
DISC	12
HE-VA SAT-SYSTEM:.....	13
IN LINE – SYSTEM.....	13
EDGE EQUIPMENT FROM MACHINENO. 341738.....	14
SCRAPER	15
MATERIAL-DAMPER-GUARD	15
MAINTENANCE AND SERVICE	16
NOTER	17
SPARE PARTS LIST	18
DRAWBAR.....	18
CENTRE SECTION, VERSION 1	20
CENTRE SECTION WITH PROTECTION	22
WHEEL FRAME BEFORE MACHINENUMBER 350873	24
WHEELFRAME AFTER MACHINENUMBER: 350873	26
SIDE SECTIONS	28
LOCKING CLAW SYSTEM	30
SINGLE V-PROFILE ROLLER – SCRAPER – MATERIAL DAMPER GUARD.....	32
TWIN U/V-PROFILE ROLLER – MATERIAL DAMPER GUARD.....	33
U-PROFILE ROLLER – SQUARE TUBE ROLLER – WAVE ROLLER	36
DISC BARS.....	38
DISC	40
EDGE EQUIPMENT.....	42
LIGHTS.....	44

EXTRA EQUIPMENT	46
SPRING-BOARD SUSPENSION	46
NOTES.....	49
LONG FINGER AFTER-HARROW	50
EL-DEPTH STOP FOR DISC	52
HYDRAULIC BRAKES	54
AIR BRAKES	55
SUPPORT WHEELS WITH SPRING-BOARD	57
SUPPPORT WHEELS WITHOUT SPRING-BOARD.....	59
HYDRAULIC	61
FOLDING 5,5 – 6,5 M	61
FOLDING 4,5 M.....	62
RAISE / LOWER 4,5 + 5,5 + 6,5.....	64
SPRING-BOARD 4,5 + 5,5 + 6,5 M.....	66
DEPTH CONTROLLER 4.5 METER.....	68
DEBTH CONTROLLER 5.5 - 6,5 METER.....	69



EC DECLARATION OF CONFORMITY

in accordance with the EU Machinery Directive 2006/42/EC
applicable as from December 29th 2009:

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

hereby confirms that the following machine has been manufactured in accordance with the Council
Directive 2006/42/EC.

The declaration comprises the following machine:

Disc-Roller *Contour* 4.5 m – 5.5 m – 6.5m

Nykøbing the 29th of Dec. 2015


Villy Christiansen

The undersigned is furthermore authorised to compile technical documentation for the above
machine.

Safety Instructions for Disc-Roller *Contour*

Do not start-up the machine if there are **persons in exposed positions¹** within a **hazardous area²**.

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

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

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.

Instructions on Unloading and Placing

The machine is supplied completely assembled by our lorry. Our specially trained drivers will assist in the unloading of the machine.

The machine must be driven from the lorry by means of a tractor on the ramps provided and according to our driver's instructions.

Afterwards place the machine on level and firm ground.

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.**

¹ Person in exposed position: Any person who is staying wholly or partly within a hazardous area.

² Hazardous area: On and under the machine within a distance of 4 m from the machine.



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!**
4. After operating the hydraulics, lower the machine to firm ground.
Relieve the hydraulics, stop the motor and remove the ignition key.
5. 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.
6. The life of hydraulic hoses is maximum 5 years.
New hydraulic hoses must meet the manufacturer's requirements.

COMPLAINTS

2-year guarantee:

2-year guarantee on all material and design defects, provided that HE-VA's operating instructions are followed and that only original HE-VA components have been used. All warranty repair work is only performed according to a prior agreement with HE-VA and within normal working hours. Machines for improvement shall be submitted in cleaned condition.

The second year of the guarantee period only includes delivery of components and not replacement of these.

No compensation for loss of operation and profit or other indirect losses.

With front-mounted tools, HE-VA disclaims any liability for the tractor.

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 must be ensured. Check that the front axle is sufficiently loaded. As a minimum, the front axle load must be 20% of the tractor weight. Permitted axle load and permitted total weight for the tractor must always be observed.

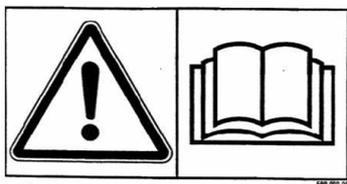
NB! The driving, controlling and braking properties are affected by the attached machine combination.



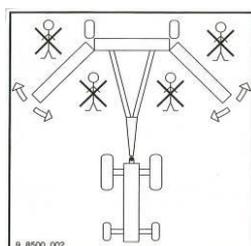
Labels on the machine

You will find several labels on your Disc-Roller 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 these Operating Instructions. Always keep the labels clean and readable – if not they must be replaced.

Safety – and other markings on the machine



Study the Operating Instructions thoroughly before any operation of the machine and observe all safety instructions.



Take care that no persons are within the machine's hazardous area during the unfolding and folding procedure..



Plate with number and year of manufacture



Tighten up the bolts regularly. If this is not performed, our warranty obligations will no longer apply.

Maximum torque according to ISO 898-1, in Nm. With lubricated thread			
Metric thread	Quality 8.8	Quality 10.9	Quality 12.9
M10x1,5	38	54	63
M12x1,75	66	95	110
M14x2,0	105	150	176
M16x2,0	164	235	274
M18x2,5	233	323	377
M20x2,5	331	458	535
M22x2,5	450	622	727
M24x3,0	572	791	925
Wheel-fixing bolt M18x1,5 fine-pitch thread	385 Nm		
Wheel-fixing bolt M22x1,5 fine-pitch thread	550 Nm		



Technical Specifications / Data

Working width	Roller type / Diameter	No of rings	Weight kg	No of disc	Power Requirement, HP
4.50 m	Wave roller 600 mm			34	130+
	U-Profile, 600 mm single	30		34	140+
	V-Profile 600 mm, single	30	4.030	34	140 +
	V-Profile 700 mm, single	30		34	140 +
	Twin V-Profile 600-600 mm	30	4.340	34	140 +
	Twin U-Profile 600-600 mm	30	4.010	34	140 +
5.50 m	Wave roller 600 mm			42	160 +
	U-Profile 600 mm, single	36		42	160 +
	V-Profile 600 mm, single	36	4.770	42	160 +
	V-Profile 700 mm, single	36		42	170 +
	Twin V-Profile 600-600 mm	36	5.090	42	170 +
	Twin U-Profile 600-600 mm	36	4.740	42	170 +
6.50 m	Wave roller 600 mm			50	190 +
	U-Profile 600 mm, single	42		50	200 +
	V-Profile 600 mm, single	42	5.510	50	200 +
	V-Profile 700 mm	42		50	200 +
	Twin V-Profile 600-600mm	42	5.860	50	200 +
	Twin U-Profile 600-600mm	42	5.990	50	200 +

No of hydraulic outlets:

3 double-acting

Hydraulic pressure (min.):

190 bar

Max. working depthe:

12 cm

Working speed (recommended):

10 – 16 km/h



Delivery check

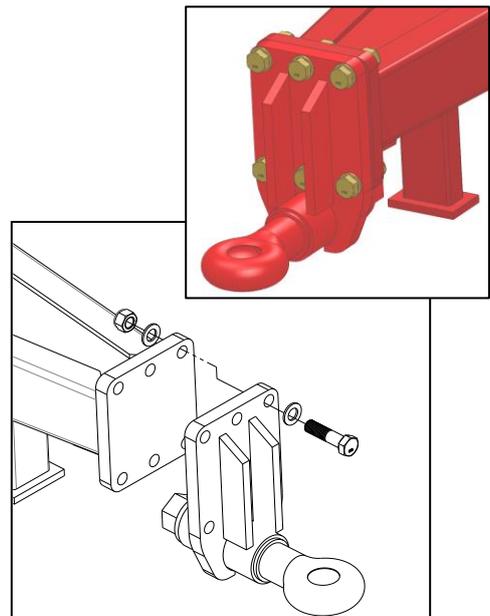
Setting-up of the machine

Check :

- the roller for any damage.
- the roller for any paint damage during transport.
- the hydraulic hoses for cuts and squeezing damage. Check also that the other hydraulic components have not been damaged during transport.
- that the frame construction has not been damaged.
- that the transport wheel nuts are tightened and OK.
- the air pressure in the tyres (according to the technical specifications).
- that all wearing parts are intact.
- that all distance clips for depth control are delivered with the machine.
- and test the lights, (if mounted).

Check the tightening:

- of wheel bolts x-Nm according to specifications
- flange for towing eye **6 pcs of bolts** Nm according to specifications



Start-up of the machine

General Information

The machine is supplied as standard in transport position. At start-up, attach the machine to the tractor.

Important:

Check that the towing hook height is between 500 and 600 mm.
Check that the male quick-couplings of the Disc-Roller fit the female quick-couplings of the tractor.

The machine requires three double-acting outlets.

The hoses for the drawbar - / wheel cylinder are provided with **red** cable straps.

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

The hoses for the disc cylinder are provided with **green** cable straps.

Attachment, Mounted Model

1. Reverse the tractor to the machine and attach.
2. Connect all hydraulic hoses to the tractor outlets.
3. Lift the machine to maximum transport height.

Attachment, Trailed Model

1. Reverse the tractor to the machine.
2. Connect all hydraulic hoses to the tractor outlets.
3. Pressurise the drawbar - and the wheel cylinder (red) so that the machine drawbar is lifted to the suitable height.
4. Then reverse the tractor and attach the machine.
5. Now lift the machine to maximum height.

Transport position to workposition

1. **Important: When unfolding the side sections, the locking claw must first be relieved by activating the folding function, until the side sections meet the stop at the center frame.** Next, when the unfolding function is activated, the locking claw then first will open, after which the side sections are unfolding.
2. When the side sections are completely unfolded, let go of the hydraulic handle and the machine is ready for use.
Always set the tractor's flow control on MAX, to make sure that the side sections will follow each other.
3. Unfold the edge equipment to working position.
4. Now lift and lower the discs to the required working depth.



Transport

1. Lift the discs to the top before folding up the machine.
2. Then lift the machine to maximum transport height.
3. Fold up the side sections (blue) towards the stop on the centre frame, and the locking claw will engage. **It is important to check visually that the locking claw is engaged.** The hydraulic system must then briefly be put in the float position after the locking pawls are engaged, until the locking claw has relieved the hydraulics.
4. Now the machine is secured and ready for transport.
5. Lower the machine in order to minimise the transport height, to get a point of gravity as low as possible. Slow and gentle cornering is recommended as otherwise the machine is at risk to tip over.

Uncoupling, Mounted Model

1. Put down the machine on firm ground and relieve all hydraulic hoses.
2. Now the machine may be uncoupled.

Uncoupling, Trailed Model

1. Lift the machine up and tilt the depth stop on the drawbar forward towards the tractor.
2. Now lower the machine onto firm ground.
3. Adjust the drawbar – and wheel cylinder (red) so that the drawing bolt is loose.
4. Now the machine may be uncoupled.
5. Drive the tractor a little forward and then relieve all hydraulic hoses.

Important:

**Put the machine on level ground
and relieve the hydraulics, before
leaving the machine.**



Settings and adjustment

When starting-up the Disc-Roller *Contour* in the field, it is very important that the machine is parallel with the surface of the earth. The packing roller and the tractor keep the machine in an exact working depth.

Drawbar

The horizontal position is adjusted on:

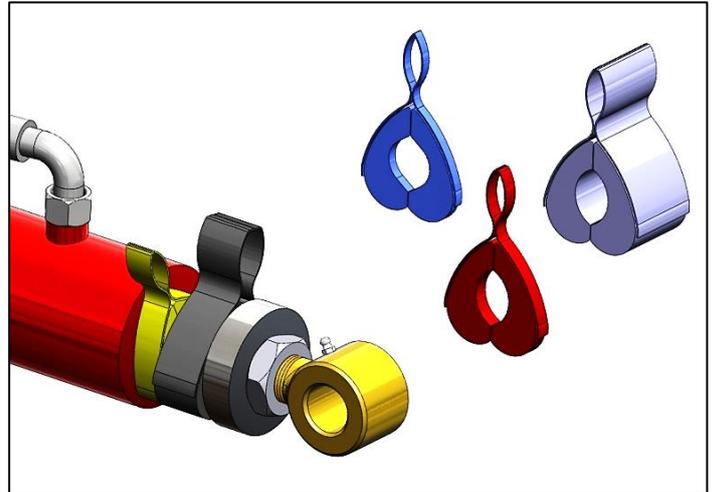
Mounted models:

By means of the top link

Trailed models:

By means of distance clips on the drawbar cylinder

Height of the towing eye: approx. 500-550 mm



Disc

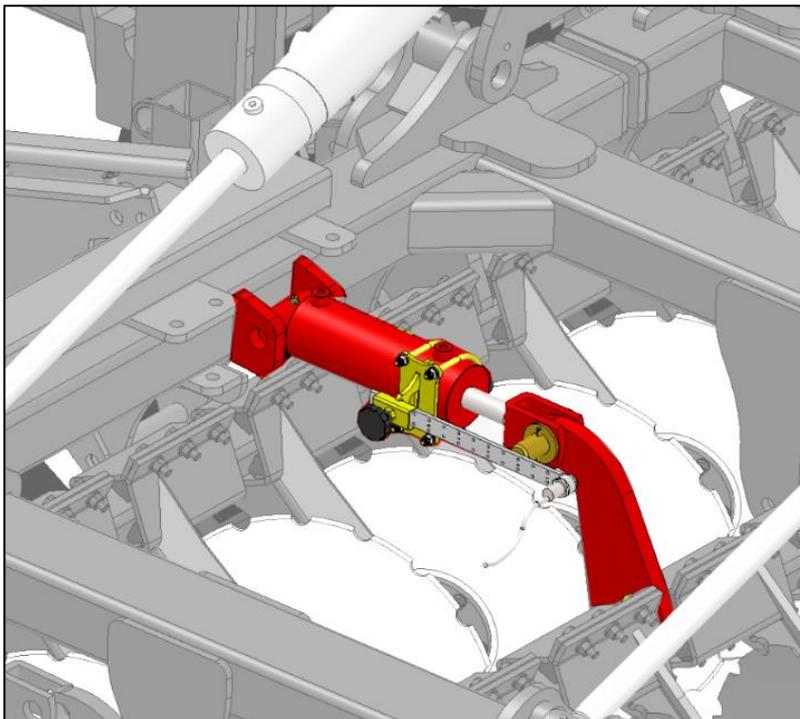
The Discs are adjusted up or down by a hydraulic Master-Slave system.

It is important that the discs are regularly lifted to the top to reset the Master-Slave system.

The depth position is readable on the scale (standard).

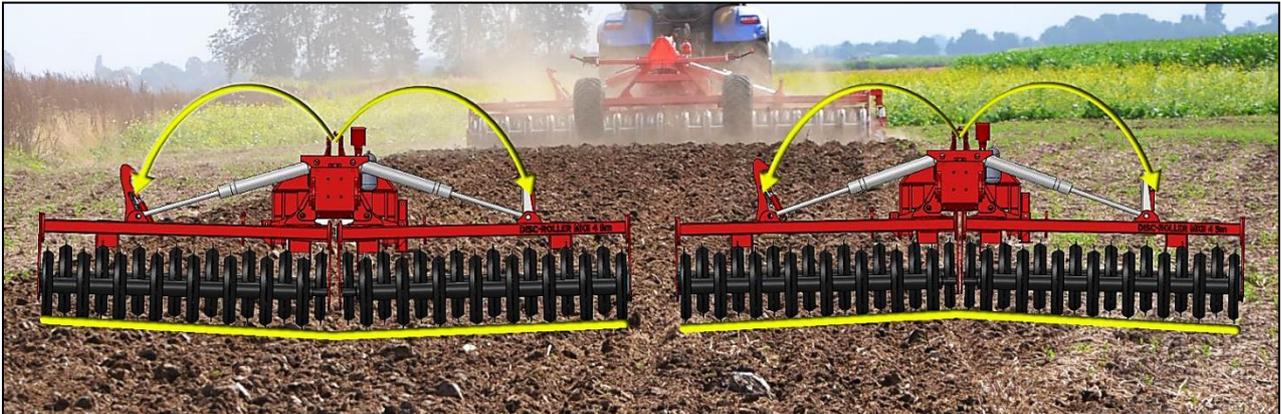
The sensor can be adjusted, where el. depth stop is mounted.

It is possible to over steer the electrical system by turning off the switch mounted in the cabin, now the discs can pass the sensor, thereby a deeper working depth is achieved e.g. at headland and tramlines.



HE-VA SAT-System:

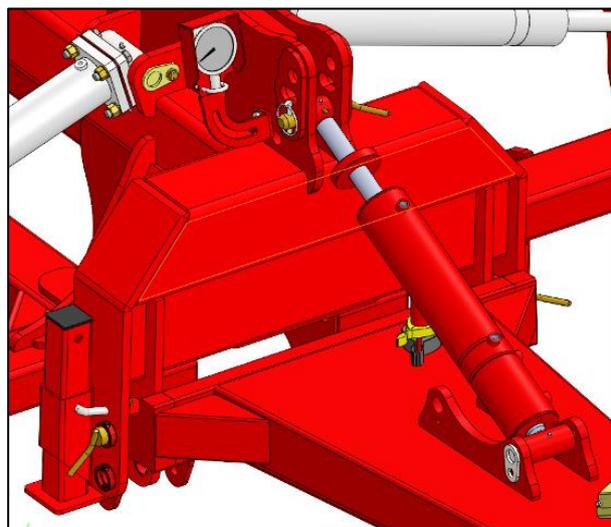
Hydraulic adjustable weight transfer system, ensuring equal weight transfer in the total working width, resulting in the fact that the wing sections are following the ground.

**Manometer for pressure adjustment on 2-sections machines**

In transport position, the hydr. pressure in the system is adjusted to approx. 50 bar. During operation, the hydr. pressure will vary - depending on the soil surface.

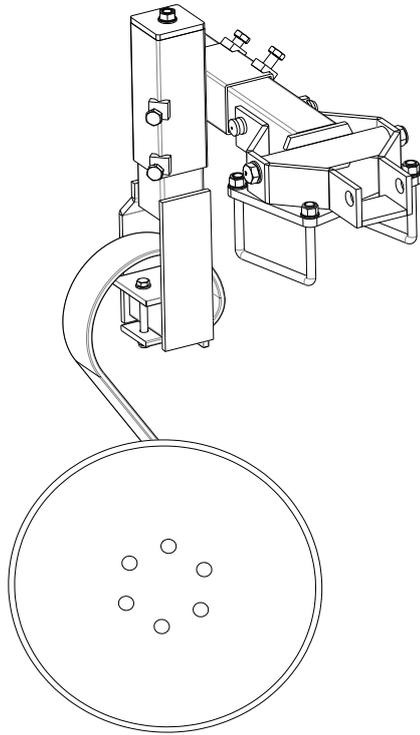
In line – system (extra equipment)

for 1- og 2-sections models.



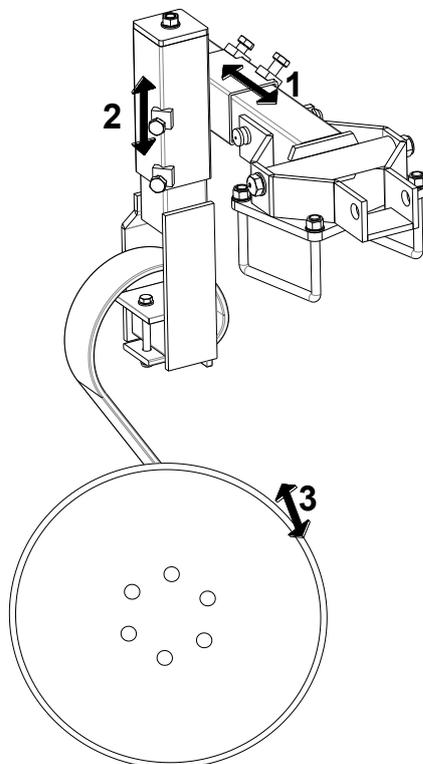
Hydraulic adjustment of the machines parallelism with the soil surface during work from tractor cab – by means of Memory cylinder. Hereby it is secured that the machine is working in line after the tractor, even in hilly ground.



Edge equipment from machinenno. 341738**Edge equipment for Disc-Roller
*Contour***

The disc can be adjusted so that excavated soil is collected.

Keep the disc away from the ground to avoid bending when turning.



The edge equipment can be adjusted three places:

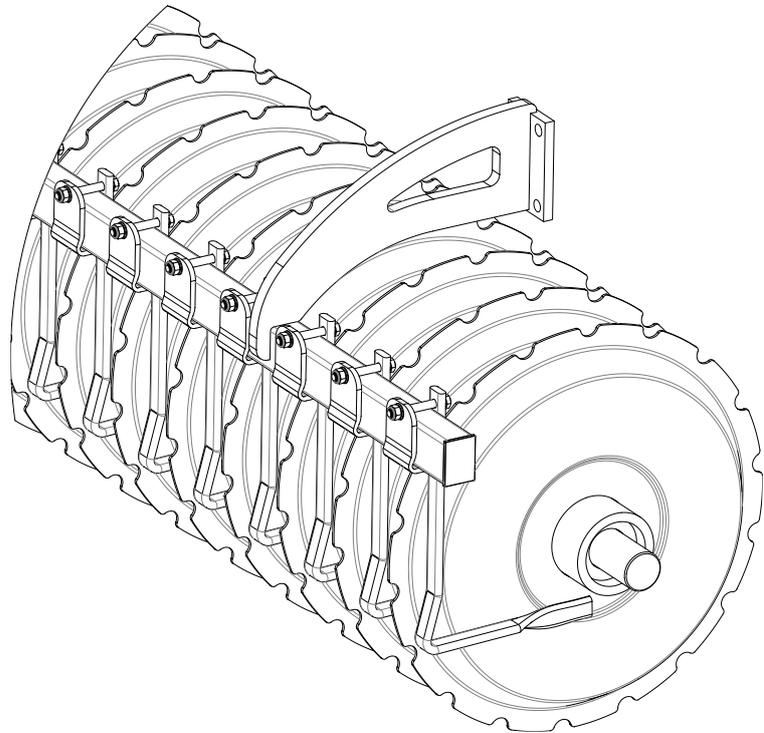
1. Loosen two bolts – move the arm out/in.
2. Use the spindle – it raises and lowers the disc. Loosen two bolts – raise/lower by the spindle and retighten the bolts.
3. Loosen one bolt – tilt the disc more or less.



Scraper

The Disc-Roller *Contour* has special designed scrapers among the packer rings on the single V-Profile and U-Profile as well as on the Wave Roller.

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

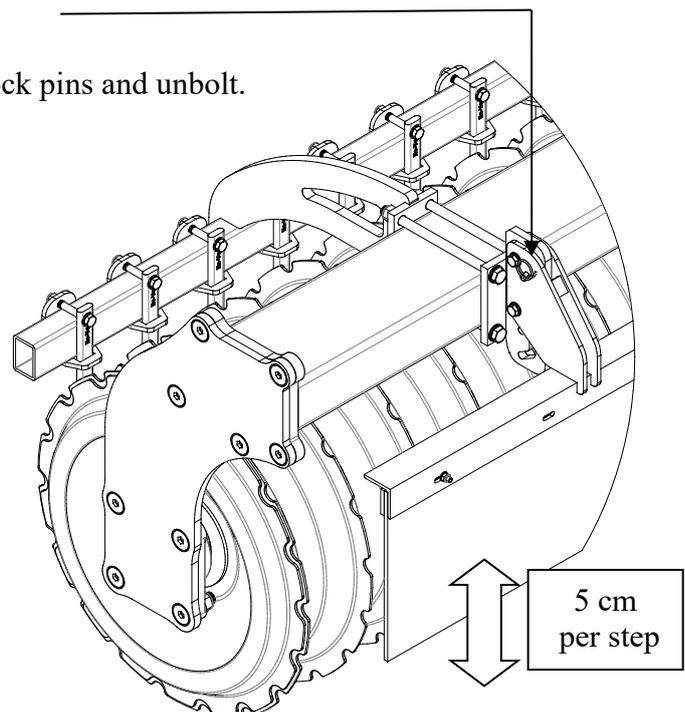


Material-damper-guard

The Disc-Roller *Contour* can be equipped with material damper guard, ensuring that excavated soil from the discs is falling down before packing.

The material damper guard is height adjustable in 5 cm steps, by unlocking 1 pin in each bracket.

To dismount the material damper guard, unlock pins and unbolt.

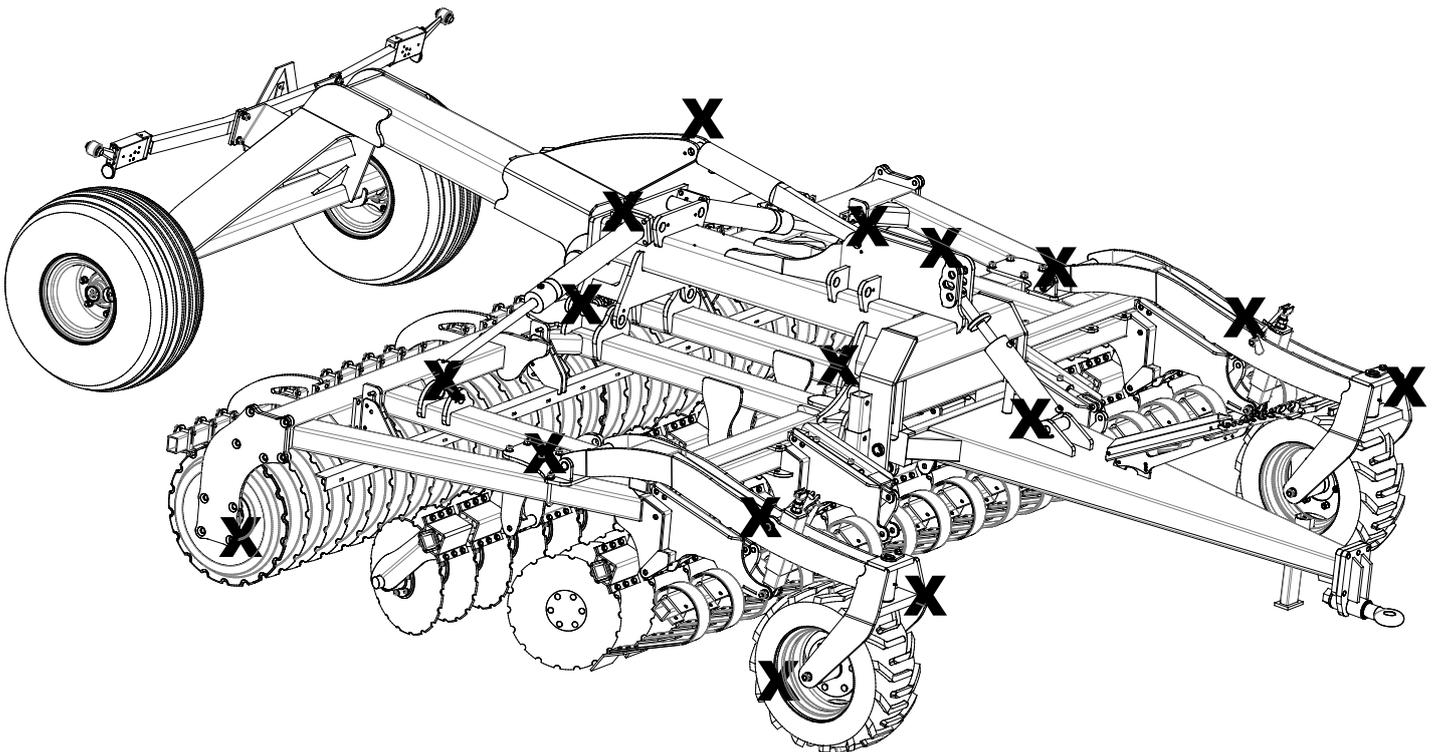


Maintenance and service

- A. After 10 hours of operation, retighten wheels, bearings and stop rings. Check hydraulic hoses, fittings and cylinders for leaks and retighten.
- B. Every 10 hours of operation, grease all pivoting points in side sections, drawbar and wheel assembly.
- C. After end season, grease and wash machine, and grease the piston rods.

Important:

Oil, type Hydro Texaco HD 32 has been filled in the hydraulic system.



X = Lubricating points



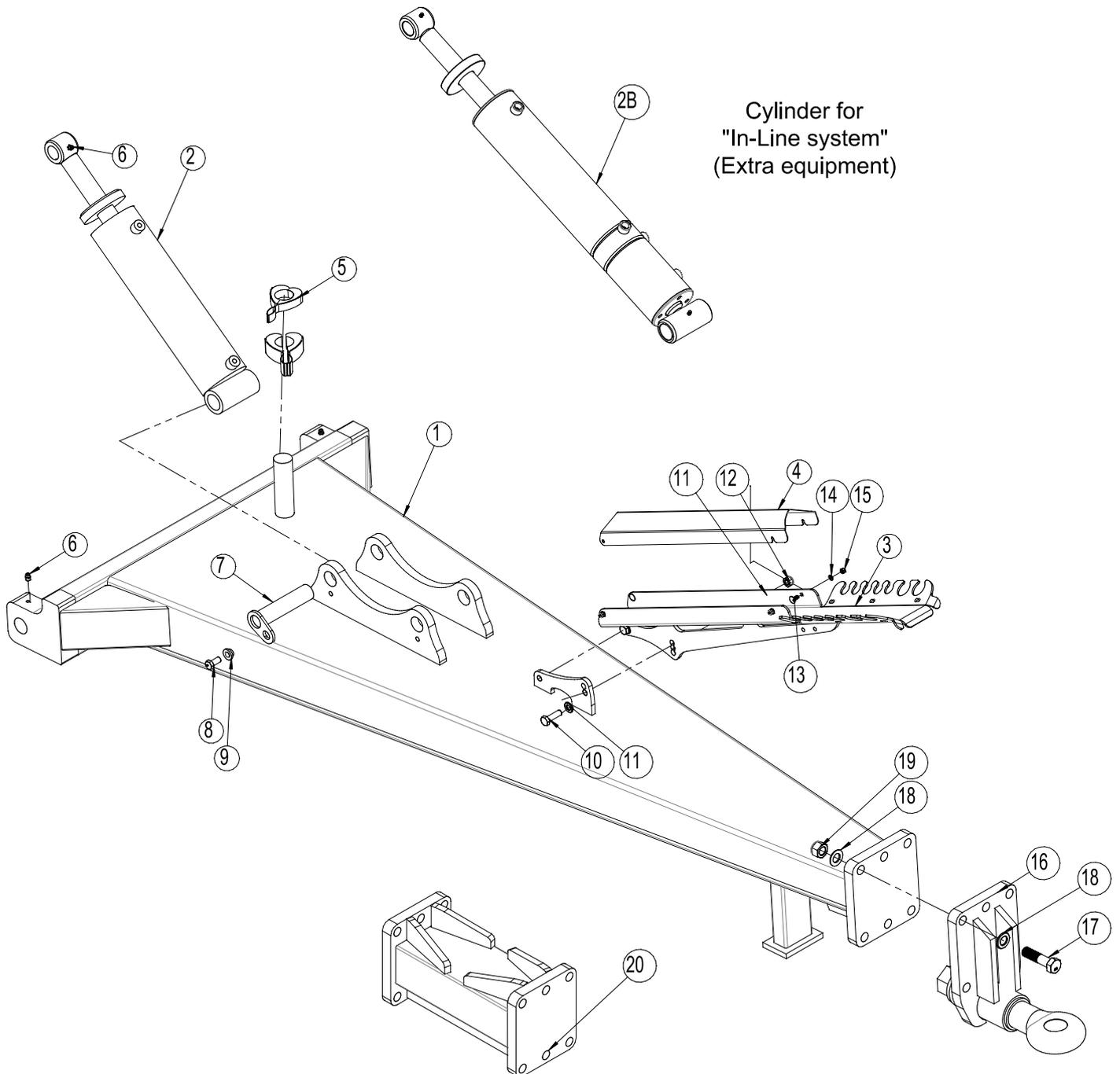
Noter

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Spare parts list

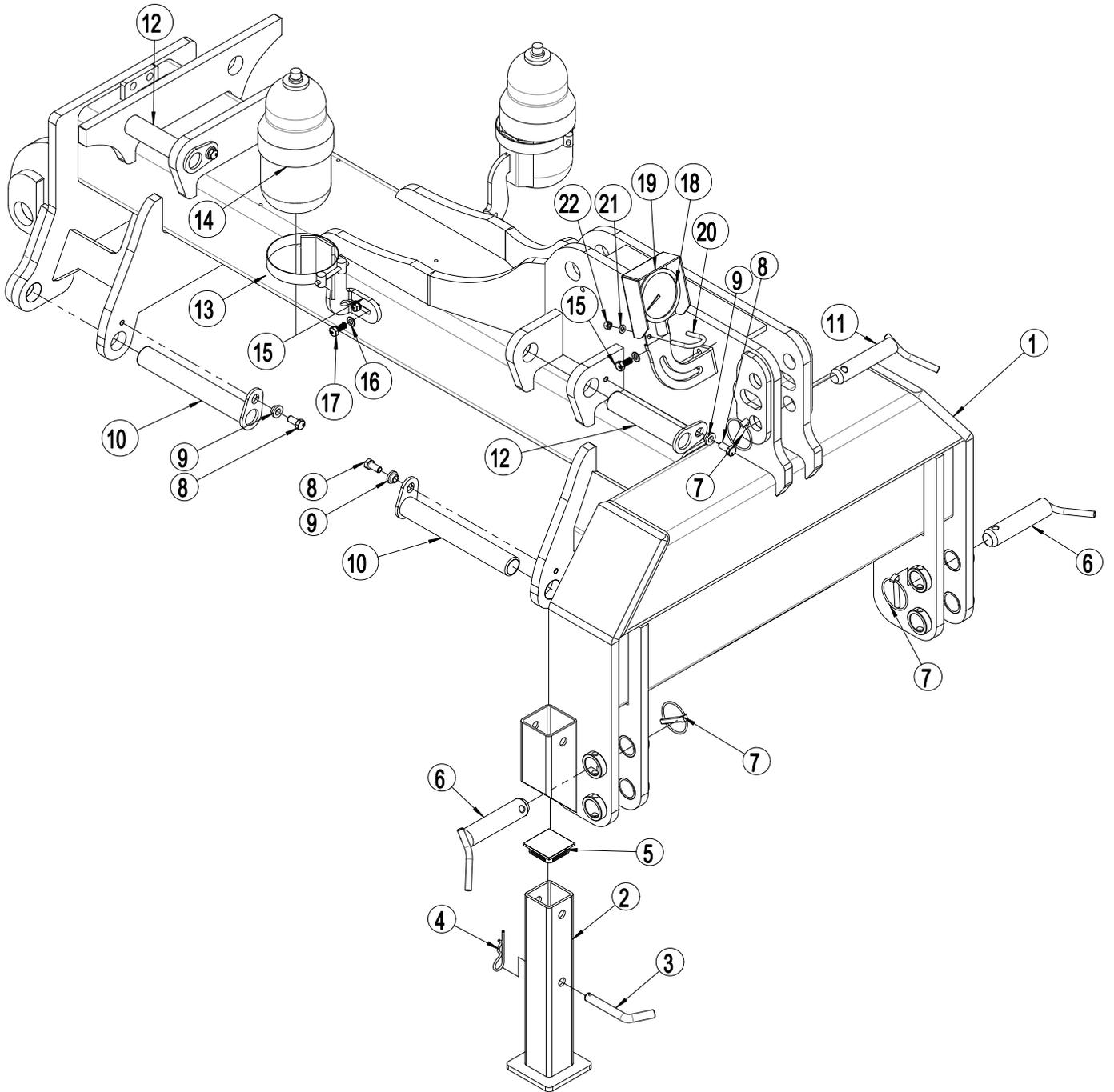
Drawbar



Pos.	Item no.	Designation	4.5m	5.5m	6.5m
1	1300138	Drawbar	1	1	1
2	0463302	Cylinder 100/40x280 Ø35/Ø32	1	1	1
2a	0463372	Gasket set 100/40			
2B	7345041	Cylinder "In-Line system" 100/40 x 280/50	1	1	1
3	7345006	Lower part for hose bracket	1	1	1
4	7345003	Guard for hose bracket	1	1	1
4a	7345019	Hose braket, complete with bolts			
5	690200664	Distance clips 6.2mm, blue	2	2	2
5	690200665	Distance clips 9.4mm, red	2	2	2
5	690200666	Distance clips 18.8mm, yellow	2	2	2
5	690200667	Distance clips 31.6mm, black	1	1	1
5	690200668	Distance clips 50.8mm, silver	2	2	2
6	690136029	Lubricating nipple M8	4	4	4
7	69435170G	Pin Ø35 L=170	1	1	1
8	690101101	Bolt M12x25 8.8 w/glue	1	1	1
9	630532600	Lock bush	1	1	1
10	0235360	Steel set screw M12x40 8.8	2	2	2
11	0272270	Facet plate Ø12	4	4	4
12	0264070	Self-locking nut M12 DIN985	2	2	2
13	0246060	Bolt M6x16 DIN603 (carrier bolt)	4	4	4
14	0272240	Facet plate Ø6	4	4	4
15	0264040	Self-locking nut M6 DIN985	4	4	4
16	630757017	Towing eye Ø50 complete, pivoting	1	1	1
17	690103069	Bolt M20x80 10.9	6	6	6
18	0272310	Facet plate Ø20	12	12	12
19	0264110	Self-locking nut M20 DIN985	6	6	6
20	63094-12	Drawbar extension 400 mm (extra equipment)			



Centre Section, version 1

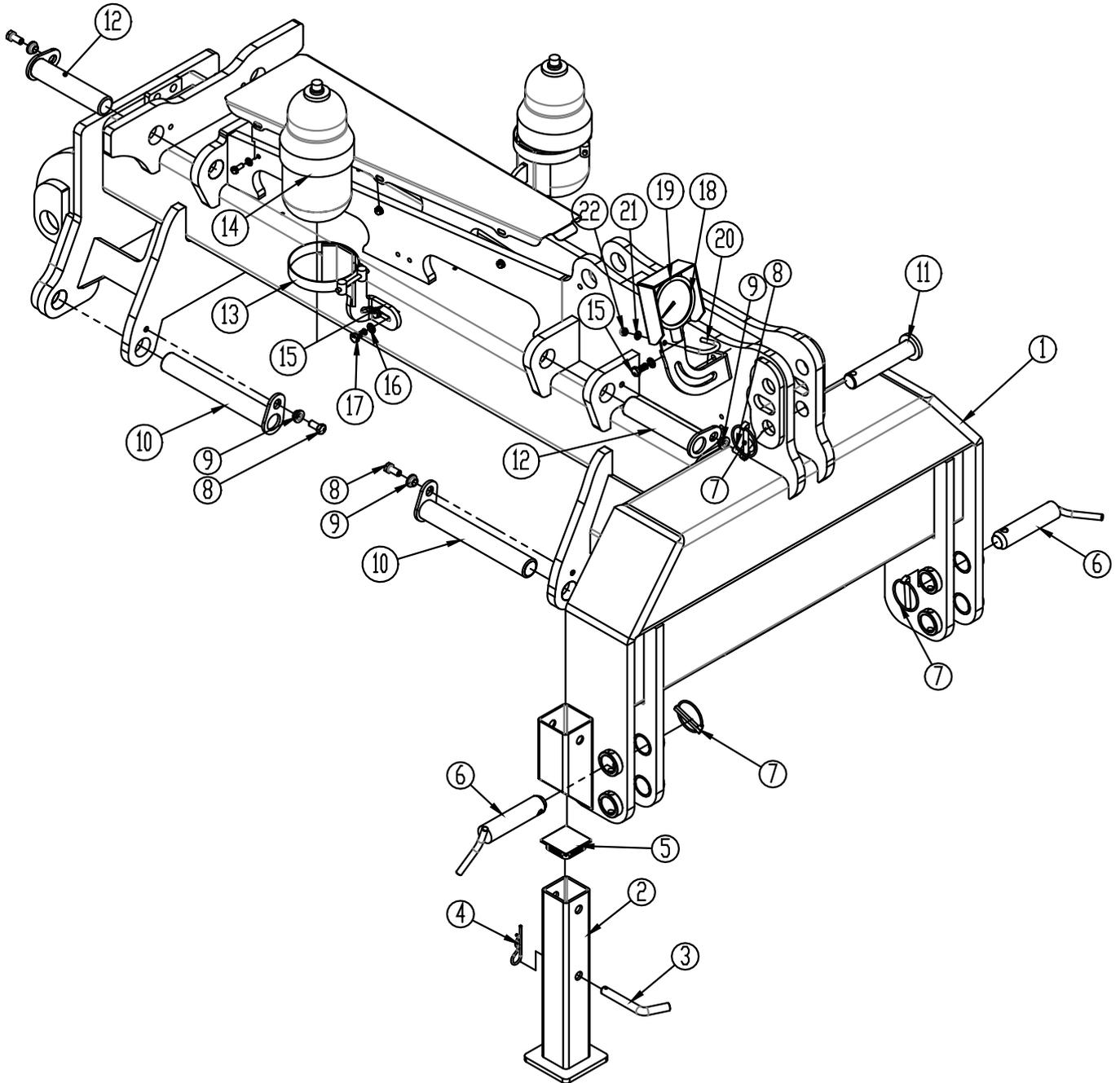


Pos.	Item no.	Designation	4.5m	5.5m	6.5m
1	1160246	Centre frame	1	1	1
2	630916554	Supporting leg	1	1	1
3	1030280	Pin Ø16 L=96 / 45°	1	1	1
4	0377400	R-clip Ø4	1	1	1
5	0489610	Plastic plug RHS 70x70x5	1	1	1
6	69537129B	Pin Ø37 L=129 (Pin for lift arm CAT III) w/handle and cotter slot	2	2	2
7	690134008	Ring pin Ø11,5 - ring Ø60	3	3	3
8	690101101	Bolt M12x25 8.8 w/glue	4	4	4
9	630532600	Lock bush	4	4	4
10	69440287G	Pin Ø40 L=287	2	2	2
11	69532129B	Pin Ø32 L=129 (Pin for top link CAT III) w/handle and cotter slot	1	1	1
12	69440187G	Pin Ø40 L=187	2	2	2
13	690206511	Clamp for accumulator HST 2,3 ltr	2	2	2
14	690206510	Accumulator HST 2,3 ltr. 40 Bar	2	2	2
15	1300065	Holder for accumulator, right	1	1	1
15a	1300062	Holder for accumulator, left	1	1	1
16	0272260	Facet plate Ø10	6	6	6
17	0235040	Bolt M10x25 8.8	6	6	6
18	0442052	Manometer 250 Bar Ø100	1	1	1
19	1300538	Manometer house	1	1	1
20	690110003	O-ring M8x60x Ø35	1	1	1
21	0272250	Facet plate Ø8	2	2	2
22	0264050	Self-locking nut M8	2	2	2



Centre section with protection

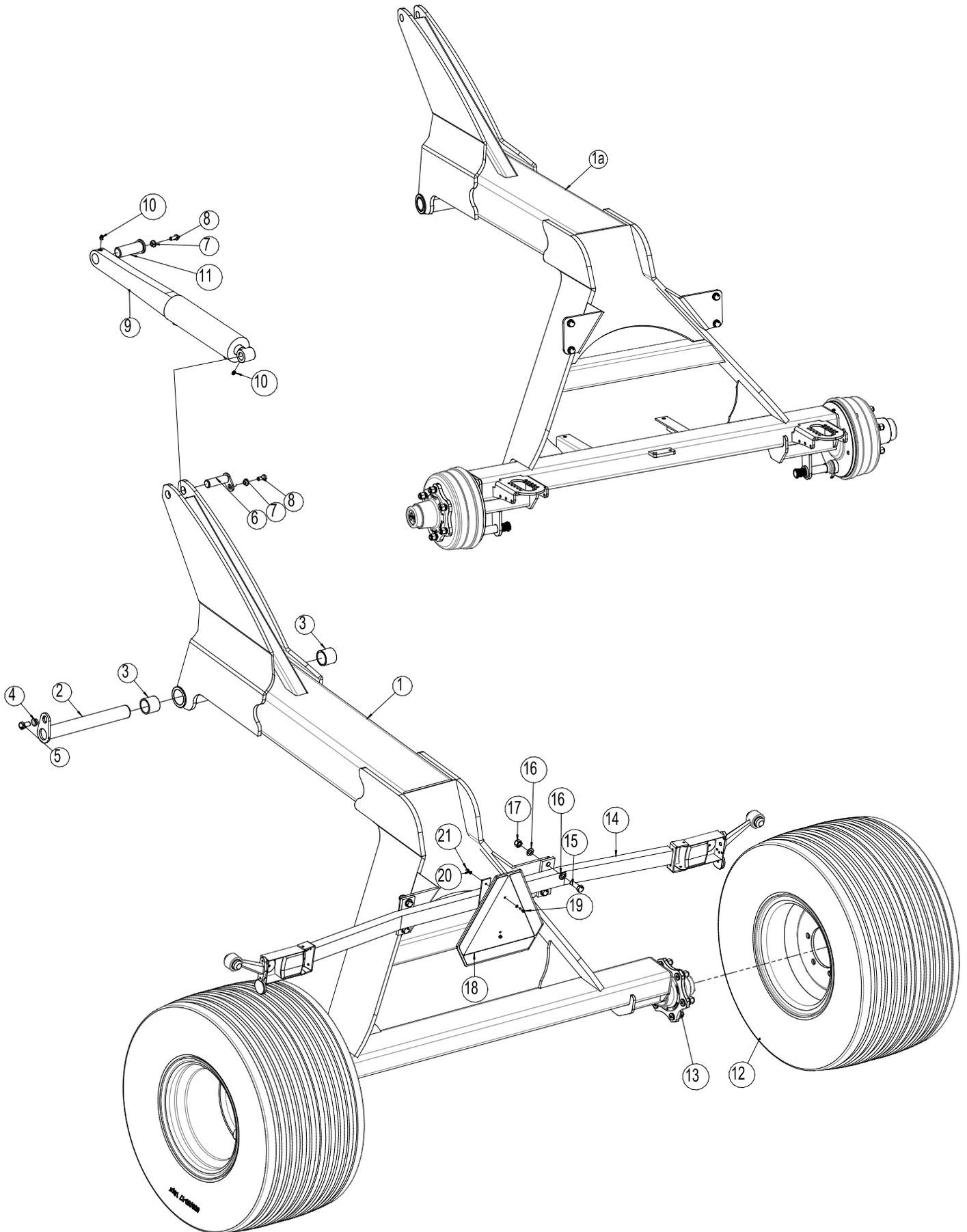
Version 2



Pos.	Item no.	Designation	4.5m	5.5m	6.5m
1	1300114	Centre frame w/protection	1	1	1
2	630916554	Supporting leg	1	1	1
3	69516080A	Pin Ø16 L=80,5mm / 45°	1	1	1
4	0377400	R-clip Ø4	1	1	1
5	0489610	Plastic plug RHS 70x70x5	1	1	1
6	69537129B	Pin Ø37 =129 (Pin for lift arm CAT III) w/handle and cotter slot	2	2	2
7	690134008	Ring pin Ø11,5 – ring Ø60	3	3	3
8	690101101	Bolt M12x25 8.8 m/lim	4	4	4
9	630532600	Lock bush	4	4	4
10	69440287G	Pin Ø40 L=287	2	2	2
11	1140361	Nagle Ø30 L=149	1	1	1
12	69440187G	Pin Ø40 L=187	2	2	2
13	690206511	Clamp for accumulator HST 2,3 ltr	2	2	2
14	690206510	Accumulator HST 2,3 ltr. 40 Bar	2	2	2
15	1300065	Holder for accumulator, right	1	1	1
15a	1300062	Holder for accumulator, left	1	1	1
16	0272260	Facet plate Ø10	6	6	6
17	0235040	Bolt M10x25 8.8	6	6	6
18	0442052	Manometer 250 Bar Ø100	1	1	1
19	1300538	Holder for Manometer	1	1	1
20	690110003	O-ring M8x60x Ø35	1	1	1
21	0272250	Facet plate Ø8	2	2	2
22	0264050	Self-locking bush M8	2	2	2
23	1300120	Protection for center frame	1	1	1
24	0234750	Steel set screw M8x20 fzb 8.8	6	6	6
25	0272250	Facet plate Ø8	6	6	6



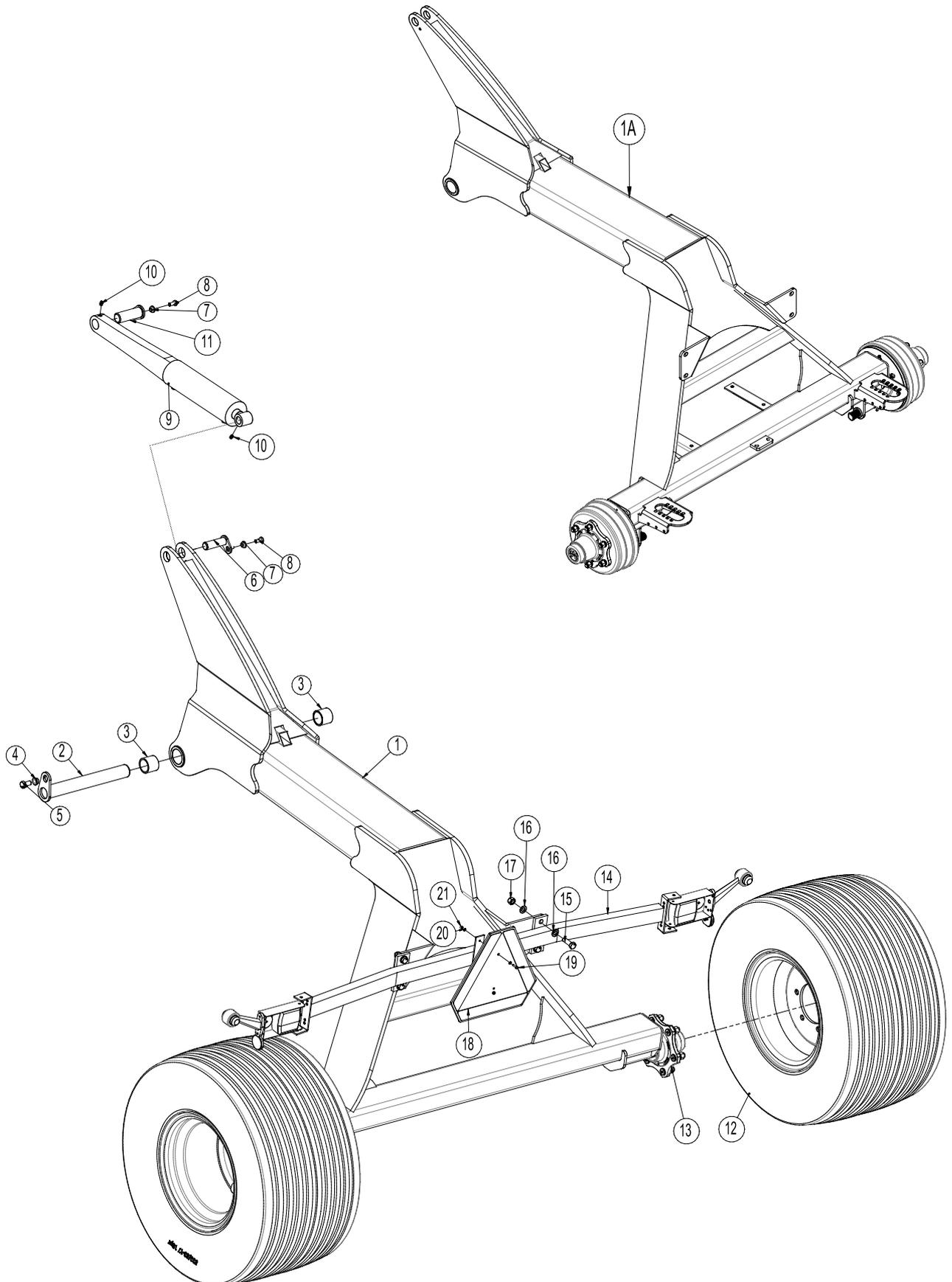
Wheel frame before machinenumber 350873



Pos.	Item no.	Designation	4.5m	5.5m	6.5m
1	1140873	Wheel frame 2500 kg hub	1	1	1
1a	1141216	Wheel frame with brake hub	1	1	1
2	69450400G	Pin Ø50 L=400 welded head	1	1	1
3	0475400	Bush EG Ø60/50 x 50 mm	2	2	2
4	630532700	Lock bush for pin head	1	1	1
5	690103198	Bolt M16x30 8.8	1	1	1
6	69430095G	Pin Ø30 L=95	1	1	1
7	630532600	Lock bush for pin head	2	2	2
8	690101101	Bolt M12x25 w/glue	2	2	2
9	7345049	Cylinder 100/40x285	1	1	1
9a	690200289	Gasket set 100/40 (Laizhou)			
10	690136029	Lubricating nipple M8	2	2	2
11	69440110G	Pin Ø40 L=110	1	1	1
12	0396300	Wheel 400/60x15,3 – 14 PLY	2		
12	0396650	Wheel 500/50x17,0 – 14 PLY		2	2
13	690141030	Hub 2500 kg TVZ	2	2	2
13a	690141033	Hub cap ø80 2500 kg nav - TVZ (see hub cap)	2	2	2
13b	0396470	Hub nut M18 x 1,5	12	12	12
13c	0396460	Hub bolt M18 x 1,5 L=54	12	12	12
13	690141032	Hub w/brakes 3750 kg TVZ	2	2	2
13a	690141034	Hub cap Ø90	2	2	2
13b	690141055	Hub nut M18 x 1,5	12	12	12
13c	690141042	Hub bolt M18 x 1,5 x 60	12	12	12
14	630835015	Bar for light	1	1	1
15	690103197	Bolt M16x50	4	4	4
16	0272290	Facet plate Ø16	8	8	8
17	0264090	Self-locking nut M16	4	4	4
18	0521010	Warning triangle	1	1	1
19	0233860	Bolt M5x20	2	2	2
20	0272230	Facet plate Ø5	4	4	4
21	0264030	Self-locking nut M5	2	2	2



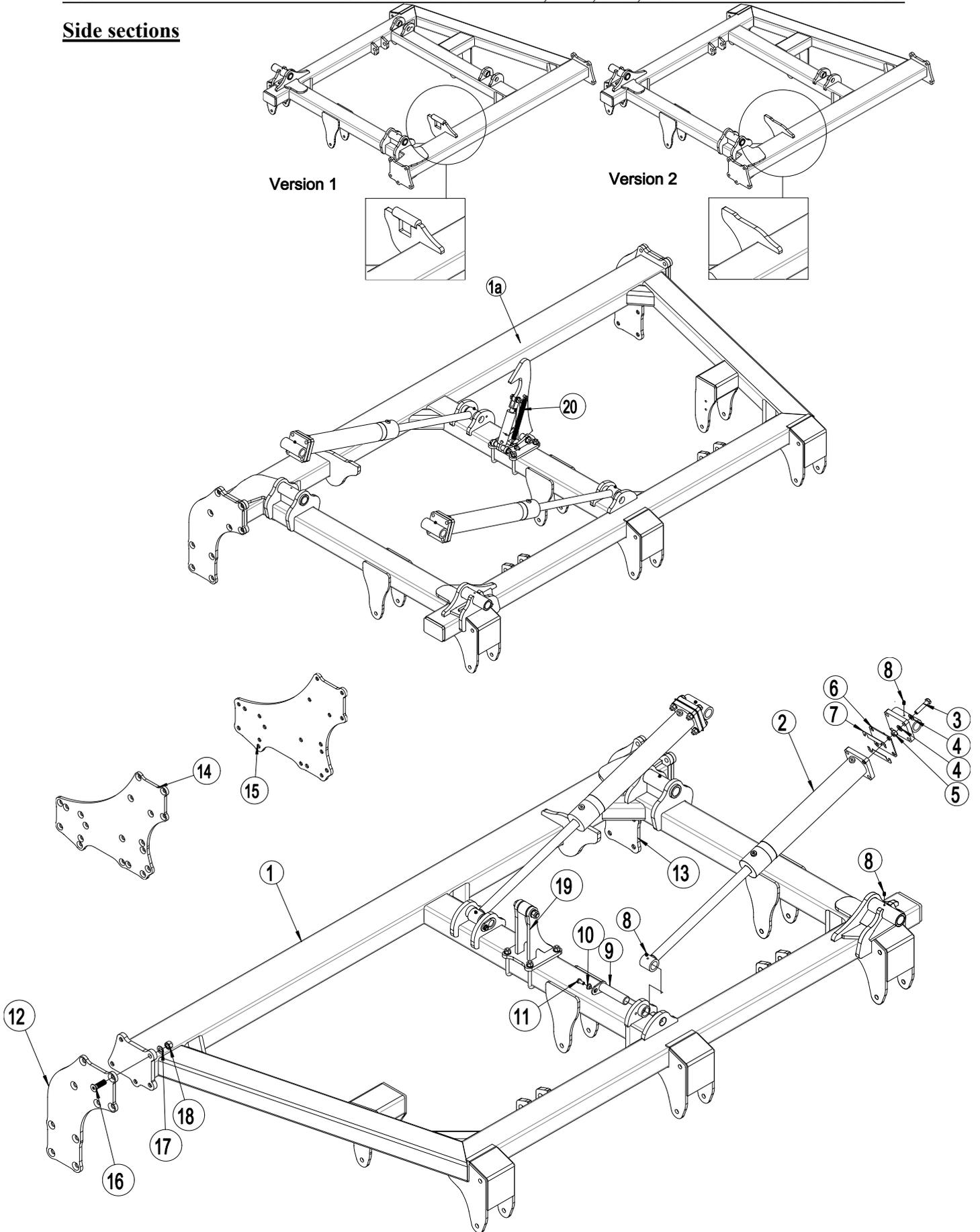
Wheelframe after machinenumber: 350873



Pos.	Item no.	Designation	4.5m	5.5m	6.5m
1	1141258	Wheel frame 2500 kg hub <i>After machinnumber 350873</i>	1	1	1
1a	1141262	Wheel frame with brake hub <i>After machinnumber 350873</i>	1	1	1
2	69450400G	Pin Ø50 L=400 welded head	1	1	1
3	0475400	Bush EG Ø60/50 x 50 mm	2	2	2
4	630532700	Lock bush for pin head	1	1	1
5	690103198	Bolt M16x30 8.8	1	1	1
6	69440090G	Pin Ø40 L=90	1	1	1
7	630532600	Lock bush for pin head	2	2	2
8	690101101	Bolt M12x25 w/glue	2	2	2
9	7345095	Cylinder100/40x285 Ø40,5/Ø40,25 <i>After machinnumber 350873</i>	1	1	1
9a	690200296	Gasket set 100/40 (86) (Laizhou)			
10	690136029	Lubricating nipple M8	2	2	2
11	69440110G	Pin Ø40 L=110	1	1	1
12	0396300	Wheel 400/60x15,3 – 14 PLY	2		
12	0396650	Wheel 500/50x17,0 – 14 PLY		2	2
13	690141030	Hub 2500 kg TVZ	2	2	2
13	0395442	Nav 2500 kg - He-va (se navkapsel)	2	2	2
13a	690141033	Hub cap ø80 2500 kg hub - (TVZ (see hub cap))	2	2	2
13a	0395437	Hub cap ø88 2500 kg hub - (He-va (see hub cap))	2	2	2
13b	0396470	Hub nut M18 x 1,5	12	12	12
13c	0396460	Hub bolt M18 x 1,5 L=54	12	12	12
13	690141032	Hub w/brakes 3750 kg TVZ	2	2	2
13a	690141034	Hub cap Ø90	2	2	2
13b	690141055	Hub nut M18 x 1,5	12	12	12
13c	690141042	Hub bolt M18 x 1,5 x 60	12	12	12
14	630835015	Bar for light	1	1	1
15	690103197	Bolt M16x50	4	4	4
16	0272290	Facet plate Ø16	8	8	8
17	0264090	Self-locking nut M16	4	4	4
18	0521010	Warning triangle	1	1	1
19	0233860	Bolt M5x20	2	2	2
20	0272230	Facet plate Ø5	4	4	4
21	0264030	Self-locking nut M5	2	2	2



Side sections



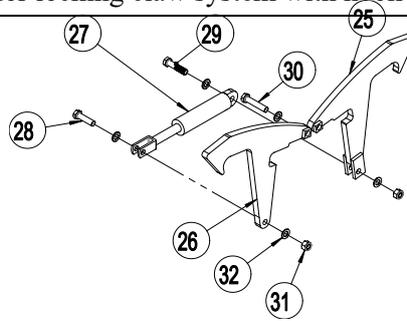
Pos.	Item no.	Designation	4.5	5.5	6.5
1	630928701	Side section, right (version 1) (for 15 mm end plates)	1		
1	630928715	Side section, right (version 2) (for 15 mm end plates)	1		
1	1300216	Side section, right (for 20 mm end plates) From machine number 349524	1		
1	630938622	Side section, right (version 1) (for 15 mm end plates)		1	
1	1300030	Side section, right (version 2) (for 15 mm end plates)		1	
1	1300218	Side section, right (for 20 mm end plates) From machine number 349524		1	
1	1300038	Side section, right (for 15 mm end plates)			1
1	1300204	Side section, right (for 20 mm end plates) From machine number 349524			1
1a	630928709	Side section, left (version 1) (for 15 mm end plates)	1		
1a	1300094	Side section, left (version 2) (for 15 mm end plates)	1		
1a	1300217	Side section, left (for 20 mm end plates) from machine number 349524	1		
1a	630938632	Side section, left (version 1) (for 15 mm end plates)		1	
1a	1300037	Side section, left (version 2) (for 15 mm end plates)		1	
1a	1300219	Side section, left (for 20 mm end plates) from machine number 349524		1	
1a	1300039	Side section, left (version 2) (for 15 mm end plates)			1
1a	1300207	Side section, left (for 20 mm end plates) from machine number 349524			1
2	690200252	Cylinder 90/40x600 Ø40,25	2	4	4
2a	690200253	Square flange w/bush Ø40,25	2	4	4
	690200273	Gasket set 90/40 (Hydraflex)			
3	0235870	Steel bolt M16x75mm, 8.8 fzb	8	16	16
4	0272290	Facet plate 16mm, fzb	16	32	32
5	0264090	Self-locking nut M16	8	16	16
6	645200176	Shim 3 mm			
	645200178	Shim 4 mm			
	645200174	Shim 5 mm			
7	645000396	Shim 1mm			
8	690136029	Lubricating nipple M8	8	12	12
9	69440153G	Pin Ø40 L=153 with welded head	2	4	4
10	630532600	Bush for pin	2	4	4
11	690101101	Bolt M12x25 m/lim	2	4	4
12	630938626	End plate for single roller Ø600, R (15mm)	2	2	2
12	1300245	End plate for single roller Ø600, R (20mm) from machine number 349524	2	2	2
12	1300211	End plate for single roller Ø700, R (20mm)	2	2	2



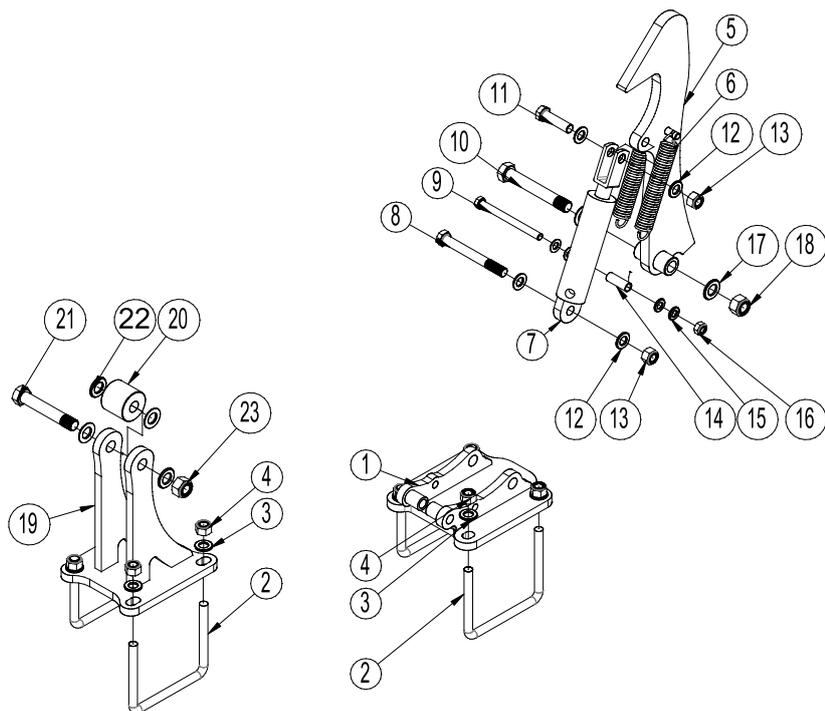
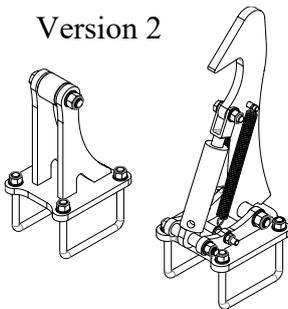
Pos.	Item no.	Designation	4.5	5.5	6.5
13	630938627	End plate for single roller Ø600, L (15mm)	2	2	2
13	1300246	End plated for single roller Ø600, L (20mm) from machine number 349524	2	2	2
13	1300212	End plate for single roller Ø700, V (20mm)	2	2	2
14	630938636	End plate for Twin roller, R (15mm)	2	2	2
14	1300208	End plate for Twin roller, R (20 mm) from machine number 349524	2	2	2
15	630938637	End plate for Twin roller, L (15mm)	2	2	2
15	1300210	End plate for Twin roller, L (20mm) from machine number 349524	2	2	2
16	690103215	Hexagon screw M20x70 8.8 UH fzb DIN7991	20	20	20
17	0272310	Facet plate Ø20	20	20	20
18	0264110	Self-locking nut M20	20	20	20
19	630916604	Console for locking claw system with roller	1	1	1
20	630916593	Console for locking claw system with hook	1	1	1

Locking claw system

Version 1



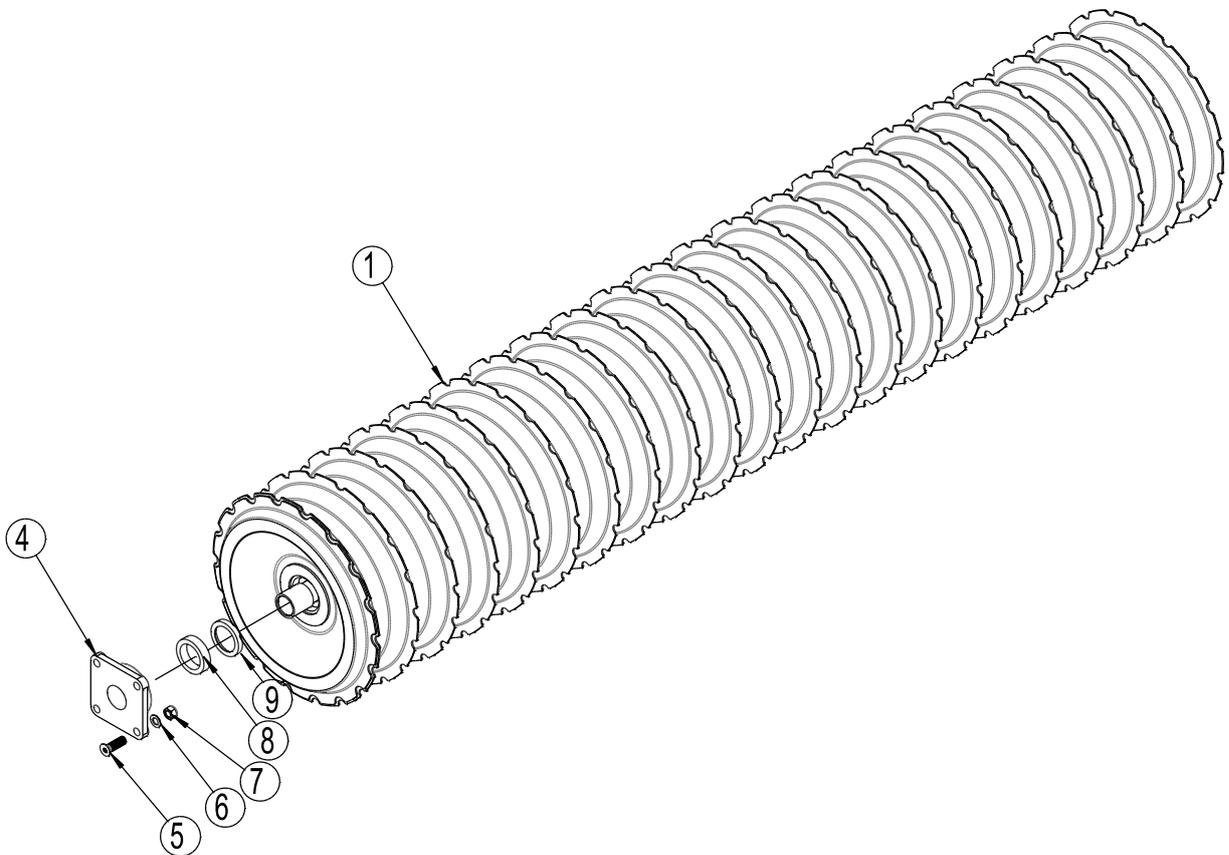
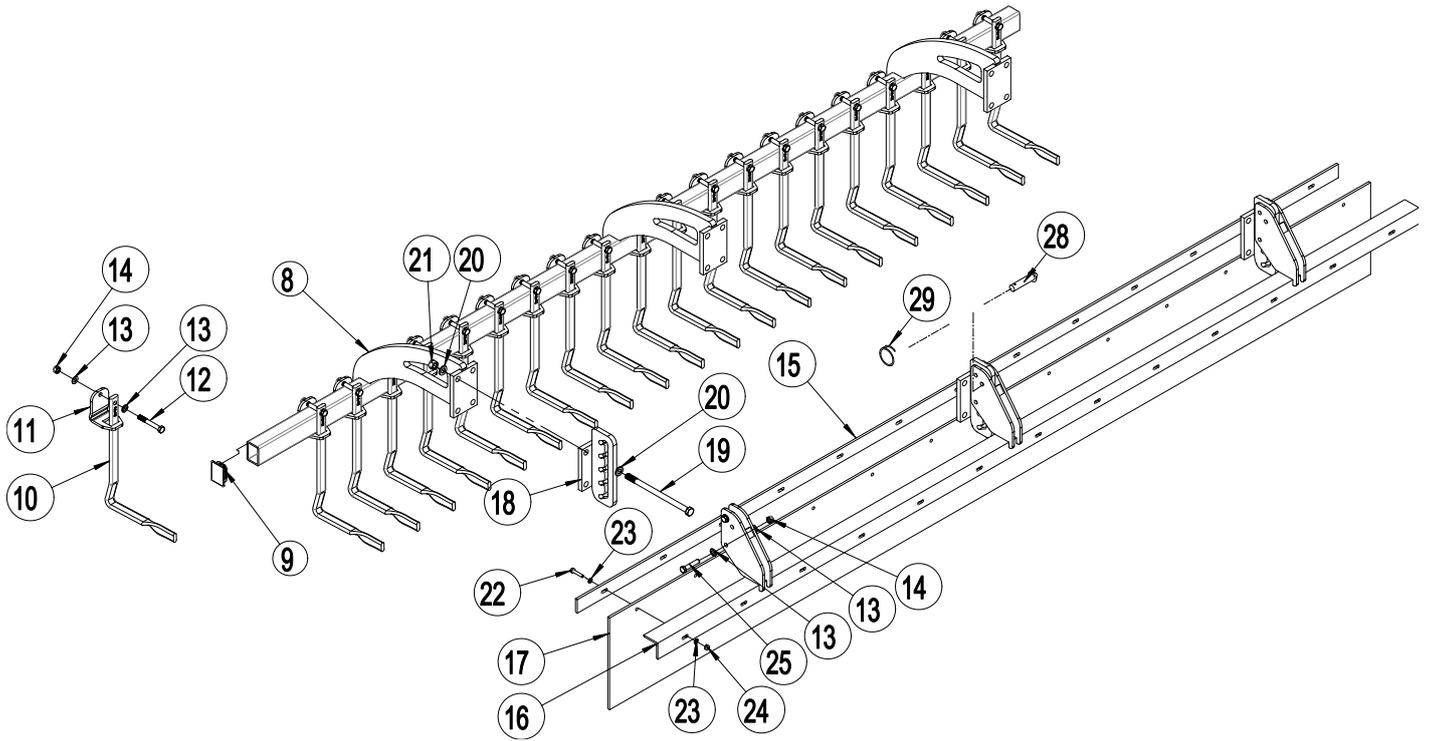
Version 2



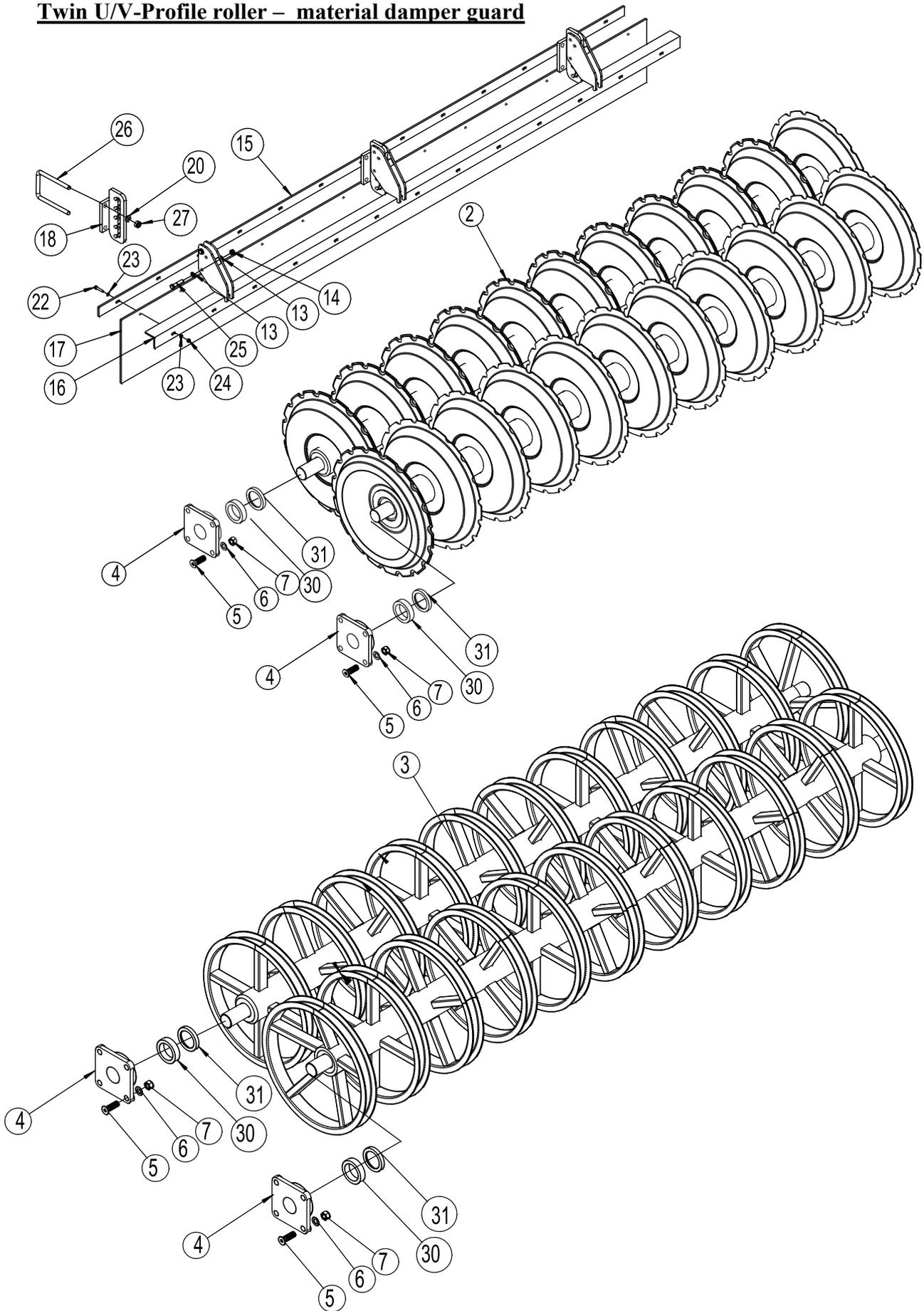
Pos.	Item no.	Designation	Per unit
		Version 2	
1	630916606	Console for hook	1
2	690110103	U-bolt M16x100x150x100	4
3	0272290	Facet plate Ø16 DIN125B	8
4	0264090	Self-locking nut M16	8
5	630916605	Hook	1
6	0431650	Tension spring ø4.0mm x 32mm x 160mm x 30.5v	2
7	690200170	Cylinder 40/25x80	1
7a	690200175	Gasket set 40/25	
8	0235940	Steel bolt M16x140mm, 8.8 fzb	1
9	0235500	Steel bolt M12x140mm, 8.8 fzb	1
10	0236230	Steel bolt M20x140mm, 8.8 fzb	1
11	0235840	Bolt M16x60mm 8.8	1
12	0272290	Facet plate 16mm, fzb	4
13	0264090	Self-locking nut M16	2
14	630916607	Hydr. tube Ø16 L=45	1
15	0272270	Facet plate Ø12	4
16	0264070	Self-locking nut M12	1
17	0272310	Facet plate Ø20	2
18	0264110	Self-locking nut M20	1
19	630916599	Console for roller	1
20	630670593	Roller Ø20,5x56 L=51 POM black	1
21	0236210	Steel bolt M20x120mm, 8.8 fzb	1
22	0272310	Facet plate Ø20	4
23	0264110	Self-locking nut M20	1
	1300137	Mounted console set (pos 1 – 23)	
		Version 1 is LEFT OUT - is replaced by version 2	
25	1160193	Locking claw (L)	1
26	1160276	Locking claw	1
27	690200170	Cylinder 40/25x80	1
27a	690200175	Gasket set 40/25	
28	690103130	Bolt M16x70 10.9	1
29	690103133	Bolt M16x60 10.9	1
30	690103135	Bolt M16x80 10.9	1
31	0264090	Self-locking nut M16	3
32	0272290	Facet plate Ø16	5



Single V-Profile roller – scraper – material damper guard



Twin U/V-Profile roller – material damper guard



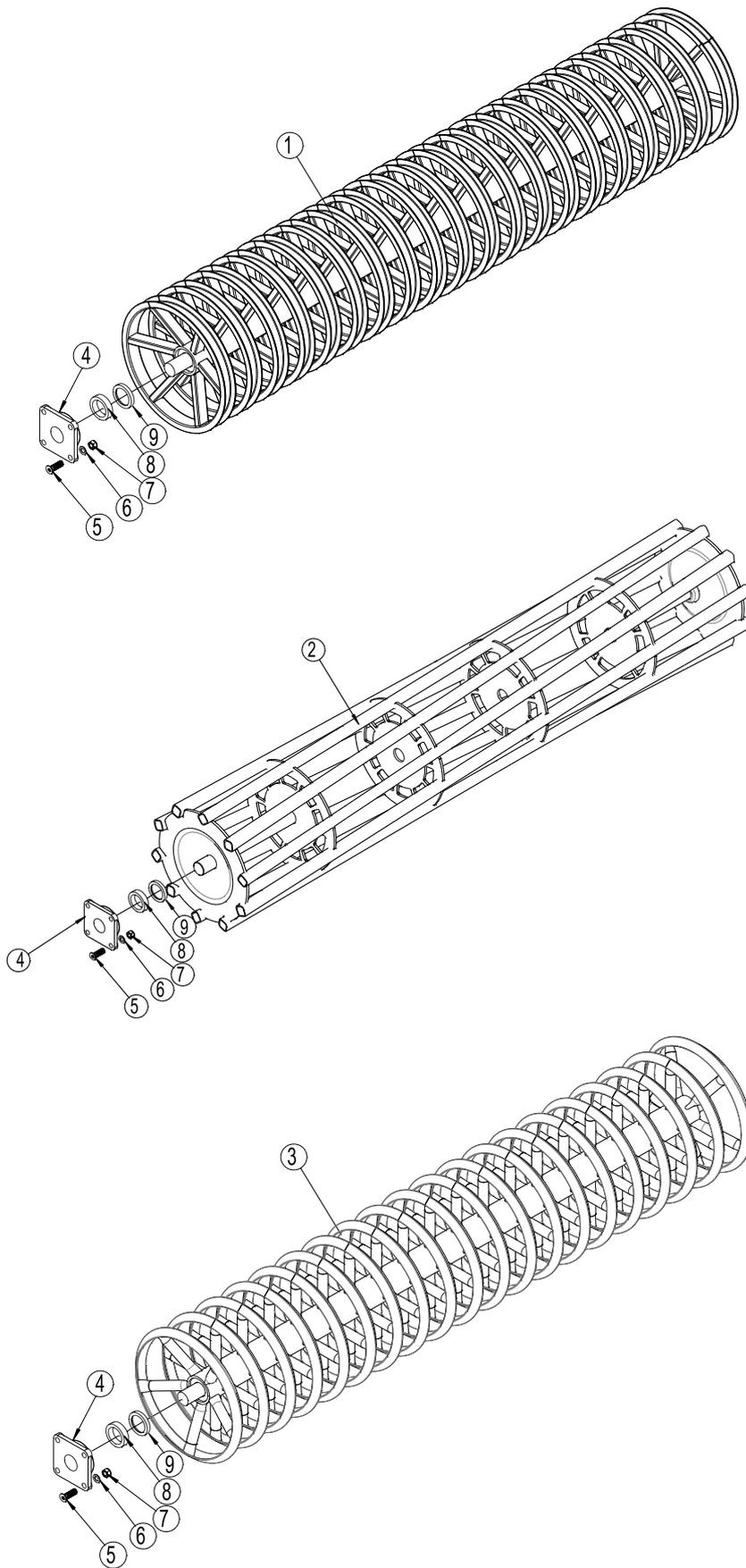
Pos.	Item no.	Designation	4.5m	5.5m	6.5 m
1	7451101	Single V-profile roller, Ø600 L=2242	2		
1	7451042	Single V-profile roller, Ø600 L=2740		2	
1	7451038	Single V-profile roller, Ø600 L=3244			2
1	7451072	Single V-profile roller, Ø700 L=2242	2		
1	7451076	Single V-profile roller, Ø700 L=2740		2	
1	7451082	Single V-profile roller, Ø700 L=3244			2
2	7451025	Twin V-Profile roller, L=2240	4		
2	7451022	Twin V-Profile roller, L=2740		4	
2	7451033	Twin V-Profile roller, L=3244			4
3	7450027	Twin U-Profile roller L=2240	4		
3	7450007	Twin U-Profile roller L=2740		4	
3	7450025	Twin U-Profile roller, axle Ø60 L=3244			4
4	0478972	Bearing HCF 312, 4 holes flange bearing w/eccentric lock washer, cast steel housing	4 (8)	4 (8)	4 (8)
5	690103215	Hexagon screw M20x70 8.8 UH DIN7991	16 (32)	16 (32)	16 (32)
6	0272310	Facet plate Ø20	16 (32)	16 (32)	16 (32)
7	0264110	Self-locking nut M20	16 (32)	16 (32)	16 (32)
8	1300096	Scraper bar R/L for Ø600 roller	2		
8	1300079	Scraper bar R/L for Ø600 roller		2	
8	1300070	Scraper bar R for Ø600 roller			1
8	1300074	Scraper bar L for Ø600 roller			1
8	1300214	Scraper bar R/L for Ø700 roller	2		
8	1300238	Scraper bar R/L for Ø700 roller		2	
8	1300265	Scraper bar R for Ø700 roller			1
8	1300266	Scraper bar L for Ø700 roller			1
9	690109203	Plastic plug f/profile tube 70x50x2, black	4	4	4
10	630938520	Scraper short – twisted 255 mm Ø600 roller	28	36	42
10	630938521	Scraper long – twisted 320 mm Ø700 roller	28	36	42
11	630938522	Clamp 50x70 f/scraper	28	36	42
12	0235450	Steel bolt M12x90mm 8.8	28	36	42
13	0272270	Facet plate Ø12	72	88	84
14	0264070	Self-locking nut M12	28	36	42
15	1300132	Clamping plate 2230	2		
15	1300136	Clamping plate 2730		2	
15	1300128	Clamping plate 3230			2



Pos.	Item no.	Designation	4.5m	5.5m	6.5 m
16	630928714	Mounting bar f/material damper guard, L	1		
16	630928712	Mounting bar f/material damper guard, R	1		
16	630938638	Mounting bar f/material-damper guard, L		1	
16	630938633	Mounting bar f/material-damper guard, R		1	
16	1300048	Mounting bar f/material-damper guard, L			1
16	1300073	Mounting bar f/material-damper guard, R			1
17	1300131	Rubber mat 2230	2		
17	1300135	Rubber mat 2730		2	
17	1300129	Rubber mat 3230			2
18	630938545	Suspension f/material-damper guard	4	4	6
19	690103295	Bolt M16x260 8.8	16	16	24
20	0272290	Facet plate Ø16	32	32	48
21	0264090	Self-locking nut M16	16	16	24
22	0234790	Bolt M8x40 8.8	18	22	26
23	0272250	Facet plate Ø8	36	44	52
24	0264050	Self-locking nut M8	18	22	26
25	0235400	Bolt M12x60 8,8	8	8	12
26	0382800	U-bolt M16x100x150x100	8	8	12
27	0264090	Self-locking nut M16	16	16	24
28	69512040K	Pin Ø12,5 L=40	4	4	6
29	0431975	Sikringsring 30 x Ø3	4	4	6
30	690600020	Bush Ø60 L=20	4 (8)	4 (8)	4 (8)
31	7330021	Thrust washer, adapted for the welding, Ø82,5xø61 L= 12	4 (8)	4 (8)	4 (8)



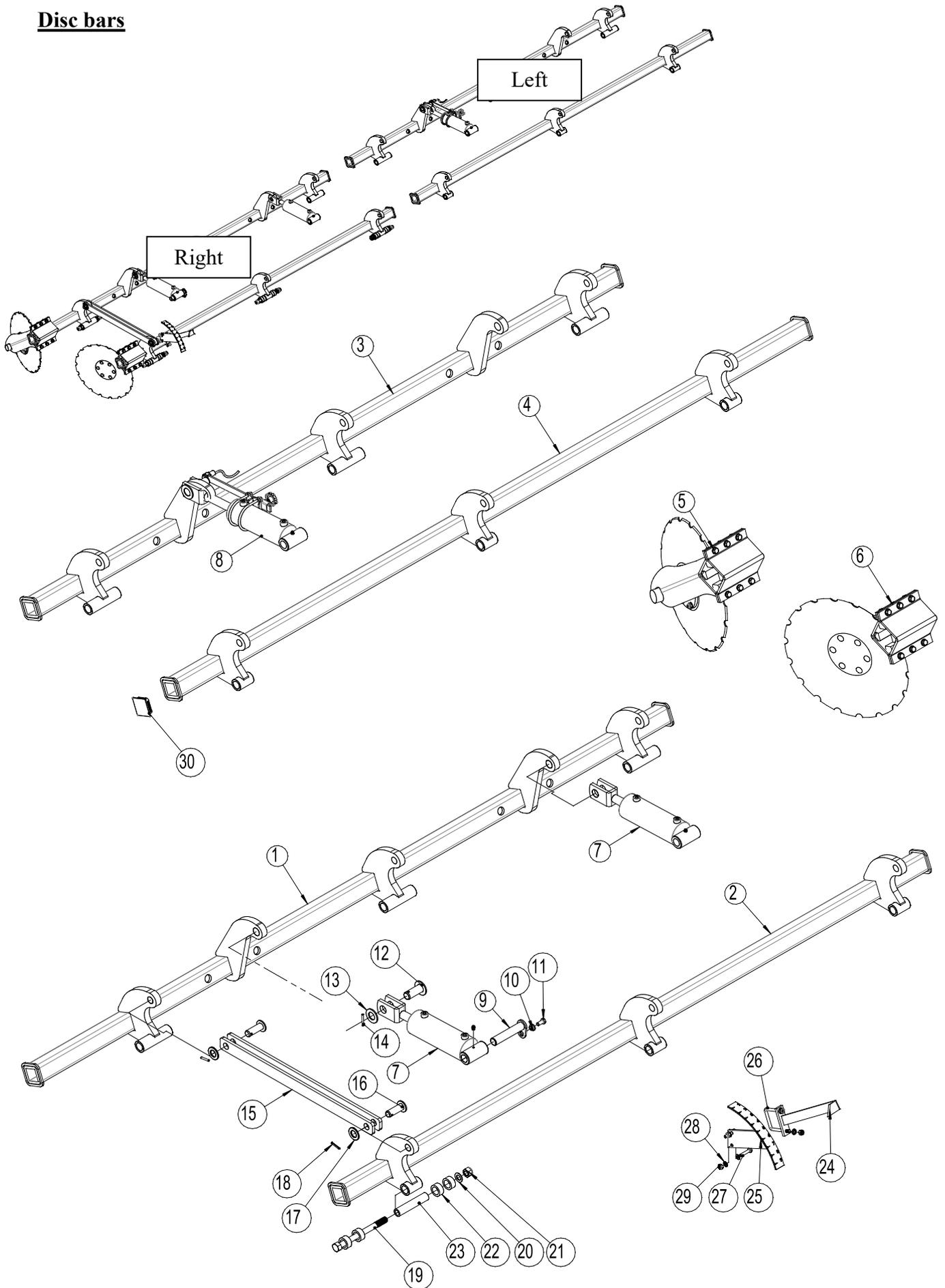
U-profile roller – Square tube roller – Wave roller



Pos.	Item no.	Designation	4.5m	5.5m	6.5 m
1	7450030	Single U-Profile roller Ø600 L=2240	2		
1	7450031	Single U-Profile roller Ø600 L=2740		2	
1	7450032	Single U-Profile roller Ø600 L=3244			2
2	7452003	Square tube roller Ø550 mm L= 2240	2		
2	7452001	Square tube roller Ø550 mm L= 2740		2	
2	7452005	Square tube roller Ø550 mm L= 3244			2
3	7453000	Wave roller L=2240	2		
3	7453001	Wave roller L=2740		2	
3	7453002	Wave roller L=3244			2
4	0478972	Bearing HCF 312, 4 holes flange bearing w/eccentric lock washer, steel cast housing	4	4	4
5	690103215	Hexagon screw M20x70 8.8 UH DIN7991	16	16	16
6	0272310	Facet plate Ø20	16	16	16
7	0264110	Self-locking nut M20	16	16	16
8	690600020	Bush Ø60 L=20	4	4	4
9	7330021	Thrust washer, adapted for the welding, Ø82,5xø61 L= 12	4	4	4
		Scraper bar etc., see page 32			



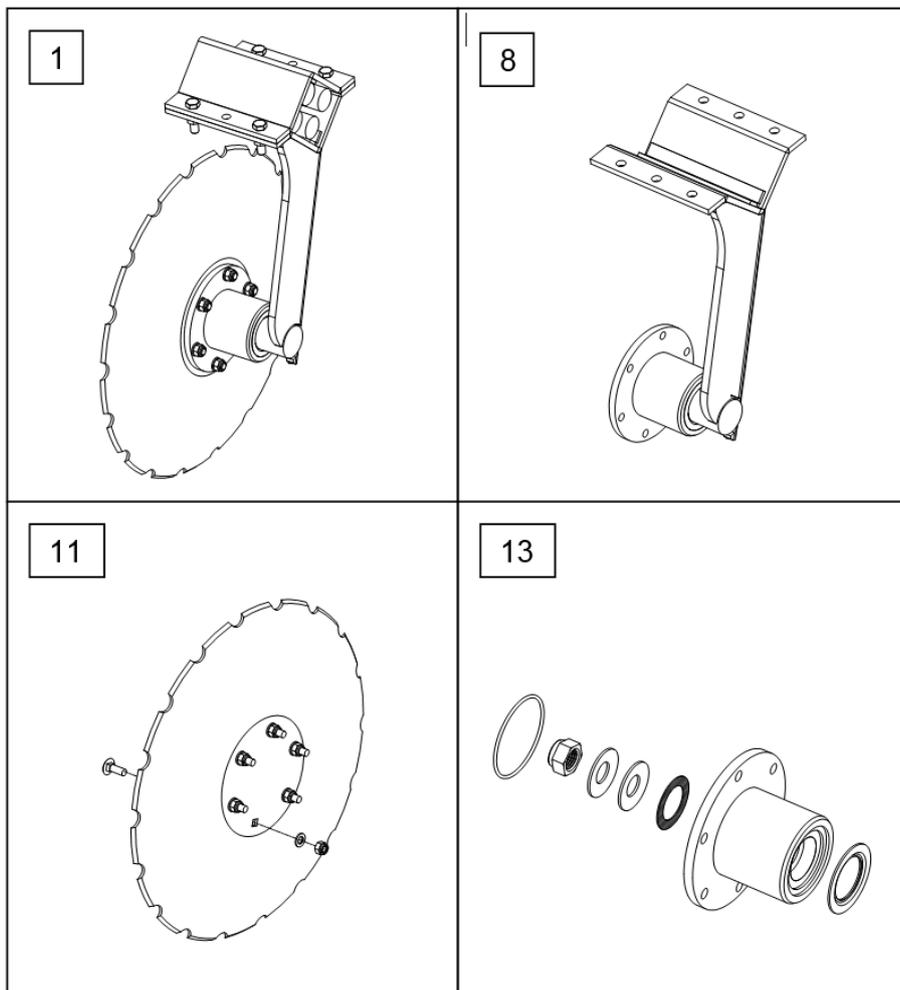
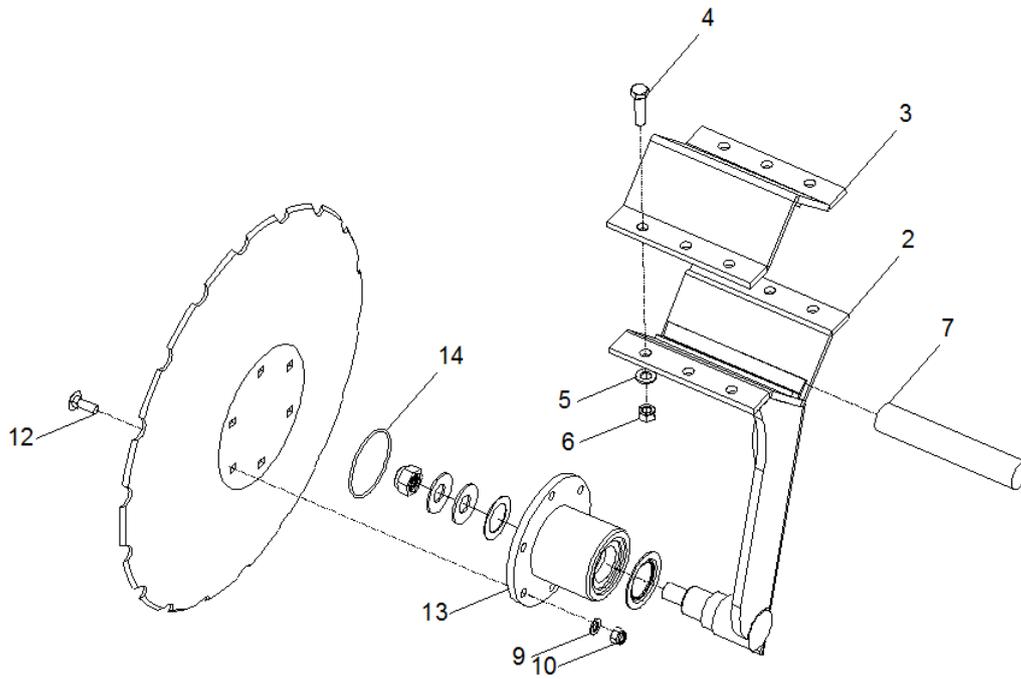
Disc bars



Pos.	Item no.	Designation	4.5m	5.5m	6.5 m
1	630928705	Disc bar, rear, right	1		
1	630938605	Disc bar, rear, right		1	
1	1300042	Disc bar, rear, right			1
2	630928707	Disc bar, front, right	1		
2	630938607	Disc bar, front, right		1	
2	1300045	Disc bar, front, right			1
3	630928710	Disc bar, rear, left	1		
3	630938609	Disc bar, rear, left		1	
3	1300044	Disc bar, rear, left			1
4	630928711	Disc bar, front, left	1		
4	630938620	Disc bar, front, left		1	
4	1300047	Disc bar, front, left			1
5	630949022	Complete disc, left (see next page)			
6	630949012	Complete disc, right (see next page)			
7	690200640	Cylinder 85/30x155 Ø30 (right)	1	2	2
7a	690200641	Gasket set 85/30			
8	690200620	Cylinder 80/30x155 Ø30 (left)	1	2	2
8a	690200621	Gasket set 80/30			
9	69430145G	Pin Ø30 L=145	2	4	4
10	630532600	Bush for pin	2	4	4
11	690101101	Bolt M12x25 8.8 (with glue)	2	4	4
12	69530060F	Pin Ø30 L=60	2	4	4
13	0272350	Facet plate Ø30	2	4	4
14	0371540	Roll pin Ø6x50 DIN1481	2	4	4
15	630949077	Parallel bar for bars	8	12	12
16	69525061F	Pin Ø25 L=58	8	12	12
17	0272340	Facet plate Ø27	8	12	12
18	690130132	Roll pin Ø6x40 DIN1481	8	12	12
19	690103172	Bolt M20x200 10.9 (without Spring-Board)	8	12	12
20	0272310	Facet plate Ø20	8	12	12
21	0264110	Self-locking nut M20 DIN985	8	12	12
22	630949078	Bush f/arm (loose, l=20)	32	48	48
23	630929130	Tube Ø30x5 L=148	8	12	12
24	630933264	Indicator f/depth control on Disc-Roller Contour	1	1	1
25	630933260	Scale f/ depth control on Disc-Roller Contour	1	1	1
25a	698500018	Transfer 1-9 scale for depth control	1	1	1
26	0382110	U-bolt M10 70x70x70	1	1	1
27	0235080	Steel bolt M10x45mm, 8.8	2	2	2
28	0272260	Facet plate Ø10	6	6	6
29	0264060	Self-locking nut M10	4	4	4
30	0489610	Plastic plug/tube leg 70x70x5,0	8	8	8



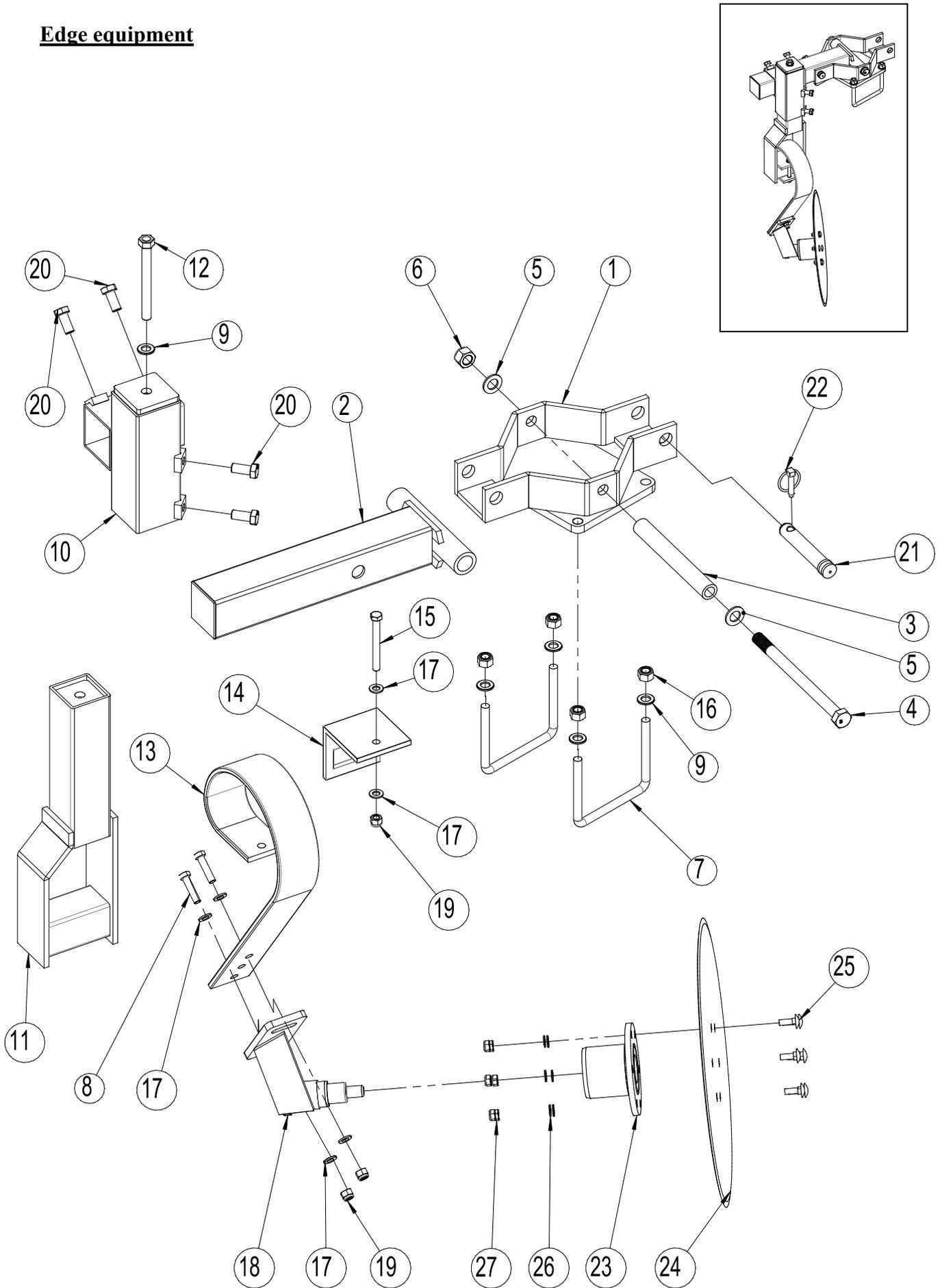
Disc



Pos	Item number	Designation	Per Disc-stilk
1	630949022	Complete disc (left)	
1	630949012	Complete disc (right)	
2	630949026	Carrier arm (left)	
2	630949016	Carrier arm (right)	
3	630949046	Clamping plate for carrier arm	
4	690103091	Bolt M12x45 10.9	6
5	690117014	Facet plate Ø12	12
6	690113013	Self-locking nut M12 (all-metal)	6
7	690210710	Rubber cord Ø35 L=190	4
8	630949025	Complete carrier arm (left)	
8	630949015	Complete carrier arm (right)	
9	690117012	Facet plate Ø10	6
10	690113005	Self-locking nut M10	6
11	690153508	Sabre Disc, scalloped Ø508 x 4mm w/6 holes and flat centre incl. bolts	
12	690101210	Bolt M10 x 30 8.8 (carrier bolt)	6
13	630949032	Repair outfit incl. Hub	
14	690140910	O-Ring 80 x 3	



Edge equipment

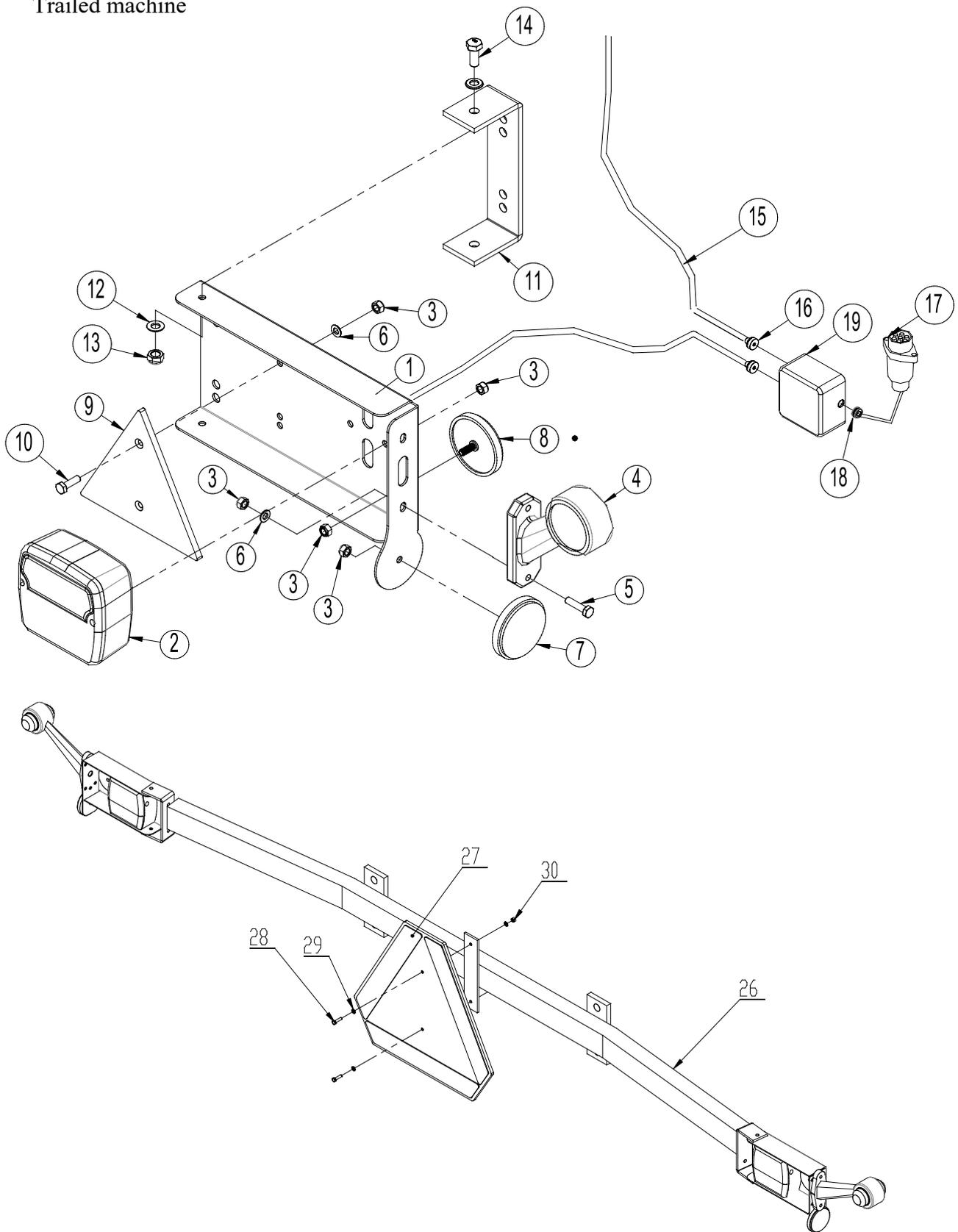


Pos.	Item no.	Designation	4.5m	5.5 m	6.5 m
	630943094	Complete edge equipment with 508 mm disc	1	1	1
1	630943088	Mounted holder	1	1	1
2	630943090	Mounted link	1	1	1
3	630943095	BK-tube 30x5 L= 233	1	1	1
4	690103285	Bolt M20x280 8.8	1	1	1
5	0272310	Facet washer Ø20	2	2	2
6	0264110	Self-locking nut M20	1	1	1
7	0382800	U-bolt M16x100x150x100	2	2	2
8	0235380	Bolt M12x50 8.8	2	2	2
9	0272290	Facet washer Ø16	5	5	5
10	630943099	Spindle bracket complete	1	1	1
11	630943102	Tine holder spindle complete	1	1	1
12	630943109	Adjustment bolt	1	1	1
13	633052050	Spring-Board tine 80x10mm – long	1	1	1
14	633052200	Clamp for Spring-Board tine	1	1	1
15	690103098	Bolt M12x110 10.9	1	1	1
16	0264090	Self-locking nut M16	4	4	4
17	0272270	Facet washer Ø12	6	6	6
18	630943080	Bracket complete	1	1	1
19	0264070	Self-locking nut M12	3	3	3
20	690103124	Bolt M16x35 8.8 set bolt	4	4	4
21	69525107J	Pin ø28 L=107	1	1	1
22	690134004	Ring pin Ø10	1	1	1
23	630949035	Hub	1	1	1
24	690153509	Disc, plain, ø508x4,0mm	1	1	1
25	690101210	Carrier bolt M10x30 8.8	6	6	6
26	690117012	Facet plate Ø10	6	6	6
27	690113005	Self-locking nut M10	6	6	6



Lights

Trailed machine



Pos.	Item no.	Designation	Pc.
1	7357505	Lightbox (L)	1
	7357508	Lightbox (R)	1
2	7357504	Rear light	2
3	0264030	Locking nut M5	16
4	7357507	Marking lights (L)	1
	7357509	Marking lights (R)	1
5	0234340	Bolt M5x25	4
6	0272240	Facet plate Ø5	8
7	0656240	Reflex, yellow	2
8	0656250	Reflex, white	2
9	690160017	Reflex, red	2
10	0234330	Bolt M6x20	4
11	7357516	Bracket	2
12	0272250	Facetplate Ø8	16
13	0264050	Locking nut M8	8
14	0234750	Bolt M8x20	4
15	690160080	Cable 5 x 1mm ² (Inform about lenght by ordering sparepart)	
16	7357545	Rutaseal nipple M20 8-12mm Grey RAL7001	2
17	690160070	Plug 7 poles DIN 72 577 – ISO 1724	1
18	7357546	Rubberbushing Nr. 38A Ø10/3 black	1
19	0520492	Junction box 105x105x60	1
26	630835015	Lighting bar	1
27	690142001	Warning triangle	1
28	690103014	Bolt M5 x 20	1
29	690117002	Facet plate Ø5	2
30	690113002	Self-locking nut M5	4

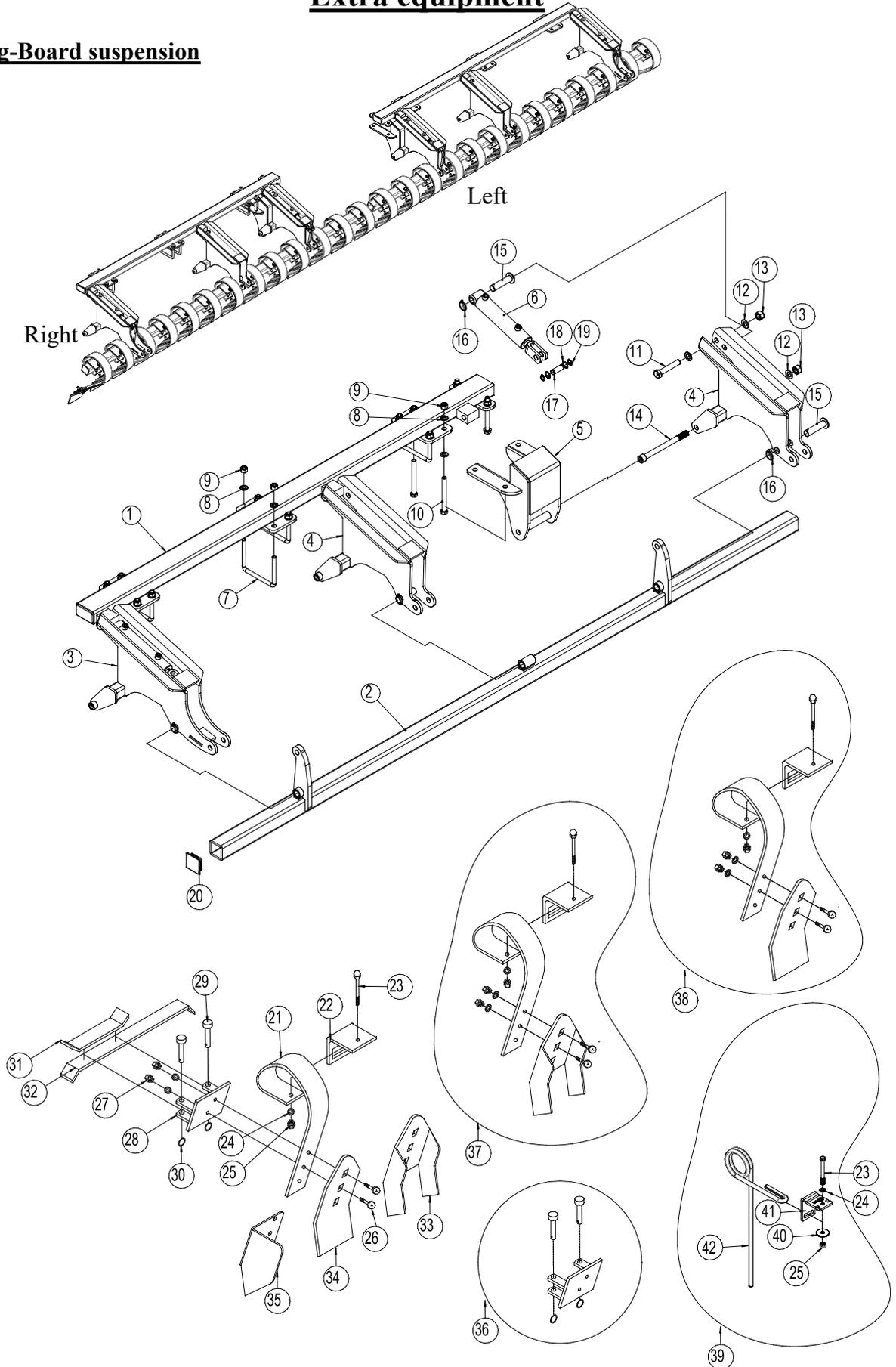
Note:

Check number and measurements of all cables before ordering the spare parts.



Extra equipment

Spring-Board suspension



Pos.	Item no.	Designation	4.5m	5.5m	6.5 m
1	1300000	Mounting bar Spring-Board, right	1		
1	1300002	Mounting bar Spring Board, left	1		
1	630938611	Mounting bar Spring-Board, right		1	
1	630938612	Mounting bar Spring Board, left		1	
1	1300051	Mounting bar Spring-Board, right			1
1	1300053	Mounting bar Spring Board, left			1
2	1300004	Spring-Board bar, right	1		
2	1300007	Spring-Board bar, left	1		
2	630938615	Spring-Board bar, right		1	
2	630938617	Spring-Board bar, left		1	
2	1300056	Spring-Board bar, right			1
2	1300057	Spring-Board bar, left			1
3	633910035	Spring-Board horn for depth wheel, (extra cylinder)	2	2	2
4	633910030	Spring-Board horn for depth wheel	2	4	4
5	630916511	Disc suspension	2	2	2
6	690200160	Cylinder 50/30x155 Ø20/fork	4	4	4
	690200046	Gasket set 50/30 mm Laizhou			
7	0382800	U-bolt M16x100x150x100	4	10	10
8	0272290	Facet plate 16mm, fzb	24	36	36
9	0264090	Self-locking nut M16	16	28	28
10	0235955	Steel bolt M16x160mm, 8.8 fzb	8	8	8
11	0238870	Bolt M20x110 10.9	4	6	6
12	0272310	Facet plate Ø20	8	12	12
13	0264110	Self-locking nut M20	4	6	6
14	690103002	Hexagon screw M20x240 12.9	4	6	6
15	69525087F	Pin Ø25 L=87	4	6	6
16	0378200	Ring split, Ø4,5mm	4	6	6
17	69520046D	Pin Ø20 L=46	4	4	4
18	690115010	Washer Ø20/Ø28x1,0	8	8	8
19	691372020	Seeger circlip ring Ø20 Din 471 outside (A2)	8	8	8
20	0489610	Plastic plug RHS for 70 x70 x5,0	4	4	4



Pos.	Item no.	Designation	4.5m	5.5m	6.5 m
21	0422145	Spring-Board tine 80x10mm-long	18	22	26
22	0422390	Tand holder, bar 70x70	18	22	26
23	690103098	Bolt M12x110 10.9	18	22	26
24	0272270	Facet plate Ø12	36	44	52
25	0264070	Self-locking nut M12	18	22	26
26	0248670	Carrier bolt M12x45	36	44	52
27	0264070	Self-locking nut M12	36	44	52
28	633055500	Bracket for tine f/transverse locking system	18	22	26
29	69512040K	Pin Ø12,5 L=40	36	44	52
30	690134000	Locking ring Ø30x3	36	44	52
31	633055700	Locking bar (short) f/transverse locking system	4	4	4
32	633055710	Locking bar (long) f/transverse locking system	16	20	24
33	633052150	Slicing plates point, incl. bolt	18	22	26
34	633052100	Spring-Board tine point incl. bolt	18	22	26
35	633052250	Edge equipment (L) f/Spring-Board	1	1	1
35	633052255	Edge equipment (R) f/Spring-Board	1	1	1
36	633055510	Tine bracket f/transverse locking system (complete)			
37	633052025	Spring-Board tine, (complete)			
38	633052000	Spring-Board tine, (complete)			
39	633055620	Long finger tine Ø16 H=535mm (complete)			
40	0272820	Clamping plate, round	18	22	26
41	633055612	Clamp Ø16	18	22	26
42	633055610	Long finger tine Ø16 H=535	18	22	26

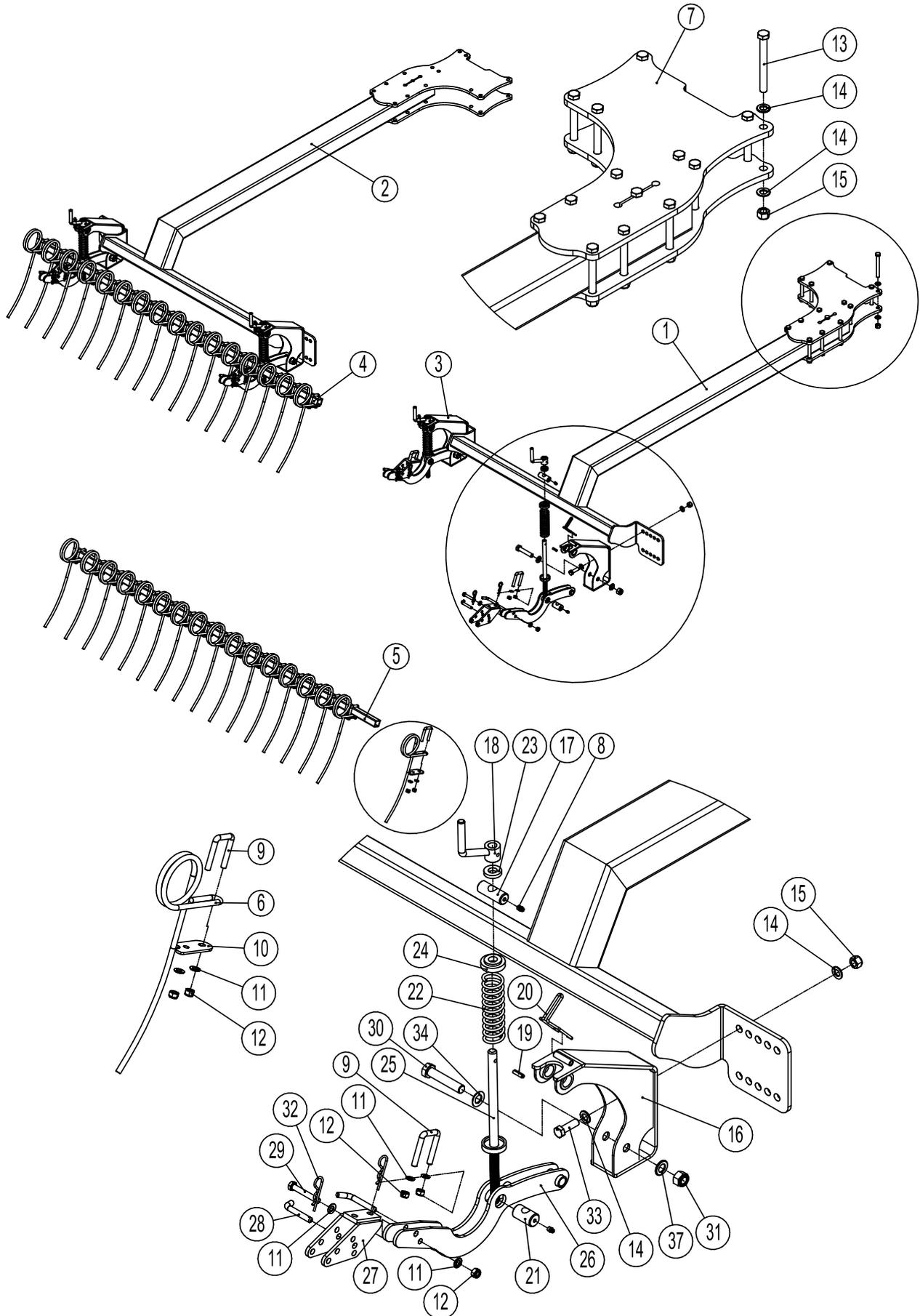


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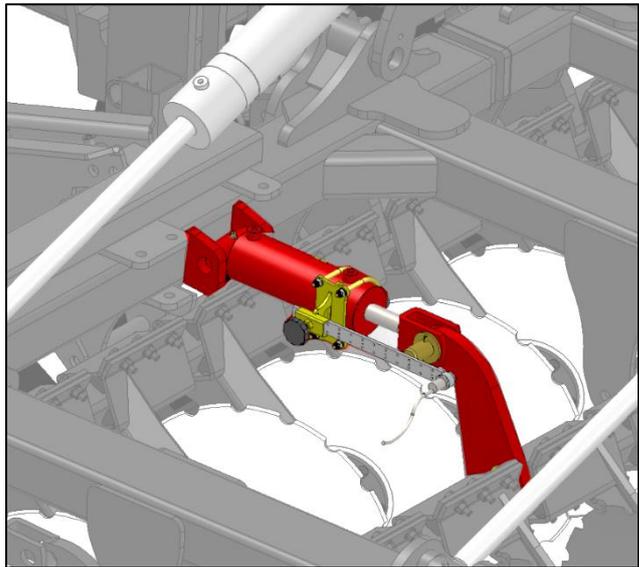
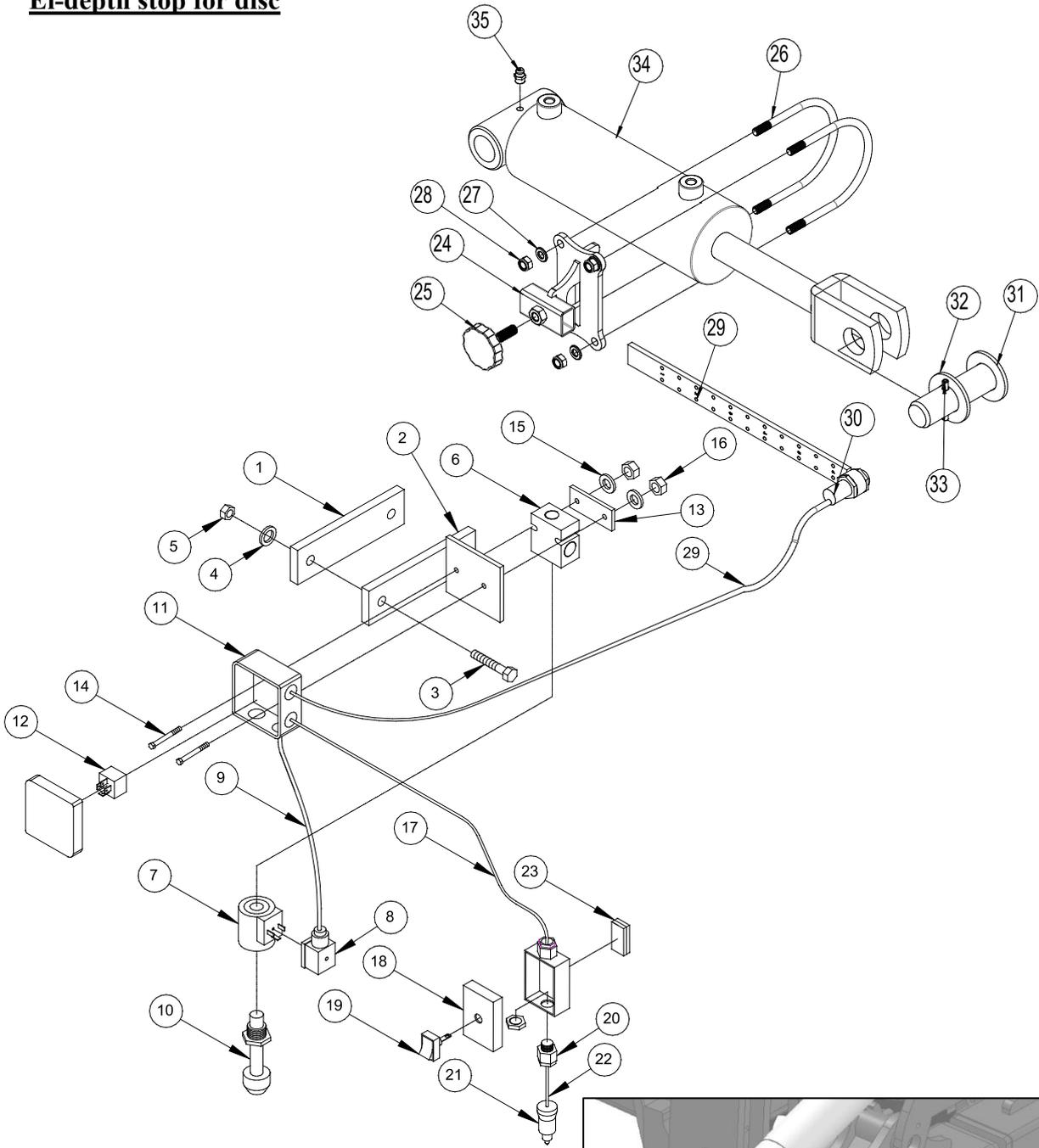
Long finger after-harrow



Pos.	Item no.	Designation	Pcs.
1	1300192	Arm for after harrow, right	1
2	1300193	Arm for after harrow, left	1
3	1140969	Complete holder for bar	4
4	1300158	Bar 40x40x5 L=2230, left	1
5	1300147	Bar 40x40x5 L=2390, right	1
6	0426125	Long finger tine Ø12	33
7	1300336	Plate for mounting arm on the Disc-Roller	4
8	0432500	Lubrication nipple M8	4
9	690110050	U-bolt M12 40x40x40	37
10	1012521	Clamping plate	33
11	0272270	Faceted washer Ø12 DIN 125B fzb	78
12	0264070	Safety nut M12, DIN 985	82
13	0335955	Bolt M16x160 8.8 fzb	28
14	0272290	Facet washer Ø16 DIN125B	72
15	0264090	Self-locking nut M16	36
16	1140966	Console for bar holder	4
17	1011470	Bearing for spindle	4
18	1036260	Crank	4
19	0371660	Roll pin Ø8x32 mm	4
20	0431980	Spindle keeper Ø5	4
21	1012300	Spindle nut	4
22	0431250	Spring Ø6x44x180x12v	4
23	1011410	Stop ring Ø40x8	4
24	1170460	Disc centring spring	4
25	1170467	Spindle	4
26	1170468	Arm	4
27	1170469	Adjustment assembly	4
28	1170478	Pin Ø12	8
29	0235440	Bolt M12x80 8.8 fzb	4
30	0236190	Bolt M20x100 8.8 fzb	4
31	0264110	Self-locking nut M20	4
32	0264060	Hair-clip Ø4	8
33	690103197	Bolt M16x50 8.8	8
34	0272310	Facet washer Ø20 DIN125B	4

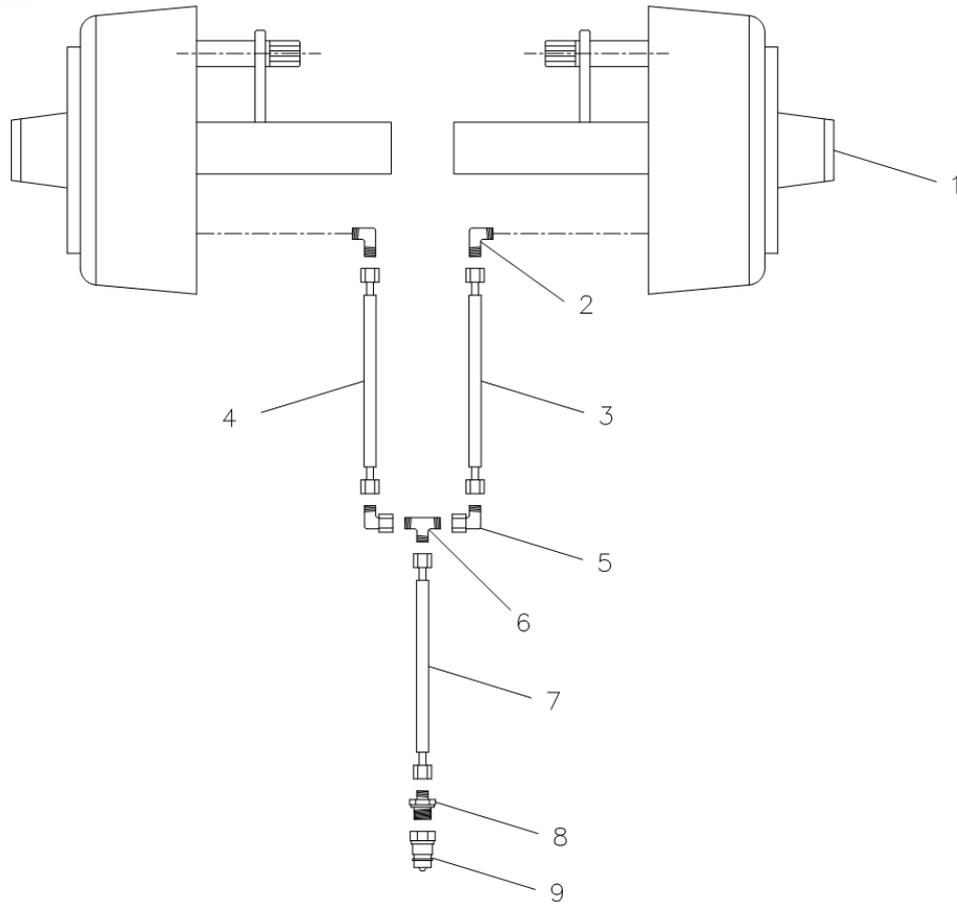


EI-depth stop for disc



Pos.	Item no.	Designation	Pcs.
1	630932034	Clamping plate f/el-depth stop	1
2	630932035	Bracket f/connection box on el-depth stop	1
3	0235400	Bolt M12x60 8.8	2
4	0272270	Facet plate Ø12	2
5	0264070	Self-locking nut M12 DIN985	2
6	0442763	Valve block 4B 10/2 1/2"	1
7	0442764	Magnet coil 12VDC 20W	1
8	690209030	Plug f/solenoid valve DIN 43650	1
9	0525060	Cable 2x0,75 mm ² L = 0.32m	1
10	0442762	Valve 10 NO (57 ltr)	1
11	0520490	Connection box 80x80x50 (white)	1
12	0527120	Relay 12V/30A	1
13	630941061	Clamping plate f/valve block	1
14	0234400	Bolt M6x60 8.8	2
15	0272240	Facet plat Ø6	2
16	0264040	Self-locking nut M6 DIN985	2
17	0525060	Cable 2x0,75 mm ² L = 4.5m	1
18	690209486	Connection box 72x50x41	1
19	0527135	Switch 0-1 (red) Ø12 hole mounting	1
20	690209475	Connector PG11 w/nut	2
21	0442766	Plug 2 poles +/- 12V	1
22	0525060	Cable 2x0,75 mm ² L = 1.0m	1
23	690210720	Velcro band L=65 mm	1
24	1300085	Bracket f/scale/inductive sensor	1
25	0489103	Thumbscrew M8x20	1
26	690110001	U-bolt M8 Ø92	2
27	0272250	Facet plate Ø8	4
28	0264050	Self-locking nutk M8	4
29	1115480	Scale	1
30	0442768	Inductive sensor M18 (incl. cable)	1
31	69530056F	Pin Ø30 L=56	1
32	0272350	Facet plate Ø30	2
33	0371540	Roll pin ø6x50mm, fzb DIN1481	4
34	690200620	Cylinder 80/30x155mm gaffel/ø30	2
34a	690200621	Gasket set 80/30	
35	0432510	Lubricating nipple, straight H1 M8x1,25	1



Hydraulic brakes

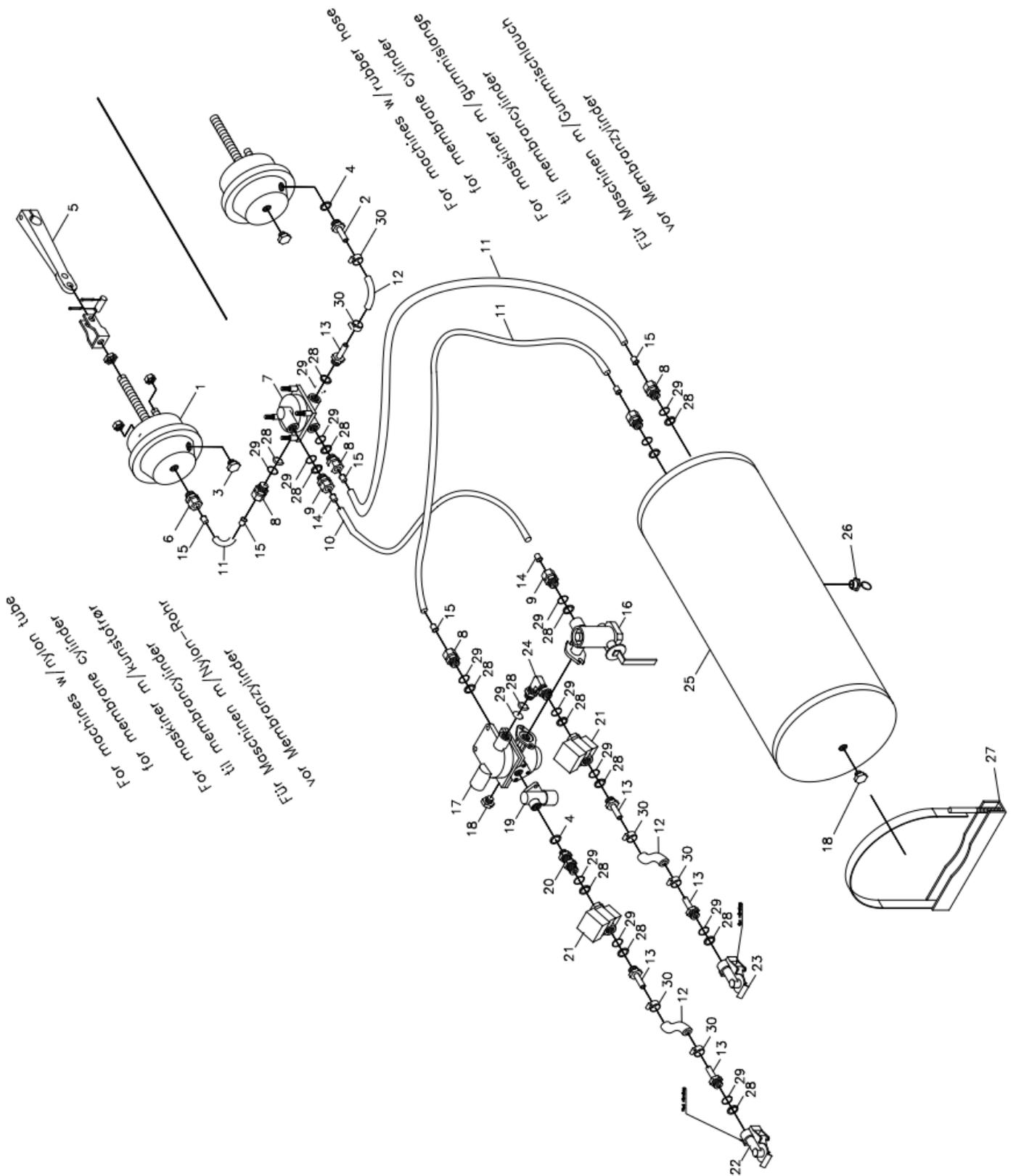
Pos.	Item no.	Designation	4.5 m	5.5 m	6.5 m
1		See pages with wheelframes	2	2	2
2	690203106	Fitting, 90angle 12-3/8" BSP	2	2	2
3	690201020	Hydr. hose 1625 mm ¼" st/st	1	1	1
4	690201020	Hydr. hose 1625 mm ¼" st/st	1	1	1
5	690203016	Fitting 90angle 10mm	2	2	2
6	690203015	Fitting T10	1	1	1
7	690201012	Hydr. hose 6000mm ¼" st/st	1	1	1
8	690203003	Fitting, straight 10-1/2" BSP	2	2	2
9	690203001	Quick coupling, male E402 ½"	2	2	2

Note:

Check number and measurements of all hoses before ordering the spare parts.



Air brakes



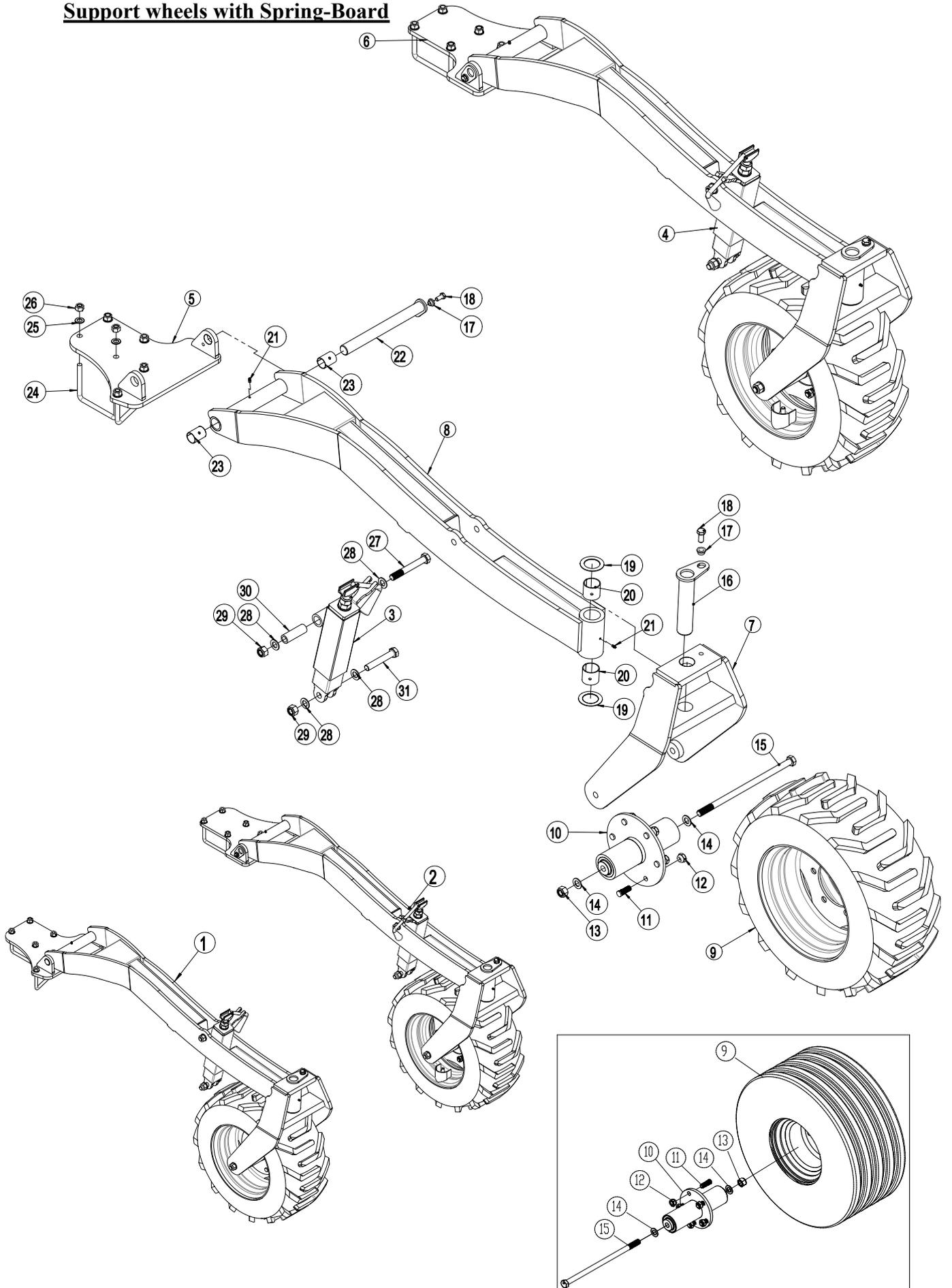
Pos.	Item no.	Designation	w/nylon tube for membrane cyl.	w/rubber hose for membrane cyl.
1	690190001	Membrane cylinder 16"	2	2
2	690190070	Hose fittings M16x1,5 m/ Ø12	0	2
3	690190005	Test fitting, straight M16x1,5	2	2
4	690208102	Bonded seal PP 45-12	1	3
5	690190010	Mounting set, short U-bracket	2	2
6	690202930	Fitting, straight M16x1,5, Ø15 hose	2	0
7	690190015	Relay valve M22x1,5	1	1
8	690202941	Fitting, straight M22x1,5, Ø15 hose	6	4
9	690202940	Fitting, straight M22x1,5, Ø10 hose	2	2
10	690190080	Nylon tube Ø10x1mm	1	1
11	690190085	Nylon tube Ø15x1,5mm	4	2
12	690190105	Hose Ø14,5x5mm	2	4
13	690190073	Hose fitting M22x1,5, m/Ø12	4	6
14	690190090	Support bushing f/tube Ø10x1,5mm	2	2
15	690190095	Support bushing f/tube Ø15x1,5mm	8	4
16	690190020	Brake power regulator M22x1,5	1	1
17	690190025	Trailer air brake valve M22x1,5	1	1
18	690190026	Plug	2	2
19	690190035	Relief valve	1	1
20	690203420	Fitting, straight M16x1,5+M22x1,5	1	1
21	690190040	Filter M22x1,5	2	2
22	690190045	Hose coupling M22x1,5 (red)	1	1
23	690190046	Hose coupling M22x1,5 (yellow)	1	1
24	690190030	V-fittings M22x1,5	1	1
25	690190050	Air receiver 40ltr	1	1
26	690190051	Drainage valve	1	1
27	690190052	Suspension for air receiver	2	2
28	690190060	Pressure ring M22x1,5	15	15
29	690190065	O-ring M22x1,5	15	15
30	690109305	Hose clamp 15-24 mm	4	8

Note:

Check number and measurements of all hoses before ordering the spare parts.



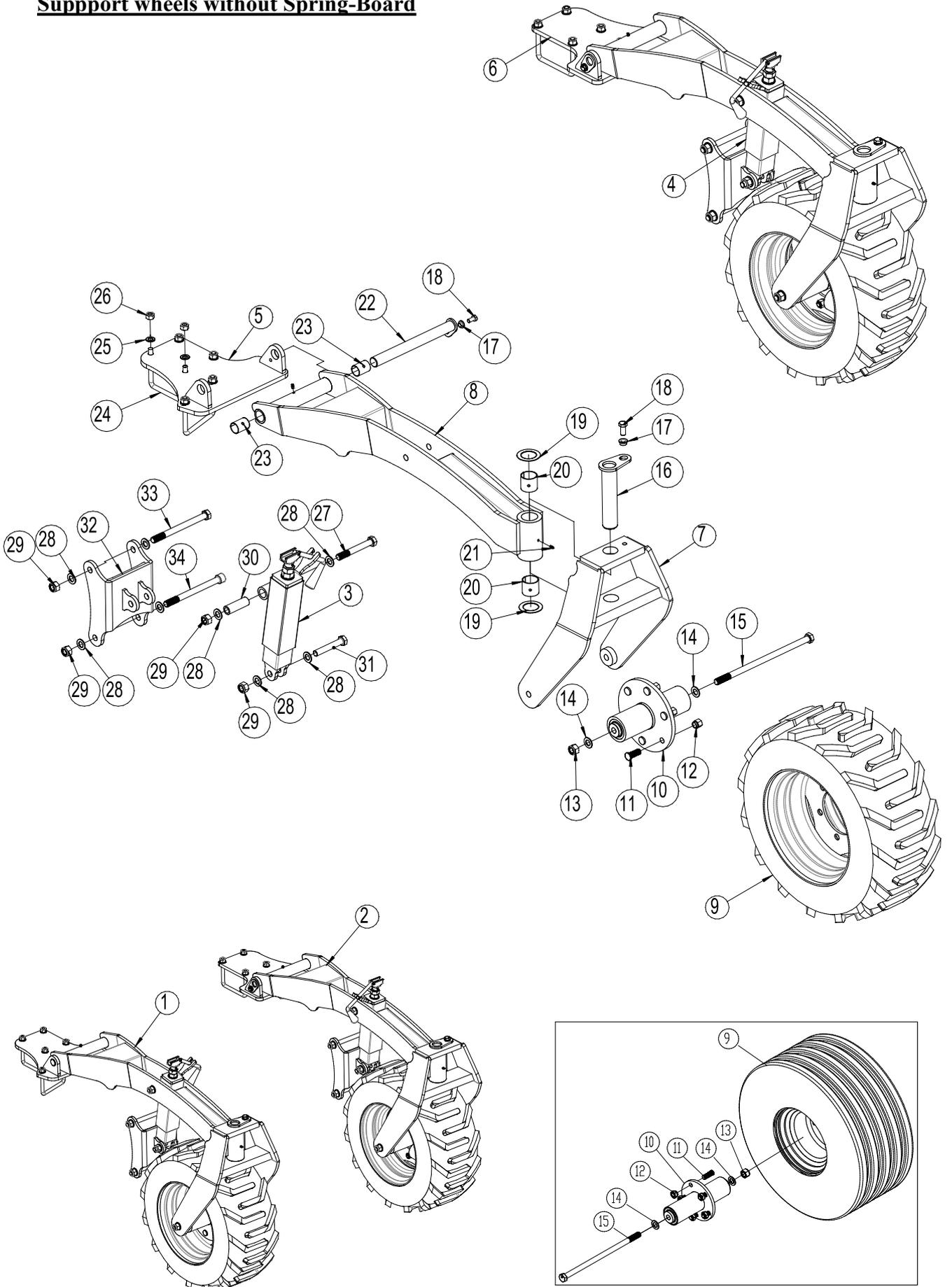
Support wheels with Spring-Board



Pos.	Item no.	Designation	4.5m	5.5m	6.5m
1	630910772	Support wheel, right – complete	1	1	1
2	630910773	Support wheel, left – complete	1	1	1
3	630916557	Spindle, right	1	1	1
4	630916545	Spindle, left	1	1	1
5	630910752	Bracket rear, right support wheel	1	1	1
6	630910723	Bracket rear, left support wheel	1	1	1
7	630910740	Wheel suspension	2	2	2
8	630910764	Wheel assembly	2	2	2
9	0395650	Wheel 300/65x12, complete (5-holes wheel rim)	2	2	2
9	0395653	Wheel 300/55-14,5 SG Flotation, right (6-holes wheel rim)	1	1	1
9a	0395654	Wheel 300/55-14,5 SG Flotation, left (6-holes wheel rim)	1	1	1
10	630910750	Hub 5-M16/94-140 (5-holes hub) nav)	2	2	2
10	7365005	Hub 6-M18x1,5/205 (6-holes hub)	2	2	2
11	0395271	Hub bolt M16x1,5 x 50mm (5-holes hub)	10	10	10
12	0395291	Hub nut M16 x 1,5 (5-holes hub)	10	10	10
11	0396460	Hub bolt M18 x 1.5 L=54mm (6-holes hub)	12	12	12
12	0396470	Hub nut M18 x 1.5 (6-holes hub)	12	12	12
13	0264110	Self-locking nut M20, DIN985	2	2	2
14	0272310	Facet plate Ø20	4	4	4
15	0236333	Steel bolt M20x420 8.8	2	2	2
16	69450230G	Pin Ø50 L=230, welded head	2	2	2
17	630532700	Lock bush for pin head	4	4	4
18	690103124	Bolt M16x35 8.8	4	4	4
19	690140712	Sliding disc Ø52/Ø78x2	4	4	4
20	690140710	Bearing shell Ø50/55 L=50	2	2	2
21	690136001	Lubrication nipple M6	2	2	2
22	69435355G	Pin Ø35 L=355. welded head	2	2	2
23	690140716	Slide bush Ø35/Ø39 L=50	4	4	4
24	0382800	U-bolt M16x100x150x100	6	6	6
25	0272290	Facet plate Ø16	12	12	12
26	0264090	Self-locking nut M16	12	12	12
27	0236240	Bolt M20x150 8.8	2	2	2
28	0272310	Facet plate Ø20	4	4	4
29	0264110	Self-locking nut M20, DIN985	2	2	2
30	675101006	Bush BK 30x5 L=89	2	2	2
31	0236210	Bolt M20x120 8.8	2	2	2



Support wheels without Spring-Board

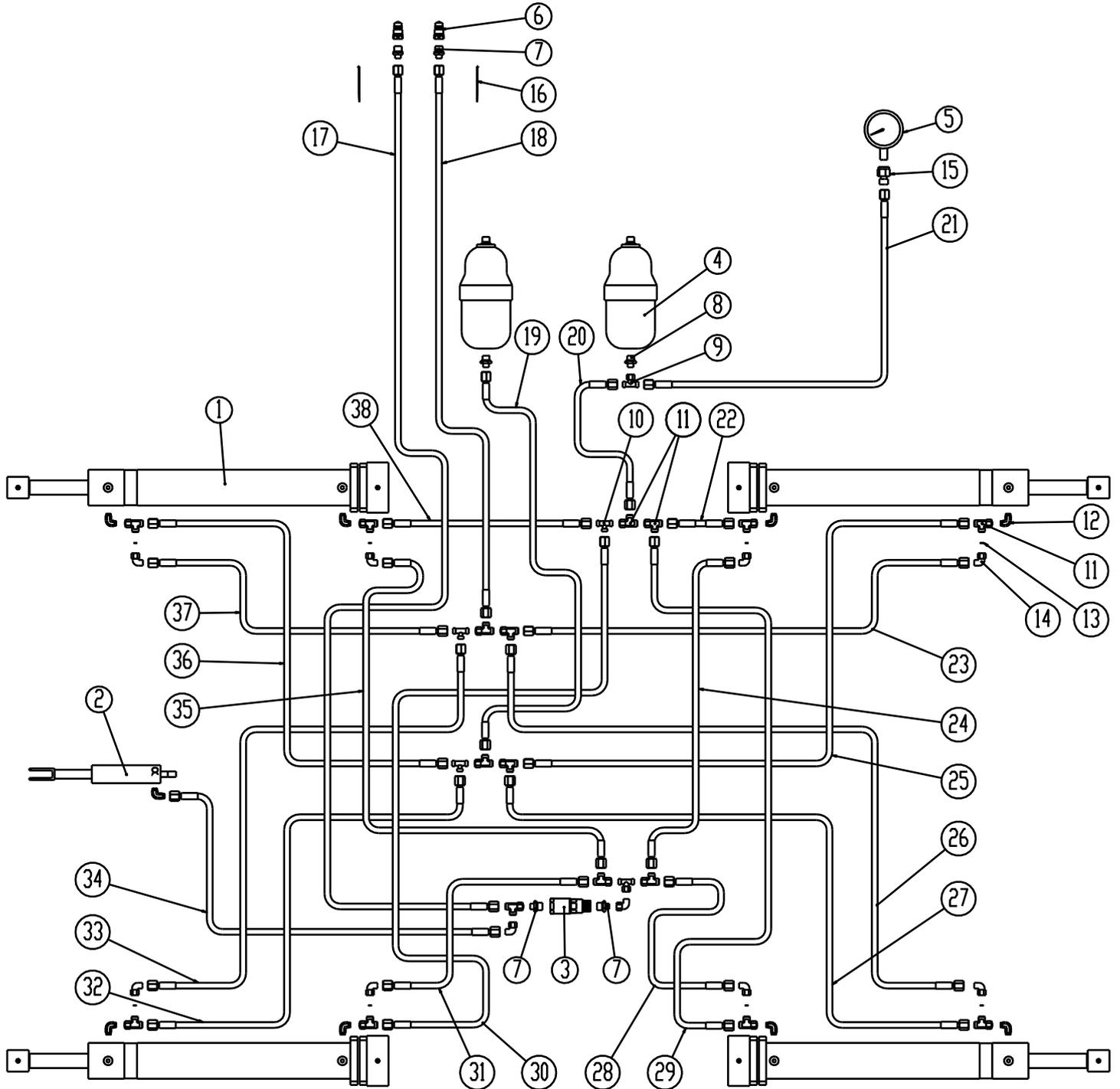


Pos.	Item no.	Designation	4.5m	5.5m	6.5m
1	630910770	Support wheel, right – complete	1	1	1
2	630910771	Support wheel, left – complete	1	1	1
3	630916557	Spindle, right	1	1	1
4	630916545	Spindle, left	1	1	1
5	630910752	Bracket rear, right support wheel	1	1	1
6	630910723	Bracket rear, left support wheel	1	1	1
7	630910740	Wheel suspension	2	2	2
8	630910742	Wheel assembly	2	2	2
9	0395650	Wheel 300/65x12, complete (5-holes wheel rim)	2	2	2
9a	0395653	Wheel 300/55-14,5 SG Flotation, right (6-holes wheel rim)	1	1	1
9b	0395654	Wheel 300/55-14,5 SG Flotation, left (6-holes wheel rim)	1	1	1
10	630910750	Hub 5-M16/94-140 (5-holes hub)	2	2	2
10	7365005	Hub 6-M18x1,5/205 (6-holes hub)	2	2	2
11	0395271	Hub bolt M16x1,5 x 50mm (5-holes hub)	10	10	10
12	0395291	Hub nut M16 x 1,5 (5-holes hub)	10	10	10
11	0396460	Hub bolt M18 x 1.5 L=54mm (6-holes hub)	12	12	12
12	0396470	Hub nut M18 x 1.5 (6-holes hub)	12	12	12
13	0264110	Self-locking nut M20, DIN985	2	2	2
14	0272310	Facet plate Ø20	4	4	4
15	0236333	Steel bolt M20x420 8.8	2	2	2
16	69450230G	Pin Ø50 L=230, welded head	2	2	2
17	630532700	Self-locking bush for pin head	4	4	4
18	690103124	Bolt M16x35 8.8	4	4	4
19	690140712	Sliding disc Ø52/Ø78x2	4	4	4
20	690140710	Bearing shell Ø50/55 L=50	2	2	2
21	690136001	Lubrication nipple M6	2	2	2
22	69435355G	Pin Ø35 L=355. welded head	2	2	2
23	690140716	Slide bush Ø35/Ø39 L=50	4	4	4
24	0382800	U-bolt M16x100x150x100	6	6	6
25	0272290	Facet plate Ø16	12	12	12
26	0264090	Self-locking nut M16	12	12	12
27	0236240	Bolt M20x150 8.8	2	2	2
28	0272310	Facet plate Ø20	4	4	4
29	0264110	Self-locking nut M20, DIN985	2	2	2
30	675101006	Bush BK 30x5 L=89	2	2	2
31	0236210	Bolt M20x120 8.8	2	2	2
32	630910745	Suspension for spindle	2	2	2
33	0236310	Bolt M20x240 8.8	2	2	2
34	690103002	Hexagon screw M20x240 12.9	2	2	2

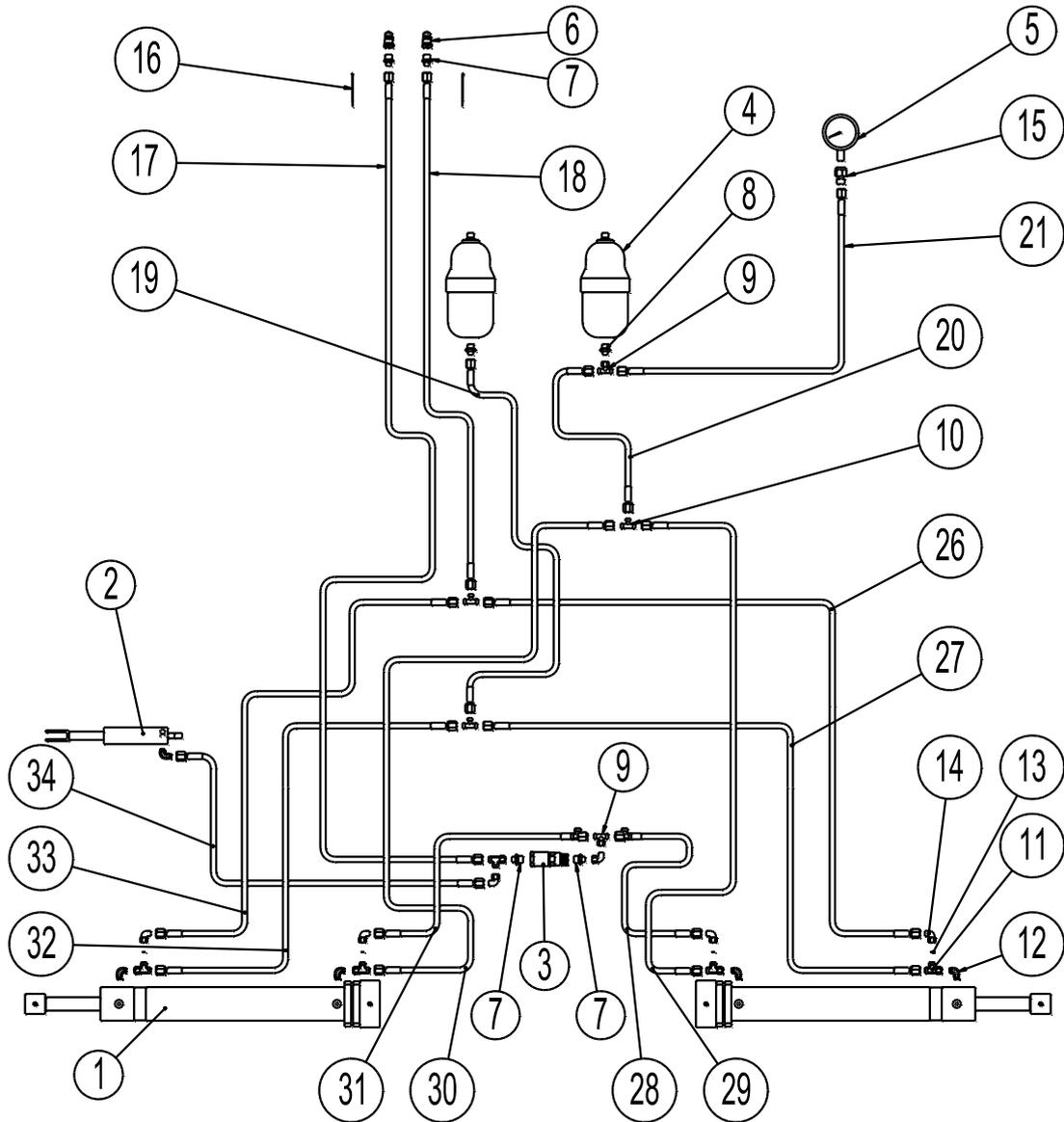


Hydraulic

Folding 5,5 – 6,5 m



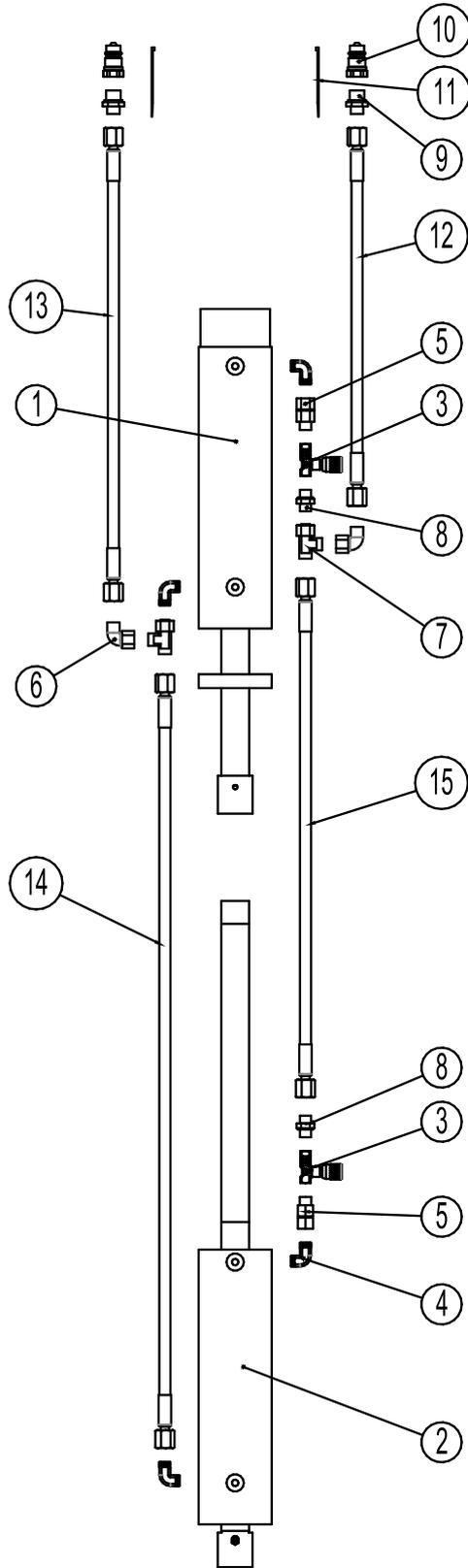
Folding 4,5 m



Pos.	Item number	Designation	4.5 m	5.5 – 6.5 m
1	690200252	Cylinder 90/40 x 600 Ø40	2	4
1a	690200296	Gasket set 90/40 (Hydraflex)		
2	690200170	Cylinder 40/25 x 80	1	1
2a	690200175	Gasket set 40/25 mm		
3	0442450	Sequential valve 1/2"	1	1
4	690206510	Accumulator HST 2,3 L 40 bar	2	2
5	690206822	Manometer 250 bar, Ø100	1	1
6	0444020	Quick coupling 1/2", male	2	2
7	0446752	Fitting straight Ø10 x 1/2"	4	4
8	690203096	Fitting straight M18x1,5 x Ø10	2	2
9	690203014	Fitting T10 L premounted w/ O-ring	2	2
10	690203015	Fitting connector T10	3	3
11	690203120	Fitting T10 L premounted w/ O-ring	5	17
12	690203006	Fitting, 90° angle 10 – 3/8" BSP	5	9
13	690207901	Restrictor Ø1 mm	4	8
14	690203016	Fitting 90° 10 mm premounted w/ O-ring	6	10
15	690206823	Manometer fitting Ø10 x 1/2"	1	1
16	-	Cable straps (blue)	2	2
17	690201011	Hydraulic hose 1/4" L = 5350 mm	1	1
18	690201011	Hydraulic hose 1/4" L = 5350 mm	1	1
19	0454171	Hydraulic hose 1/4" L = 500 mm	1	1
20	0454171	Hydraulic hose 1/4" L = 500 mm	1	1
21	690201053	Hydraulic hose 1/4" L = 1260 mm	1	1
22	0454313	Hydraulic hose 1/4" L = 1130 mm	-	1
23	690201020	Hydraulic hose 1/4" L = 1625 mm	-	1
24	0454313	Hydraulic hose 1/4" L = 1130 mm	-	1
25	690201020	Hydraulic hose 1/4" L = 1625 mm	-	1
26	0454313	Hydraulic hose 1/4" L = 1130 mm	1	1
27	0454313	Hydraulic hose 1/4" L = 1130 mm	1	1
28	0454171	Hydraulic hose 1/4" L = 500 mm	1	1
29	0454171	Hydraulic hose 1/4" L = 500 mm	1	1
30	0454171	Hydraulic hose 1/4" L = 500 mm	1	1
31	0454171	Hydraulic hose 1/4" L = 500 mm	1	1
32	0454313	Hydraulic hose 1/4" L = 1130 mm	1	1
33	0454313	Hydraulic hose 1/4" L = 1130 mm	1	1
34	690201060	Hydraulic hose 1/4" L = 3000 mm	1	1
35	0454313	Hydraulic hose 1/4" L = 1130 mm	-	1
36	690201020	Hydraulic hose 1/4" L = 1625 mm	-	1
37	690201020	Hydraulic hose 1/4" L = 1625 mm	-	1
38	0454313	Hydraulic hose 1/4" L = 1130 mm	-	1



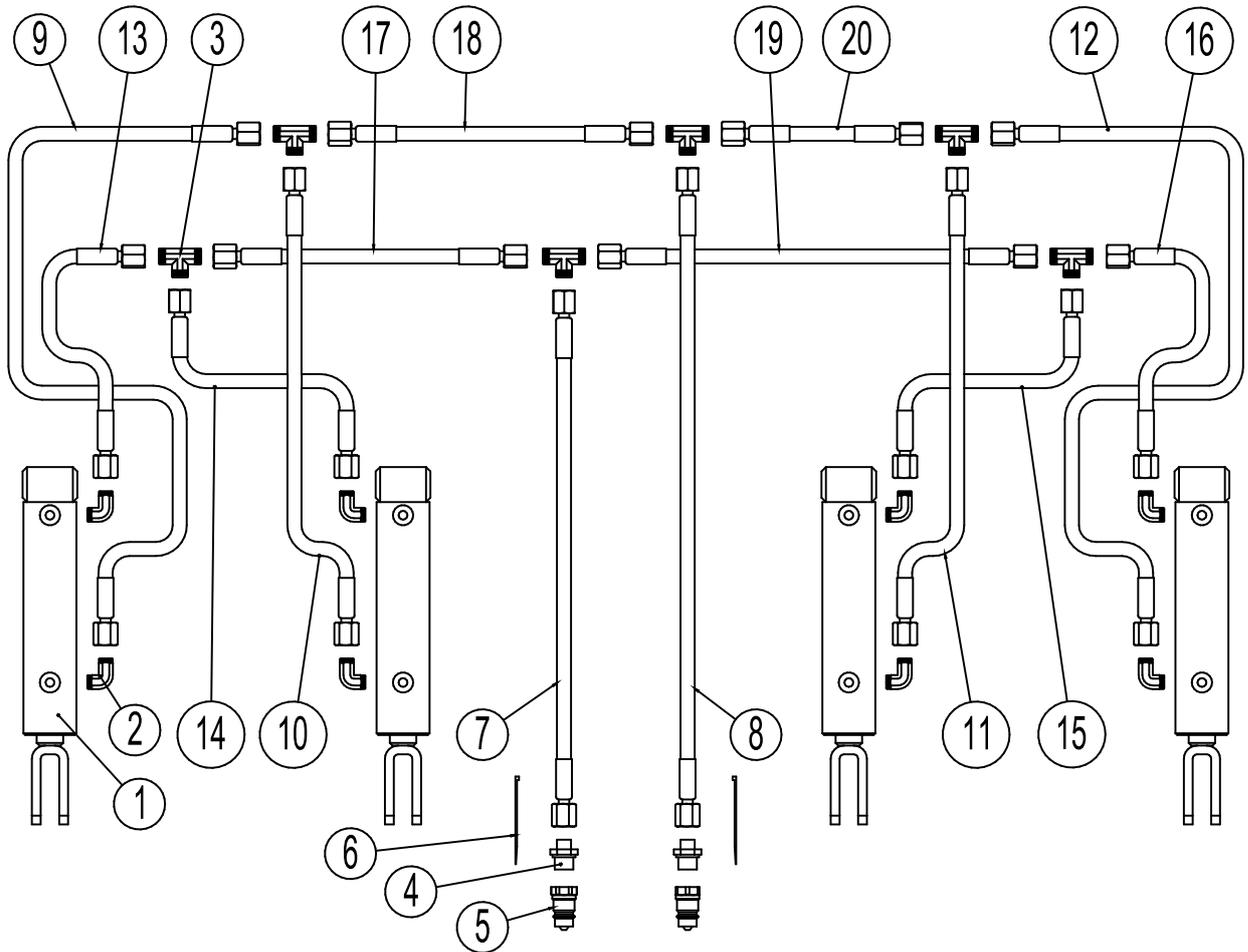
Raise / lower 4,5 + 5,5 + 6,5



Pos.	Item number	Designation	4,5 m	5,5 m	6,5 m
1	0462750	Cylinder 90/40 x 280 mm	1	1	-
	0463302	Cylinder 100/40 x 280 mm		-	1
1	7345041	Cylinder 100/40 x 280/50 inliner (Alternative for 0462750)	-	(1)	(1)
2	7345049	Cylinder 100/40 x 285, Ø30,25/Ø40,5 <i>Before machinenumber 350873</i>	1	1	1
2	7345095	Cylinder 100/40x285 Ø40,25/Ø40,5 <i>After machinenumber 350873</i>	1	1	1
3	690207130	Restrictor valve, adjustable 3/8"	2	2	2
4	690203106	Fitting 90° 12-3/8"	4	4	4
5	690203130	Fitting straight Ø12 premounted w/ O-ring	2	2	2
6	690203112	Fitting 90° Ø12 mm	2	2	2
7	690203017	Fitting T12, premounted w/ O-ring	2	2	2
8	0446754	Fitting straight, Ø12 x 3/8"	2	2	2
9	690203103	Fitting straight, Ø12 x 1/2" BSP	2	2	2
10	0444020	Quickcoupling 1/2" male	2	2	2
11	-	Cable straps (red)	2	2	2
12	690201232	Hydraulic hose 3/8" L = 3520 mm	1	1	1
13	0454941	Hydraulic hose 3/8" L = 3800 mm	1	1	1
14	0454580	Hydraulic hose 3/8" L = 2000 mm	1	1	1
15	690201227	Hydraulic hose 3/8" L = 1750 mm	1	1	1



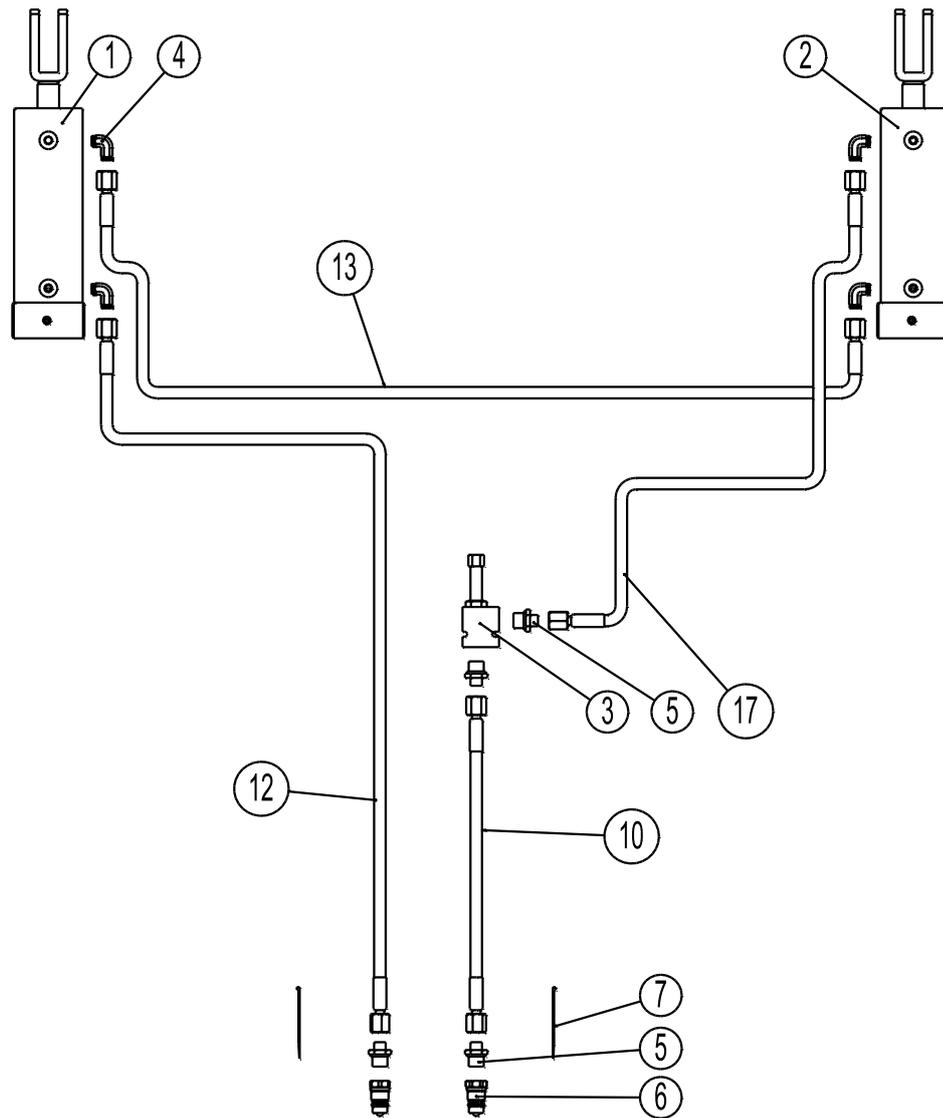
Spring-Board 4,5 + 5,5 + 6,5 m



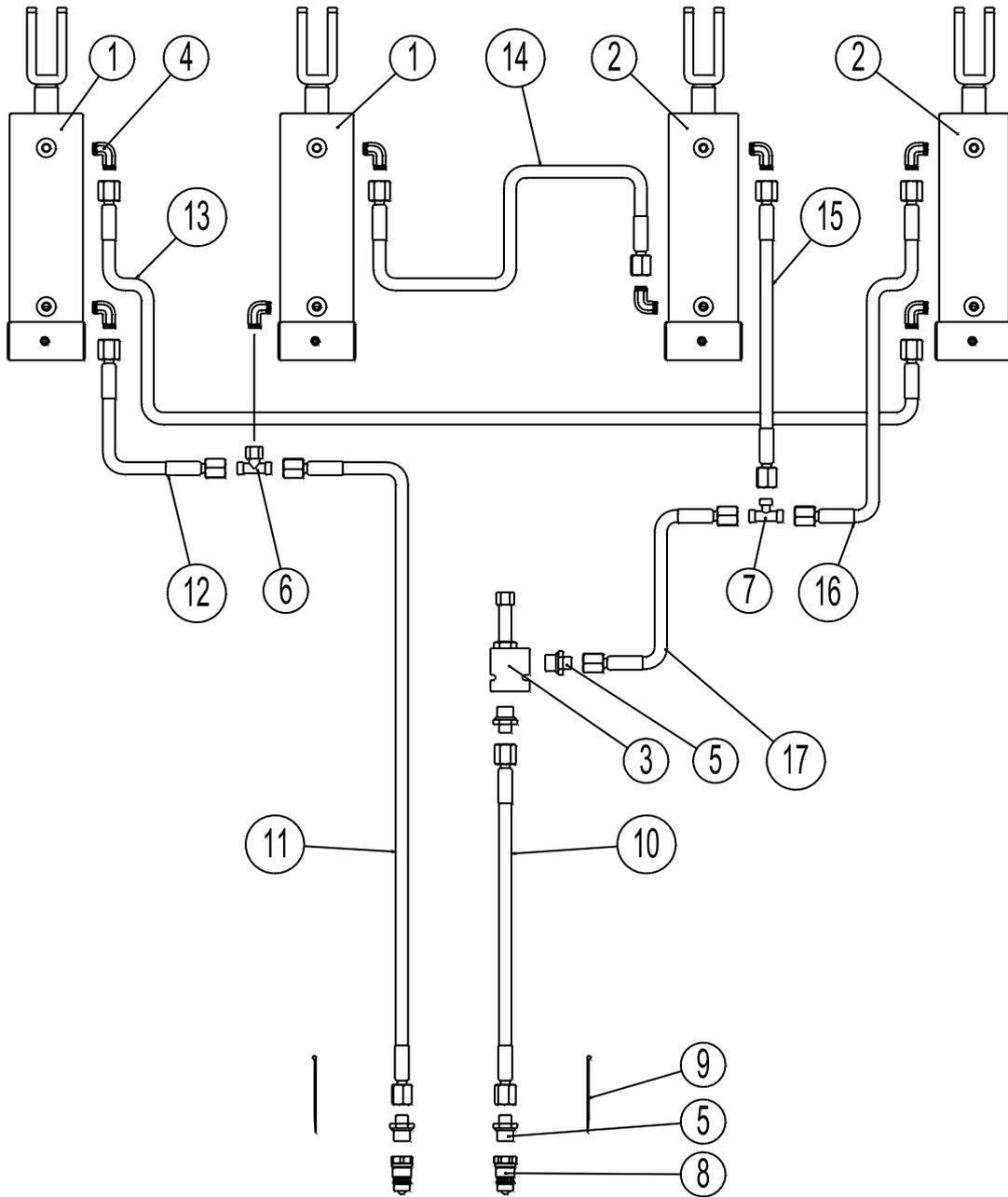
Pos.	Item number	Designation	4,5 m	5,5 m	6,5 m
1	690200160	Cylinder 50/30 x 155	4	4	4
2	690203006	Fitting 90° 10-3/8" BSP	8	8	8
3	690203015	Fitting T10	6	6	6
4	0446752	Fitting straight Ø10-1/2"	2	2	2
5	0444020	Quickcoupling 1/2" male	2	2	2
6	-	Cable straps (green)	2	2	2
7	690201045	Hydraulic hose 1/4" L = 4800 mm	1	1	1
8	690201045	Hydraulic hose 1/4" L = 4800 mm	1	1	1
9	0554441	Hydraulic hose 1/4" L = 1460 mm	1	-	-
9	690201016	Hydraulic hose 1/4" L = 1850 mm	-	1	-
9	0454675	Hydraulic hose 1/4" L = 2500 mm	-	-	1
10	0454171	Hydraulic hose 1/4" L = 500 mm	1	1	-
10	0454166	Hydraulic hose 1/4" L = 450 mm	-	-	1
11	0454171	Hydraulic hose 1/4" L = 500 mm	1	1	-
11	0454166	Hydraulic hose 1/4" L = 450 mm	-	-	1
12	0554441	Hydraulic hose 1/4" L = 1460 mm	1	-	-
12	690201016	Hydraulic hose 1/4" L = 1850 mm	-	1	-
12	0454675	Hydraulic hose 1/4" L = 2500 mm	-	-	1
13	690201053	Hydraulic hose 1/4" L = 1260 mm	1	-	-
13	690201020	Hydraulic hose 1/4" L = 1625 mm	-	1	-
13	0454645	Hydraulic hose 1/4" L = 2300 mm	-	-	1
14	0454120	Hydraulic hose 1/4" L = 250 mm	1	1	1
15	0454120	Hydraulic hose 1/4" L = 250 mm	1	1	1
16	690201053	Hydraulic hose 1/4" L = 1260 mm	1	-	-
16	690201020	Hydraulic hose 1/4" L = 1625 mm	-	1	-
16	0454645	Hydraulic hose 1/4" L = 2300 mm	-	-	1
17	690201053	Hydraulic hose 1/4" L = 1260 mm	1	1	1
18	690201053	Hydraulic hose 1/4" L = 1260 mm	1	1	1
19	690201053	Hydraulic hose 1/4" L = 1260 mm	1	1	1
20	690201053	Hydraulic hose 1/4" L = 1260 mm	1	1	1



Depth controller 4.5 meter



Depth controller 5.5 - 6.5 meter



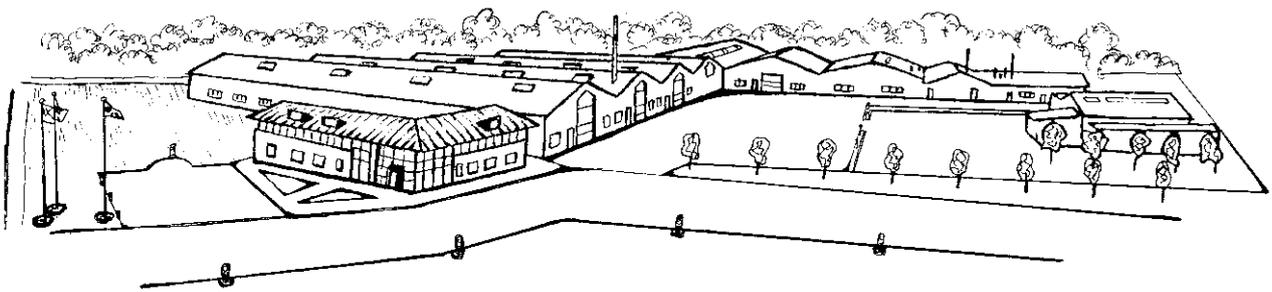
Pos.	Item no.	Designation	4.5 m	5.5 m	6.5 m
1	690200640	Cylinder 85/30 x 155 Ø30	1	2	2
2	690200620	Cylinder 80/30 x 155 Ø30	1	2	2
3	690209453	Depth stop valve, electric w/3 x Ø1/2" inside.	1	1	1
4	690203006	Fitting 90° 10-3/8" BSP	4	8	8
5	0446752	Fitting straight Ø10-1/2"	4	4	4
6	690203014	Fitting T10 L premounted w/ O-ring	-	1	1
7	690203015	Fitting T10	-	1	1
8	0444020	Quickcoupling 1/2" male	2	2	2
9	-	Cable straps	2	2	2
10	690201028	Hydraulic hose 1/4" L = 6700 mm (non depth stop)	1	-	-
10	690201004	Hydraulic hose 1/4" L = 4950 mm (with depth stop)	1	-	-
10	690201012	Hydraulic hose 1/4" L = 6000 mm (non depth stop)	-	1	1
10	690201014	Hydraulic hose 1/4" L = 4950 mm (with depth stop)	-	1	1
11	690201012	Hydraulic hose 1/4" L = 6000 mm	-	1	1
12	690201028	Hydraulic hose 1/4" L = 6700 mm	1	-	-
12	690201053	Hydraulic hose 1/4" L = 1260 mm	-	1	-
12	690201013	Hydraulic hose 1/4" L = 1770 mm	-	-	1
13	690201038	Hydraulic hose 1/4" L = 4000 mm	1	-	-
13	690201011	Hydraulic hose 1/4" L = 5350 mm	-	1	-
13	690201031	Hydraulic hose 1/4" L = 6350 mm	-	1	1
14	690201070	Hydraulic hose 1/4" L = 2800 mm	-	1	1
15	0454120	Hydraulic hose 1/4" L = 250 mm	-	1	1
16	0554441	Hydraulic hose 1/4" L = 1460 mm	-	1	-
16	0454591	Hydraulic hose 1/4" L = 2000 mm	-	-	1
17	0454313	Hydraulic hose 1/4" L = 1130 mm (non depth stop)	-	1	1
17	0454578	Hydraulic hose 1/4" L = 1995 mm (with depth stop)	1	-	-



Notes:

GOOD AS IT LOOKS!

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The design is subject to modification without notice.