

UK

HE-VA

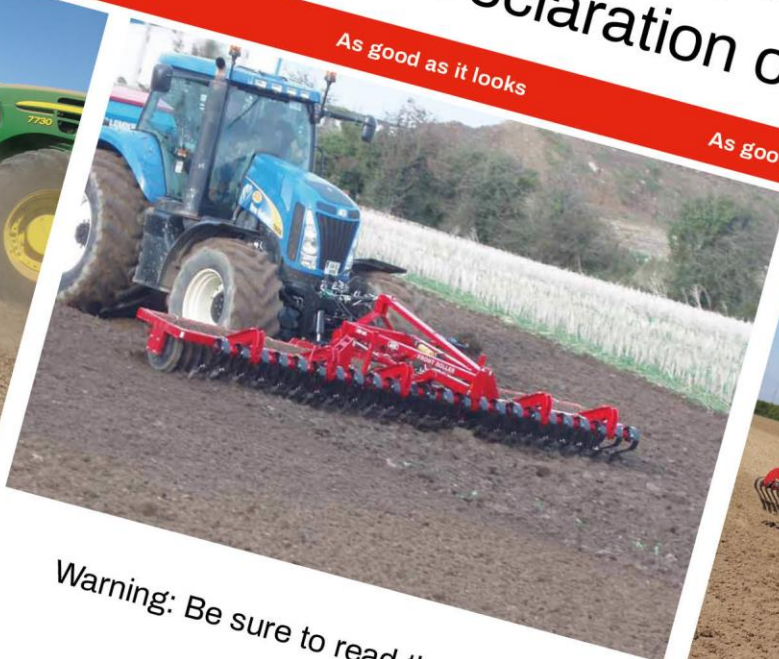
Operating Instructions
Spare Parts List
Declaration of Conformity

as it looks

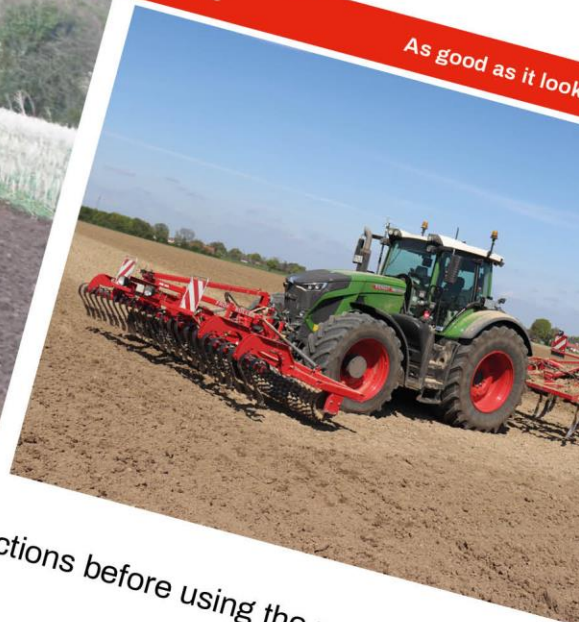
As good as it looks



As good as it looks



As good as it looks



As good as it looks

Warning: Be sure to read the operation instructions before using the machine.

Front-Roller

1.50 m / 2.60 m / 3.00 m / 3.50 m / 4.00 m (rigid)
4.00 m / 4.50 m / 5.00 m / 6.00 m (hydraulic)

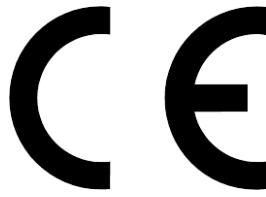
HE-VA

N. A. Christensensvej 34
DK-7900 Nykøbing Mors
Tel: 97724288

www.he-va.com

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EC DECLARATION OF CONFORMITY

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

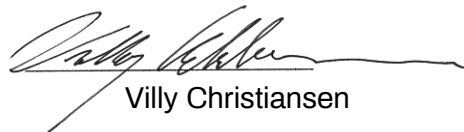
HE-VA ApS
N. A. Christensensvej 34,
DK-7900 Nykøbing Mors

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

The declaration comprises the following machine:

HE-VA Front-Roller 1.5 / 2.6 / 3.0 / 3,5 / 4.0 m (rigid)
and
4.0 / 4.5 / 5.0 / 6.0 m (hydraulic)

Nykøbing the 29th December 2009



Villy Christiansen

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

Delivery Check

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

Machine Description

Range of Application

The Front-Roller is a front-mounted roller for land packing in connection with preparation of the seedbed and seeding with combi-harrow, rotor-harrow, tine rotary cultivator etc. The Front-Roller may be applied on all types of soil, however, is suitable for light and medium-heavy soil types.

The Front-Roller is mounted in the front-lift of the tractor. If the Front-Lift is equipped with double-acting hydraulics, it is possible to transfer weight from the tractor onto the Front-Roller. In order to achieve optimum control in connection with the transfer of the weight from the tractor to the roller, the Front-Lift should be equipped with spring suspension in order to achieve a flexible connection between the tractor and the roller. Furthermore, the tractor should be with four-wheel drive.

As extra equipment, the Front-Roller may be equipped with Front-Harrow and/or Spring-Board as well as carriers for additional weights.

<u>Technical specifications</u>	1,5	2,6 m	3,0	3.5	4,0	4,0 Hydr.	4,5 hydr.	5,0 Hydr.	6,0 Hydr.
Working width	1,50 m	2,60 m	3,00m	3.50 m	4,00 m	4,00m	4.50m	5,00m	6,00m
Total width	1,73 m	2,66 m	3,08m	3.55 m	4,17 m	4,3 m	4.80m	5,21m	6,22m
Transport width	1,73 m	2,66 m	3,08m	3.55 m	4,17 m	2,70m	2.75m	2,80m	2,97m
Length	1,29 m	1,29 m	1,29m	1.61 m	1,61 m	1,61m	1.69m	2,00m	2,00m
Height folded						2,00m	2.21m	2.42m	2,83m
Weight without extra equipment:									
Cambridge rings, Ø45cm/18"	485 kg	790 kg	900 kg	1090 kg	1280 kg	1430 kg	1555 kg	1675 kg	2010 kg
Cambridge rings, Ø51cm/21"	615 kg	930 kg	1060 kg	1190 kg	1505 kg	1655 kg	1805 kg	1955 kg	2348 kg
Cambridge rings, Ø62cm/24"	760 kg	1160 kg	1330 kg	1640 kg	1875 kg	2025 kg	2185 kg	2345 kg	2820 kg
Cross-kill rings, Ø48/53cm	550 kg	730 kg	830 kg	950 kg	1210 kg	1360 kg	1475 kg	1590 kg	1905 kg
V-profile ring 600mm	570 kg	850 kg	970 kg	1150 kg	1385 kg	1535 kg	1670 kg	1805 kg	2170 kg
Additional weight – double frame	42kg	42kg	42kg	60kg	78kg				
Oil outlet	1 double-acting outlet on 4.0m – 5.0m - 6.0m hydr.								
Maximum weight transfer from the tractor	800kg								
Noise level	under 70 dB (A)								

Extra equipment	2,6	3,0	3.5	4,0	4,0 Hydr.	4,5 Hydr.	5.0 Hydr.	6,0 Hydr.
Additional weight – Front-Harrow	158kg	177kg	216kg	254kg	275kg	305kg	330 kg	397kg
Additional weight – Spring-Board	185kg	205kg	235kg	260kg	460kg	515kg	515 kg	570kg
Oil outlet - Spring-Board	1 double-acting outlet at the front of the tractor							

The Front-Roller complies with DS/ISO 8759/2, Front – Three-Point suspension (cat. II).

Distance between the lift arms (balls) is 870 mm

Operating Instructions

Start-up

Front-Roller

During transport the Front-Roller frame is locked in relation to the top frame. Before starting the work, the locking bar must be moved from transport position to working position.



- When the locking bar is in working position, the roller will be self-steered and thus following the tractor.
- In working position, the roller must be horizontal in the direction of driving.
- In sharp turns, e.g. in connection with turning at the ends and reversing, the Front-Roller must be lifted.
- When the roller is mounted in a HE-VA Front-Lift with spring suspension, the following applies:

When transferring weight from the tractor onto the roller, you will get the best combination of packing and control when the Front-Lift manometer shows 35 – 60 bar (depending on the weight of the tractor).

Front-Harrow

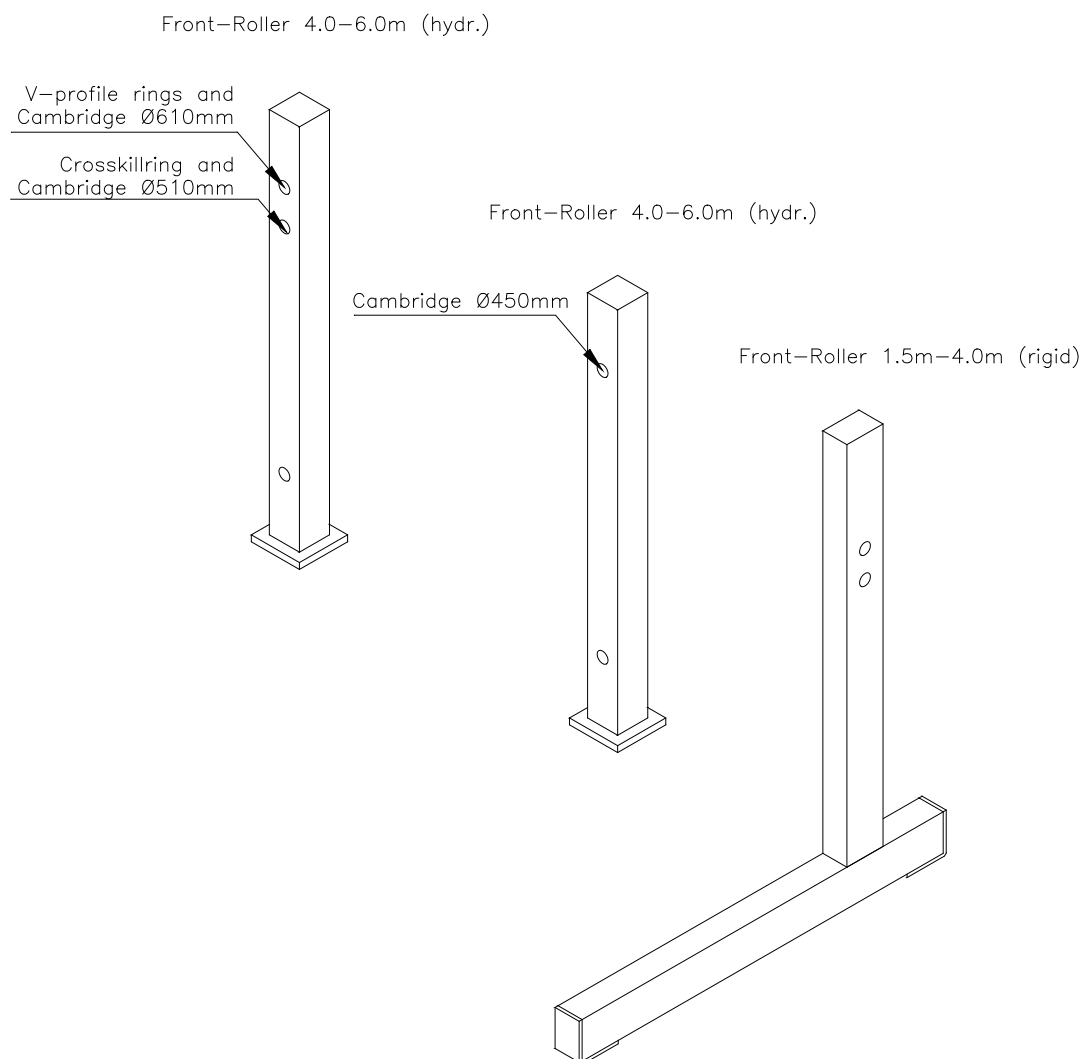
Before adjusting the working depth, make sure that the roller runs horizontally. The two spindles must be synchronised, i.e. one spindle may as a maximum be turned 5 turns before the other spindle is turned the corresponding number of turns in the same direction. For each turn of the handle, the front-harrow is lifted/lowered 5 mm.

Spring-Board

The Spring-board requires a double-acting oil outlet at the tractor. The tine angle is hydraulically controlled from the driver's cab, and the depth control is made manually. The tines work independent of each other, however, they may be connected by means of a transverse locking system (extra equipment), if a greater levelling effect is required. The change-over is made easily and quickly without any tools.

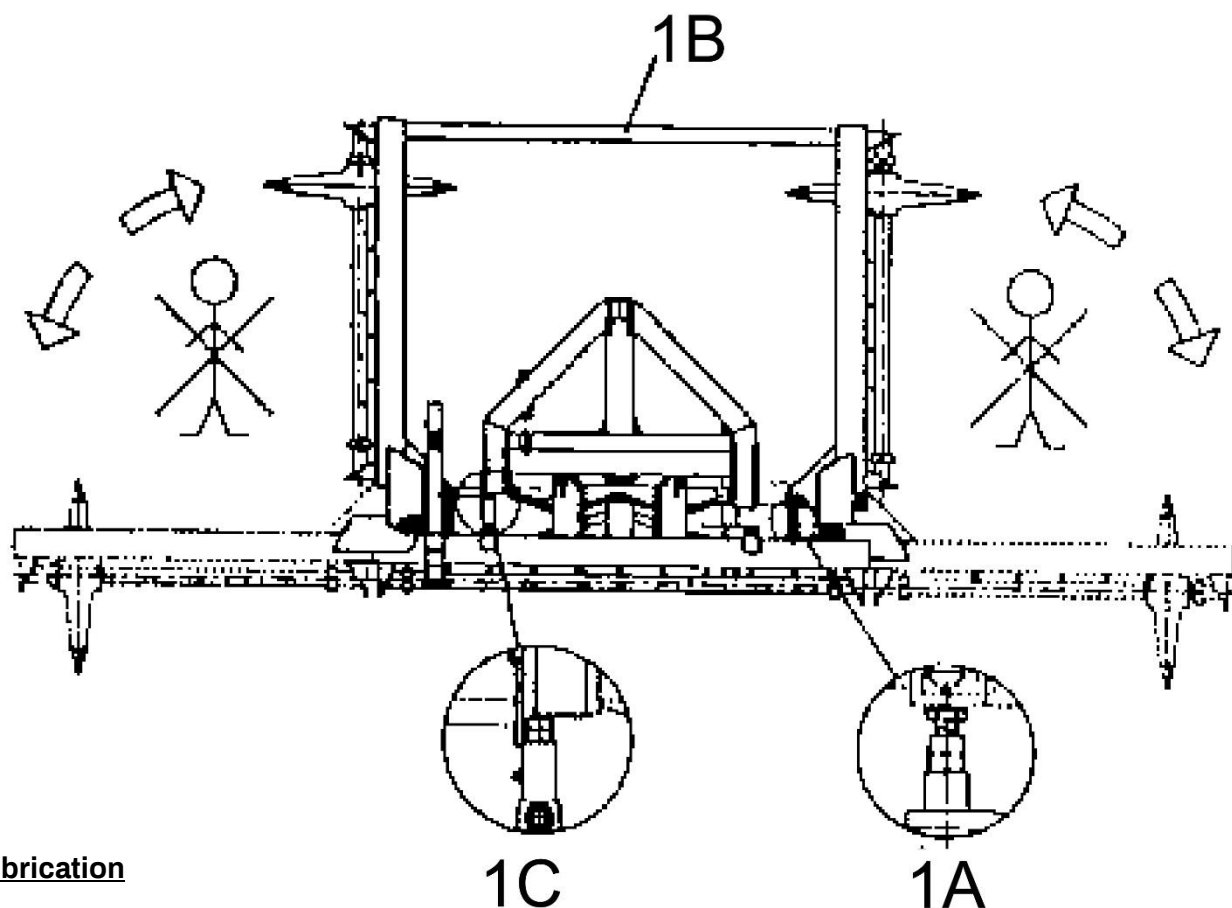
Uncoupling and coupling

The Front-Roller is equipped with supporting legs which must be lowered when the machine is uncoupled. Before uncoupling, a possible mounted Spring-Board must be lifted, and the hydraulic system is to be de-pressurized. Furthermore, the Front-Harrow must be lifted so that the weight of the Front-Roller does not rest on the tine of the harrow but on the supporting legs.



Transport (hydraulic machines)

For transport, the wing sections are to be lifted. The bolts at the cylinders are to be adjusted so that the wing sections are vertical (fig. 1A). Hereafter, the mechanical locking bar (fig. 1B) is to be mounted for reasons of failure in the hydraulic system. Moreover, the built-in transport lock must be locked, to prevent the roller from swaying around during transport (fig 1C).



Lubrication

Front-Roller

For lubrication, maintenance and repair, the tractor must be braked and the motor stopped. The Front-Roller is to be lowered or supported properly so that it cannot fall in event of failure in the front-lift's or the tractor's hydraulic system. For lubrication of the hydraulic Front-Rollers, the wing sections have to be lowered or the mechanical locking bar has to be mounted in lifted state (see fig. 1B).

The 1.5 – 3.5 m Front-Rollers (rigid) have 4 lubrication points, the 4.0 m rigid Front-Rollers have 6 lubrication points, the 4.0 – 4,5 m hydraulic Front-Rollers have 14 lubrication points and the 5,0 - 6.0 m hydraulic Front-Rollers have 16 lubrication points. All Front-Rollers must be lubricated after every 10 working hours as well as after the cleaning in order to press out any water and dirt. The lubrication points are located at ball bearings, supporting rollers and cylinders.

Note!

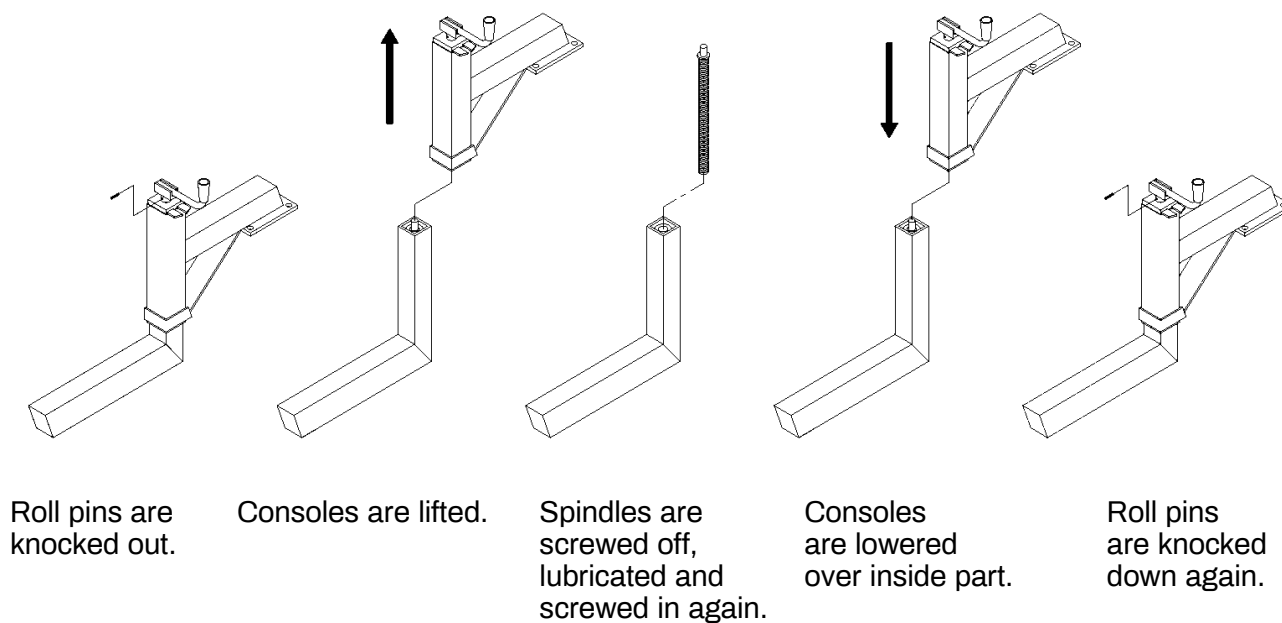
However, the double-sealed ball bearings should only be lubricated every 20 working hours and by 1-2 strokes so that the sealing rings are not pressed out.

Front-Harrow

The Front-Harrow's spindles are not equipped with lubricating nipples. Once a year, e.g. when the season is over and the machine is stored for the winter, the spindles should be dismantled and lubricated with ball bearing grease.

Note!

Before dismantling the Front-Harrow, the harrow points should rest on the support, otherwise the harrow will fall down when the roll pins are knocked out.



Markings on the machine

Several markings are located at your machine, which contains **safety regulations** and other instructions to inform about correct operating.

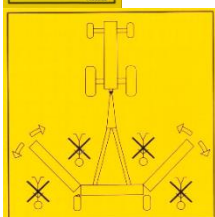
Please read these instructions carefully, and make the driver aware about the markings and **safety regulations** in this Operating Instructions. Keep the markings clean and readable. If they are not, they must be replaced.

Safety – and other markings on the machine



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

Item number: 1305028

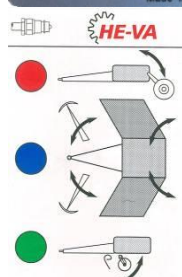


Take care that no persons are within the machine's hazardous area during the unfolding and folding procedure.

Item number: 1305029



Plate with number and year of manufacture



Indication Labels for the machine's hydraulic systems:

Item number: 1305031



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

Item number: 1305030

Maximum torque according to ISO-1 in Nm. W/lubricated thread			
Metric thread	Quality 8.8	Quality 10.9	Quality 12.9
M10x1,5	47	65	79
M12x1,75	81	114	136
M14x2,0	128	181	217
M16x2,0	197	277	333
M18x2,5	275	386	463
M20x2,5	385	541	649
M22x2,5	518	728	874
M24x3,0	665	935	1120
Tirebolt M18x1,5 fine thread	385 Nm		
Tirebolt M22x1,5 fine thread	550 Nm		

Maintenance

The entire machine

- After the first 10 hours of operation, tighten up all bolts.
- 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.
- Check regularly that all rings are whole and that there are no stones jammed in the rings.

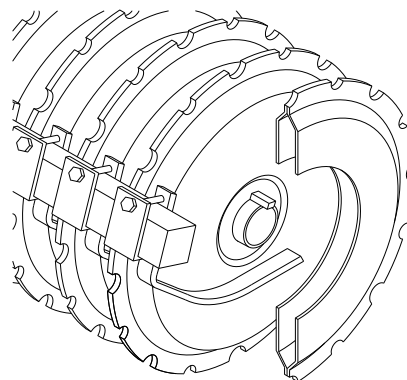
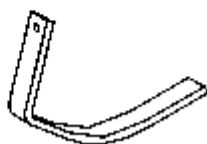
Front-Harrow/Spring-Board

Turn/replace the points before the harrow tines show signs of wear.

Scrapers

The Front-Roller with V-profile rings has special designed scrapers among the packer rings.

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

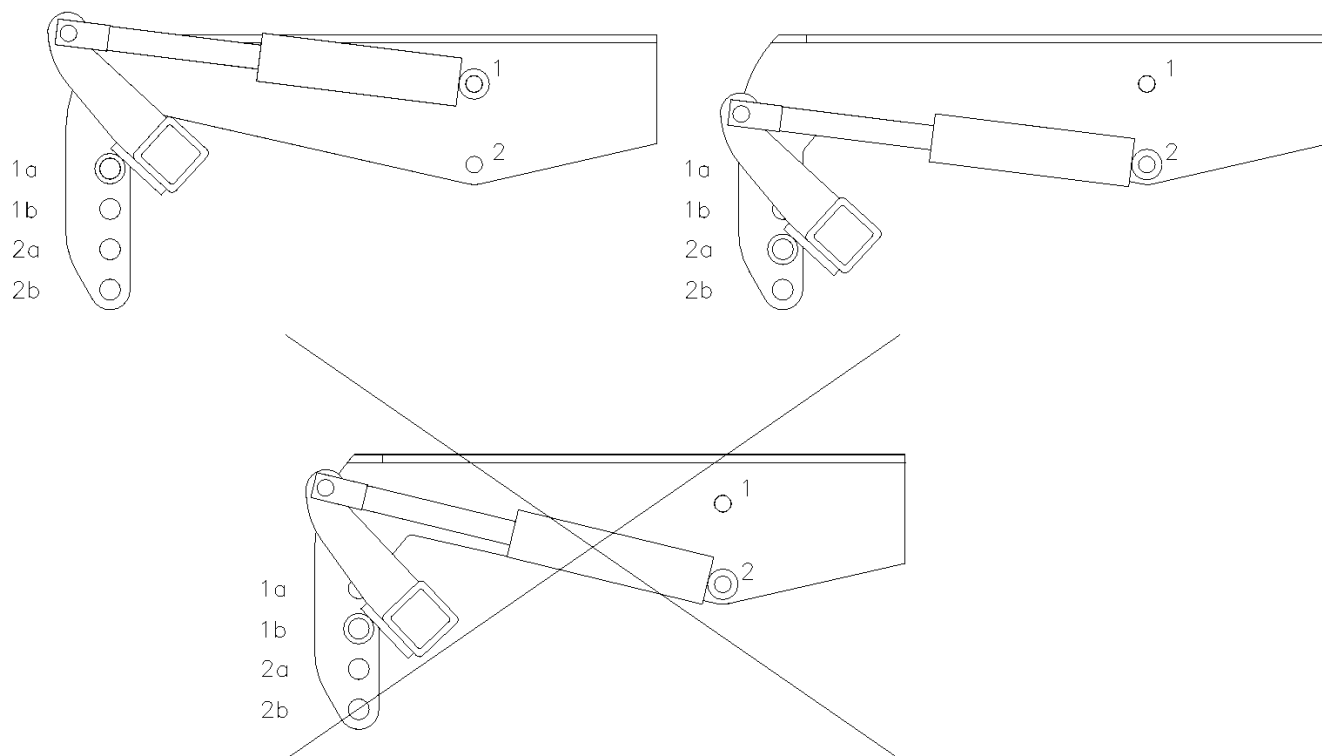


Spring-Board

Mounting of cylinder on Spring-Board

The hydraulic cylinders are mounted as shown in the below figure. It is important to have them correctly mounted in order to get the correct moment on the cylinders.

The ring type determines whether the cylinders must be mounted in hole 1 or hole 2. If the machine is equipped with 450 or 550 mm rings, the cylinders must be fitted in hole 1 and hole 1a or 1b. If the machine is equipped with 620 mm rings, the cylinders must be fitted in hole 2 and hole 2a or 2b.

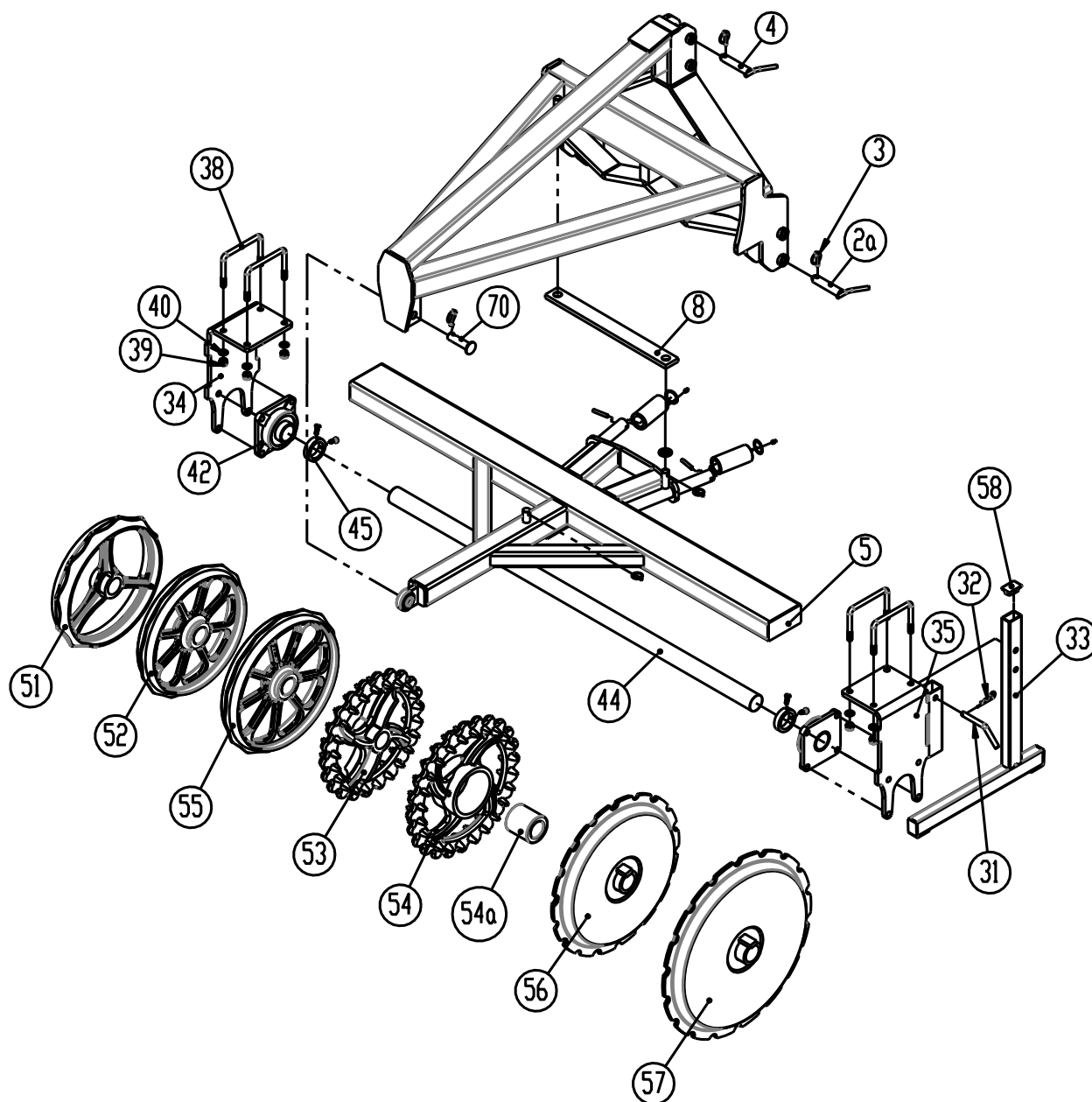


Retromounting of Front-Harrow and Spring-Board

Both the Front-Harrow and the Spring-Board can be mounted directly on the frame. If the Front-Roller is to be mounted with both a Front-Harrow and Spring-Board, a double frame is necessary. Spring-Board is to be mounted on the front bar and the Front-Harrow on the rear bar.

Spare Parts List

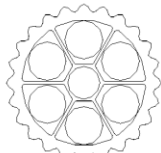
Frame 1.5 m (rigid)



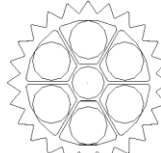
Plain ring
(lenient)



Serrated ring
(lenient)

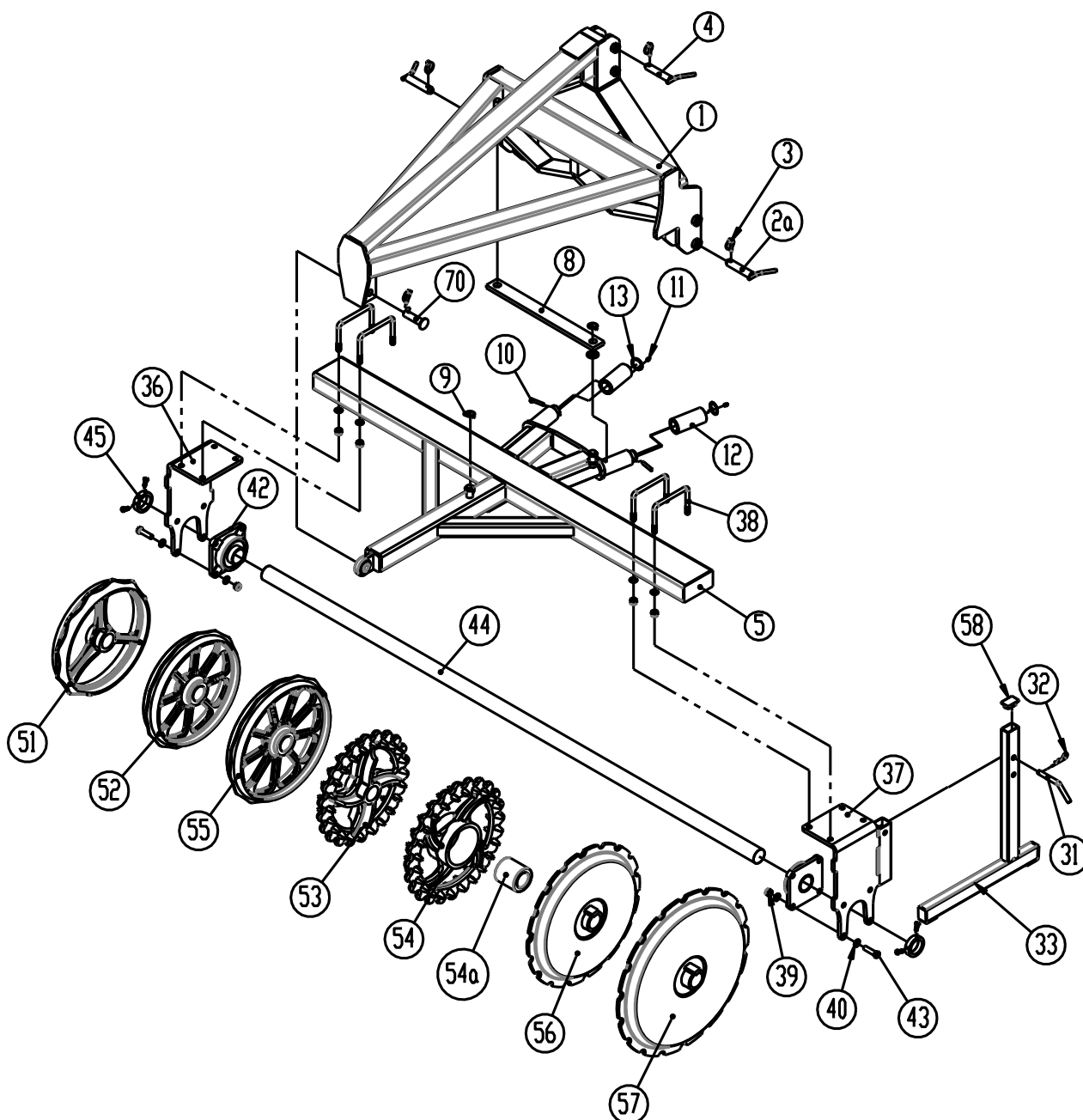


Serrated ring
(aggressive)

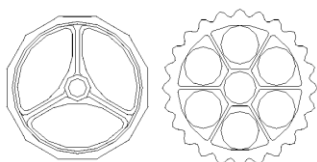


Plain ring
(aggressive)

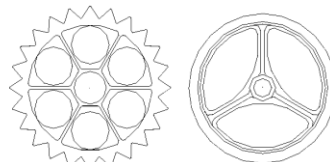


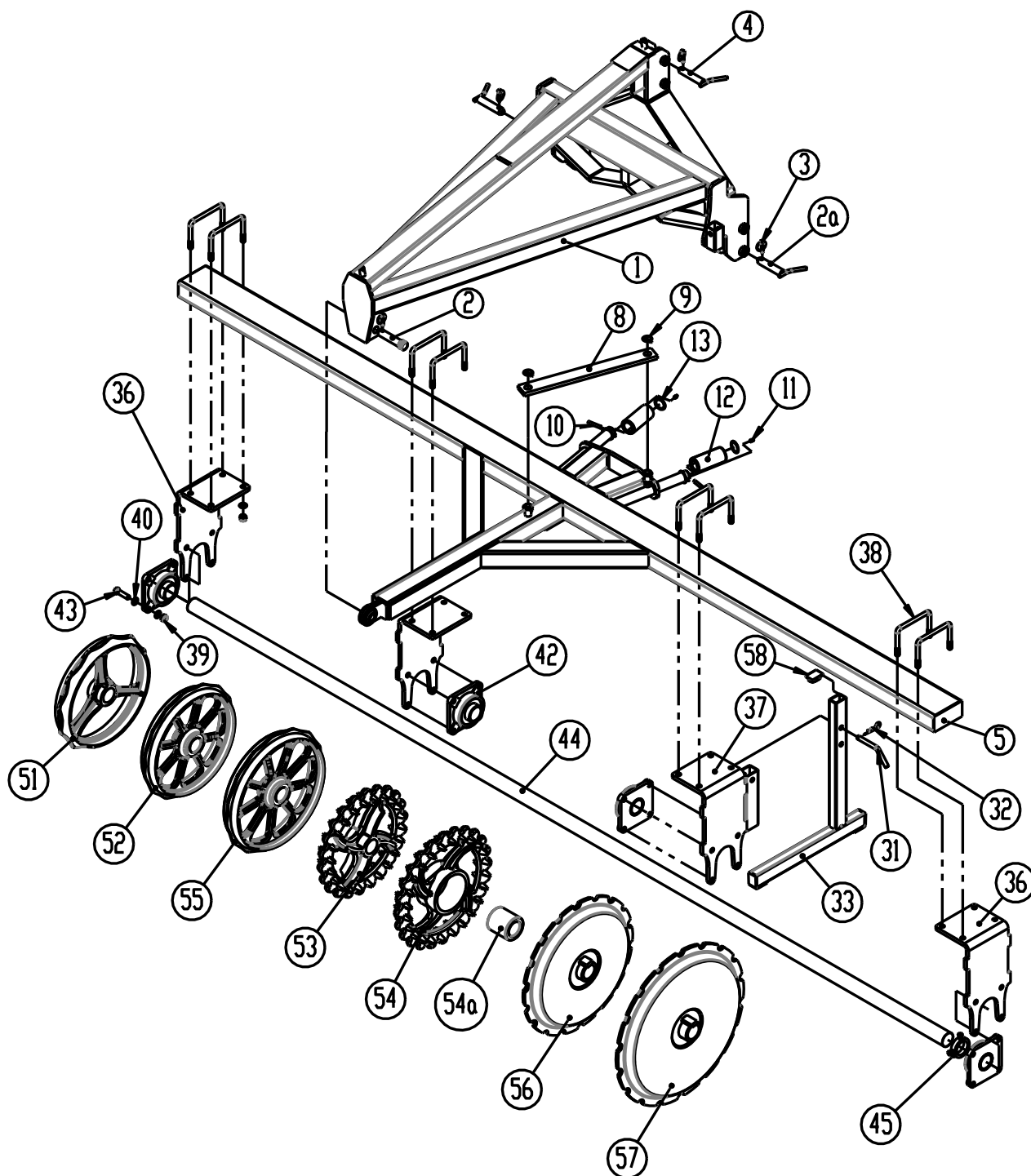
Frame 2.6 - 3.0 m - 3.5 m (rigid)

Plain ring (lenient) Serrated ring (lenient)



Serrated ring (aggressive) Plain ring (aggressive)



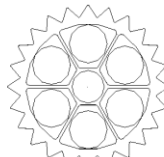
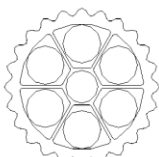
Frame 4.0 m (rigid)

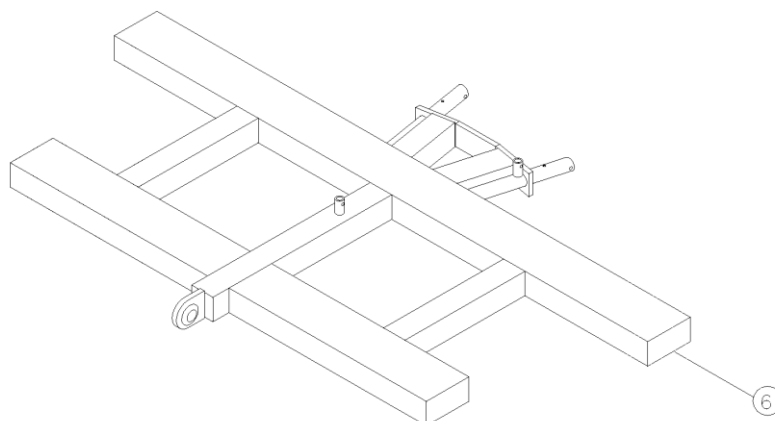
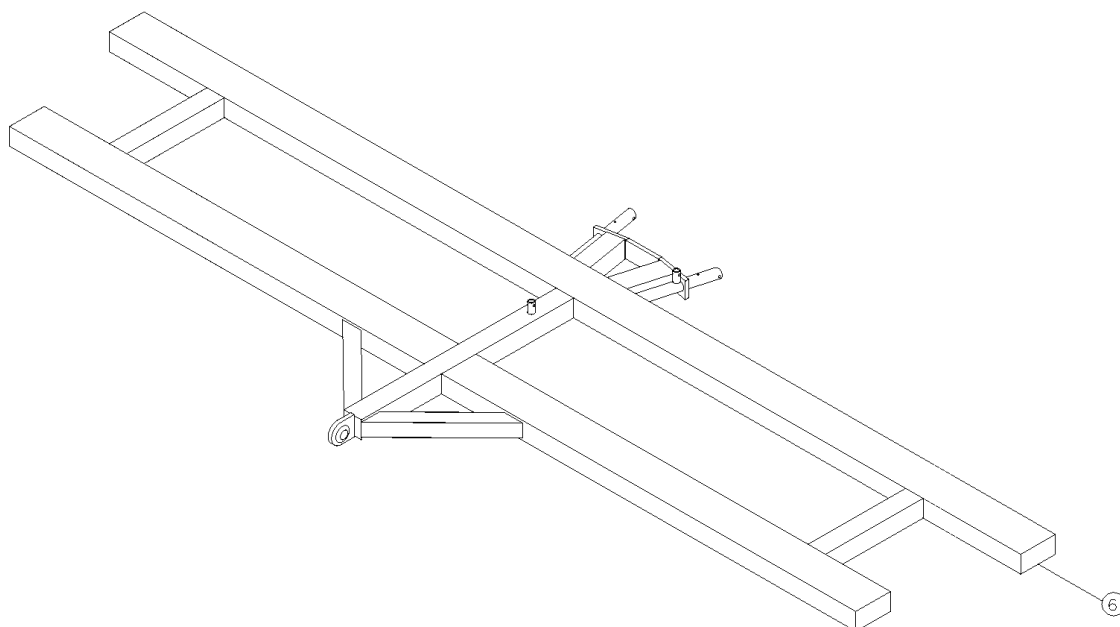
Plain ring
(lenient)

Serrated ring
(lenient)

Serrated ring
(aggressive)

Plain ring
(aggressive)



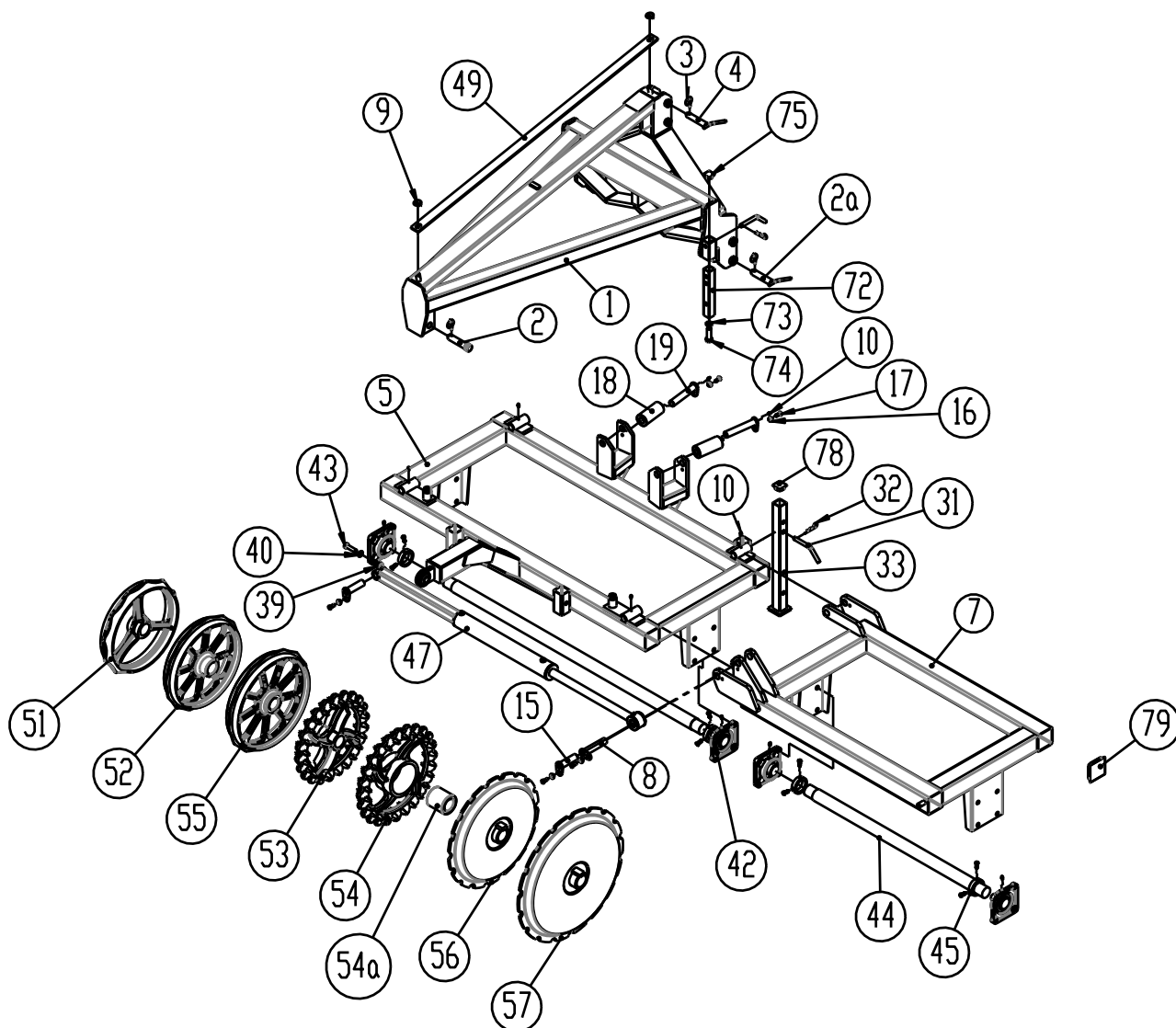
Double frame**1.5 – 3.5 m (rigid)****4.0 m (rigid)**

Frame 1,5 – 4,0m (Rigid)

Pos.	Item no.	Designation	1,5	2,6	3,0	3,5	4,0
1	671100400	Top frame	1	1	1	1	
1	671100200	Top frame					1
2	69525077J	Pin Ø25 L= 77	1	1	1	1	
2	69528096J	Pin Ø28 L=96					1
3	695134004	Ring pin Ø10	4	4	4	4	4
2a	69428105B	Pin Ø28 w/handle	2	2	2	2	2
4	69525105B	Pin for top link Ø28 w/handle	1	1	1	1	1
5	630440200	Frame	1	1	1	1	
5	630460200	Frame					1
6	630580100	Double frame	1	1	1	1	
6	630590100	Double frame					1
8	630440201	Locking bar	1	1	1	1	1
9	690134003	Ring pin Ø8	2	2	2	2	2
10	690130168	Roll pin Ø10x50	2	2	2	2	2
11	0432510	Lubricating nipple M8	2	2	2	2	2
12	630440300	Supporting roller Ø63/Ø40 L=131 mm	2	2	2	2	2
13	690137911	Shim Ø50/Ø40x2,5mm DIN 988	2	2	2	2	2
31	69516094A	Pin Ø16 L=94	1	1	1	1	1
32	690133005	Hairpin Ø4	1	1	1	1	1
33	634400610	Supporting leg (18" Cambridge)	1	1	1	1	1
33	634400620	Supporting leg (21" Cambridge)	1	1	1	1	1
33	634400630	Supporting leg (24" Cambridge and V-profilring)	1	1	1	1	1
33	634400650	Supporting leg (Crosskillring)	1	1	1	1	1
33	671000300	Supporting leg (Crosskillring, V-profilring 21" and 24" Cambridge)	1	1	1	1	1
34	630401000	Endplate (R)) Before machin no. 706305	1	1	1	1	2
35	630401100	Endplate w/supporting bracket (L) Before machin no. 706305	1	1	1	1	1
36	630401020	Bearing block (R) Before machin no. 706305	1	1	1	1	1
36	630401211	Bearing block from machin no 706305	1	1	1	1	2
37	630401010	Bearing block w/supporting bracket (L) Before machin no. 706305	1	1	1	1	1

Pos.	Item no.	Designation	1,5	2,6	3,0	3,5	4,0
37	630401212	Bearing block w/supporting bracket (L) From machin no 706305	1	1	1	1	1
38	690110102	U-boltM16x80x160x80	4	4	4	4	8
39	0264090	Self-locking nut M16	16	16	16	16	32
40	0272290	Facet plate Ø16	16	16	16	16	32
41	690140080	BearingUCFL 209 (Ø45) Before machin no. 706305	2				2
42	690140803	Bearing UCP 212 (Ø60) Before machin no. 706305		2	2	2	2
42	690140821	Bearing UCF 212 (Ø60) From machin no 706305	2	2	2	2	2
	690136001	Lubricating nipple M6 (for pos. 41)	2	2	2	2	4
	0421510	Lubricating nipplel M8 (for pos. 42)	2	2	2	2	4
43	0235840	Bolt M16x60 8.8	8	8	8	8	16
44	678621730	Axle 1730mm (Ø60)	1				
44	678612640	Axle 2640mm (Ø60) (Crosskillring)		1			
44	678612660	Axle 2660mm (Ø60) (Cambridgering)		1			
44	678613050	Axle 3050mm (Ø60) (Crosskillring)			1		
44	678613080	Axle 3080mm (Ø60) (Cambridgering)			1		
44	1270397	Axle 3550mm (Ø60) (Cambridgering)				1	
44	1270399	Axle 3540mm (Ø60) (Crosskillring)				1	
44	678624170	Axle 4170mm (Ø60)					1
45	671040400	Stop ring w/bolt 20 mm	2	2	2	2	2
51	690150030	Cambridge glatring 21" (Ø60) (lenient)	15	23	27	31	38
52	690150032	Cambridge takring 21" (Ø60) (lenient)	14	22	26	30	37
51	690150024	Cambridge glatring 21" (Ø60) (aggressiv)	15	23	27	31	38
52	690150025	Cambridge takring 21" (Ø60) (aggressiv)	14	22	26	30	37
51	690150045	Cambridge glatring 24" (Ø60) (lenient)	15	23	27	31	38
52	690150046	Cambridge takring 24" (Ø60) (lenient)	14	22	26	30	37
51	690150027	Cambridge glatring 24" (Ø60) (aggressiv)	15	23	27	31	38
52	690150026	Cambridge takring 24" (Ø60) (aggressiv)	14	22	26	30	37
53	690150034	Crosskillring 485mm (Ø60)	8	13	14	16	19

Pos.	Item no.	Designation	1,5	2,6	3,0	3,5	4,0
53	690150074	Crosskillring 550mm	7	12	13	15	18
54	690150011	Crosskill ring (loose) 530mm (Ø60)	8	13	14	16	19
54	690150075	Crosskillring (loose) 600mm	7	12	13	15	18
55	690150035	Hub f/loose Crosskill ring (Ø60)	7	12	13	15	18
55	690150076	Hub f/loose Crosskill ring (Ø60)	7	12	13	15	18
56	690150036	V-profilering (Ø600)	12	19	23	27	31
57	690150044	V-profilering (Ø700)	10	17	18	22	24
58	690109205	Plastic plug 60x40x2	1	1	1	1	1

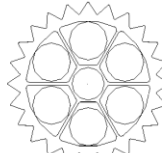
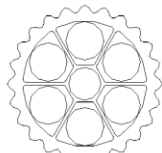
Frame 4.0 – 4,5 m (hydr.)

Plain ring
(lenient)

Serrated ring
(lenient)

Serrated ring
(aggressive)

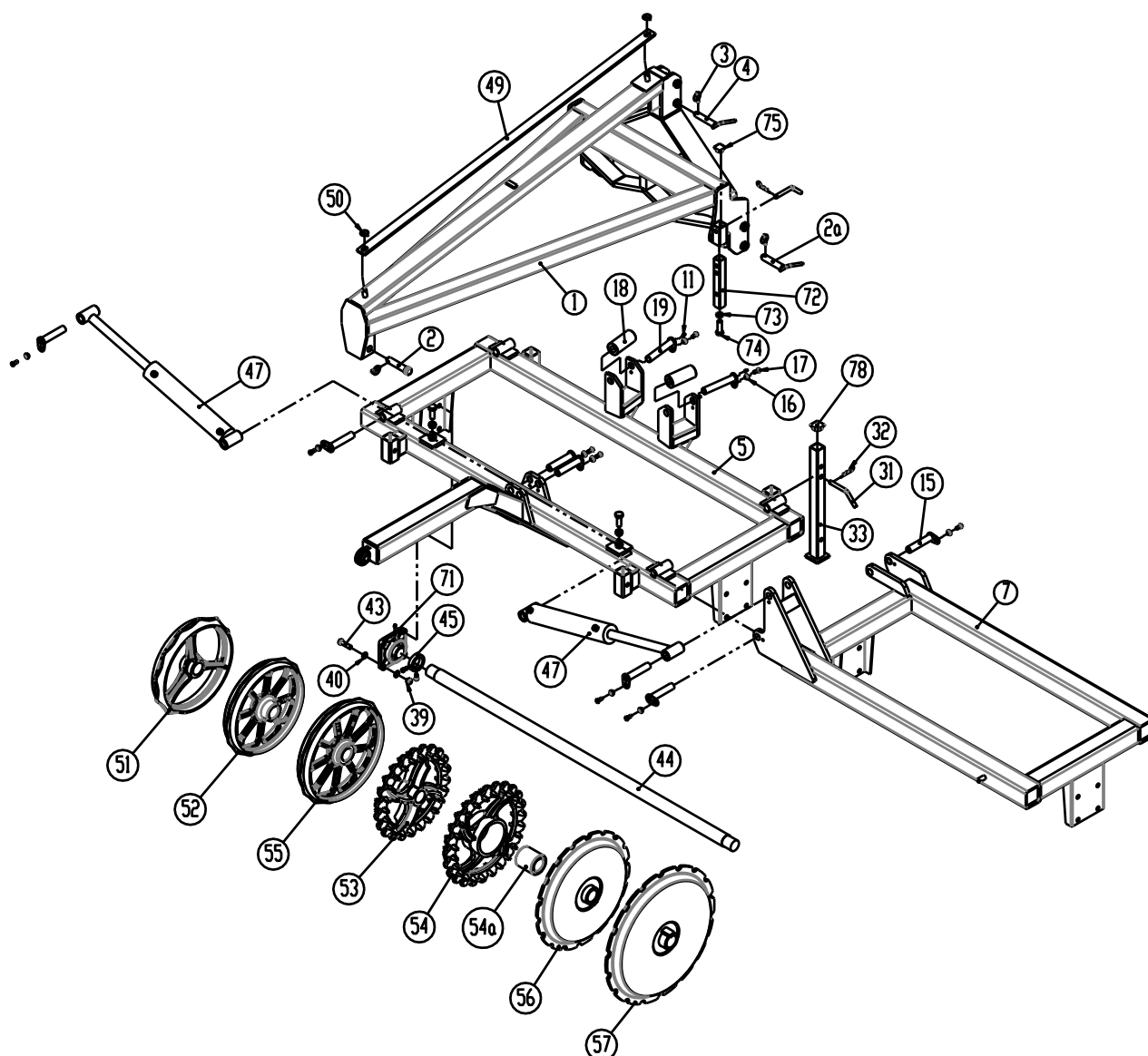
Plain ring
(aggressive)



Pos.	Item no.	Designation	4,0m hydr	4,5m hydr
1	671151410	Top frame	1	1
2	69528096J	Pin Ø28 L=96	1	1
3	695134004	Ringpin Ø10	4	4
2a	69428105B	Pin Ø28 w/handle	2	2
4	69525105B	Pin for top link Ø28 w/handle	1	1
5	630451000	Middle section	1	1
7	630452000	Wing section (R)	1	
7	630452010	Wing section (L)	1	
7	1270636	Wing section (R)		1
7	1270637	Wing section (L)		1
8	630440201	Locking bar	1	1
9	690134003	Ring pin Ø8	2	2
10	690130168	Roll pin Ø8x50	2	2
11	0432510	Lubricating nipple M8	8	8
12	630440300	Supporting roller Ø63/Ø40 L=131 mm	2	2
13	690137911	Shim Ø50/Ø40x2,5mm DIN 988	2	2
14	690109204	Plastic plug 100x100	4	4
15	69530145G	Pin Ø30 L=145	4	4
16	630532600	Lock bush f/pin head	8	8
17	690101101	Bolt M12x25	8	8
18	671000100	Supporting roller	2	2
19	69530175I	Pin Ø30 L=175	2	2
30	690103146	Bolt M20x55 (set screw)	2	2
31	69516094A	Pin Ø16 L=94	3	3
32	690133005	Hairpin Ø4	3	3
33	634400610	Supporting leg (18" Cambridge)	3	3
33	634400620	Supporting leg (21" Cambridge)	3	3
33	634400630	Supporting leg (24" Cambridge and V-profilring)	3	3
33	634400650	Supporting leg (Crosskillring)	3	3
33	630471100	Supporting leg (18" Cambridge)	3	3
33	671000300	Supporting leg (Crosskillring, V-profilring and 21" and 24" Cambridge)	3	3
39	0264090	Self-locking nut M16	12	12

Pos.	Item no.	Designation	4,0m hydr	4,5m hydr
40	0272290	Facet plate Ø16	24	24
42	690140821	Bearing UCF 212 (Ø60) from machine no 706305	6	6
	0421510	Lubricating nipple M8 (for Pos. 42)	6	6
43	0235840	Bolt M16x60 8.8	24	24
44	678631725	Axle 1725mm (Ø60) (middle section)	1	
44	678631200	Axle 1200mm (Ø60) (wing section)	2	
44	678631725	Aksel 1725mm (Ø60) (middle section)		1
44	1270646	Axle 1471mm (Ø60) (wing section)		2
45	671040400	Stop ring w/bolt 20mm	6	6
47	630450400	Cylinder 70/40x500 (extended)	1	1
47a	0432100	Lubricating nipple M6	1	1
47a	0432510	Lubricating nipple M8	1	1
47b	690200068	Gasket sett 70/40	1	1
48	69430107G	Pin Ø30 L=107	2	2
49	30440201	Locking bar	1	1
50	690134001	Ring pin Ø4.5	2	2
51	690150030	Cambridge Plain ring 21" (Ø60) (lenient)	39	44
52	690150032	Cambridge Serrated ring 21" (Ø60) (lenient)	36	41
51	690150024	Cambridge Plain ring 21" (Ø60) (aggressiv)	39	44
52	690150025	Cambridge Serrated 1" (Ø60) (aggressiv)	36	41
51	690150045	Cambridge Plain ring 24" (Ø60) (lenient)	39	44
52	690150046	Cambridge Serrated 24" (Ø60) (lenient)	36	41
51	690150027	Cambridge Plain ring 24" (Ø60) (aggressiv)	39	44
52	690150026	Cambridge Serrated 24" (Ø60) (aggressiv)	36	41
53	690150034	Crosskillring 485mm (Ø60)	40	40
53	690150074	Crosskillring 550mm	34	34
54	690150011	Crosskill ring (loose) 530mm (Ø60)	40	40
54	690150075	Crosskillring (loose) 600mm	34	34
55	690150035	Hub f/loose Crosskill ring (Ø60)	34	34
55	690150076	Hub f/loose Crosskillring ø104/ø60	34	34
56	690150036	V-profilering (Ø600)	30	34
57	690150044	V-profilering (Ø700)	24	27

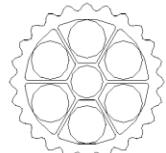
Pos.	Item no.	Designation	4,0m hydr	4,5m hydr
58	0449406	Tube-support double Ø14/Ø14	4	4
59	690210211	Top plate f/double tupe-support	2	2
60	0234790	Bolt M8x40	2	2
61	690203001	Quick coupling ½" E402, male	2	2
62	690203003	Fitting, straight 10-1/2" BSP	2	2
63	690201033	Hydr.hose 2500 mm ¼" st/st	2	2
66	690203006	Fitting, 90angle 10-3/8" BSP	2	2
69	690207901	Restrictor 1 mm	2	2
71	690140813	Bearing UCF 211	6	6
71a	0432510	Lubricating nipple M8 (for Pos. 71)	6	6
72	671100212	Security bracket	2	2
73	0261441	Lucknut M20	2	2
74	0236130	Bolt M20x60 8.8 set screw	2	2
75	0489580	Plastic plug 40x40x2, black	2	2
76	69516094A	Pin Ø16 L=94	2	2
77	690133005	Hairpin Ø4	2	2
78	0489590	Plastic plug 50x50x2, sort	3	3
79	0489660	Plastic plug 100x100	4	4

Frame 5,0 – 6,0 m (hydr.)

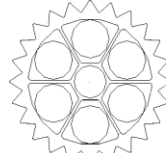
Plain ring
(lenient)



Serrated ring
(lenient)



Serrated ring
(aggressive)



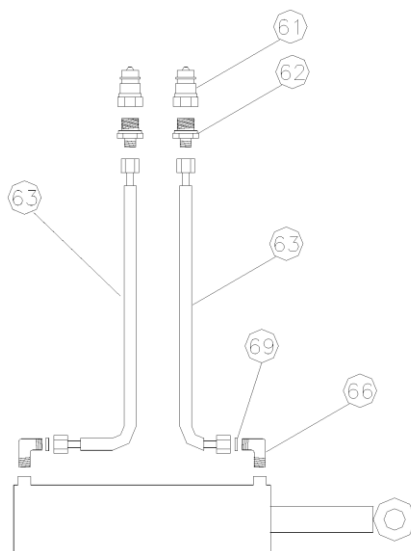
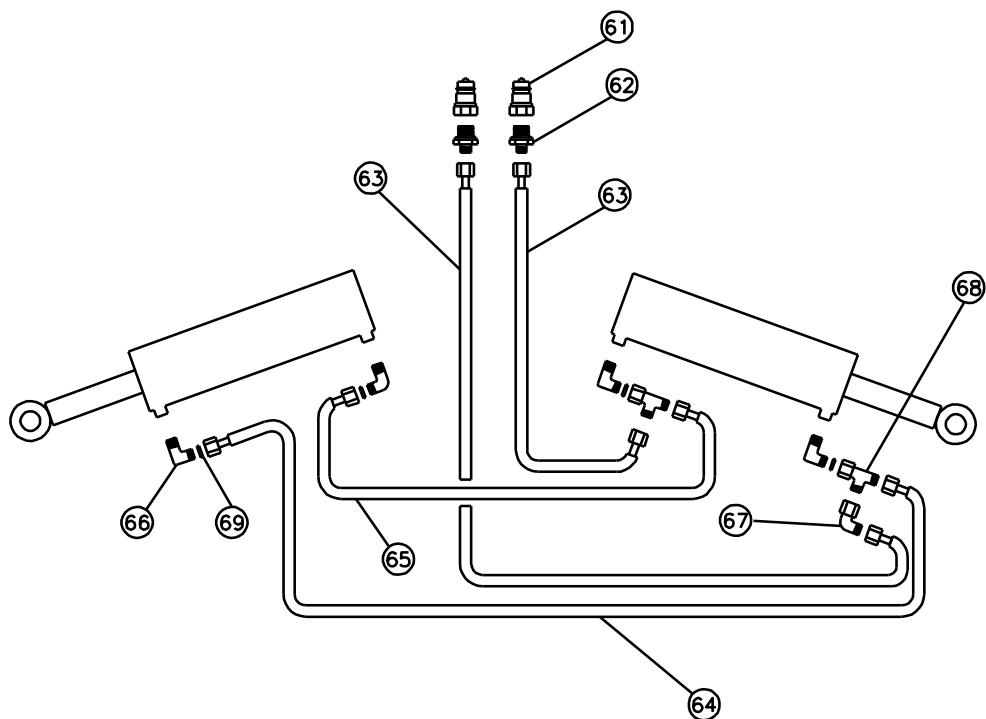
Plain ring
(aggressive)

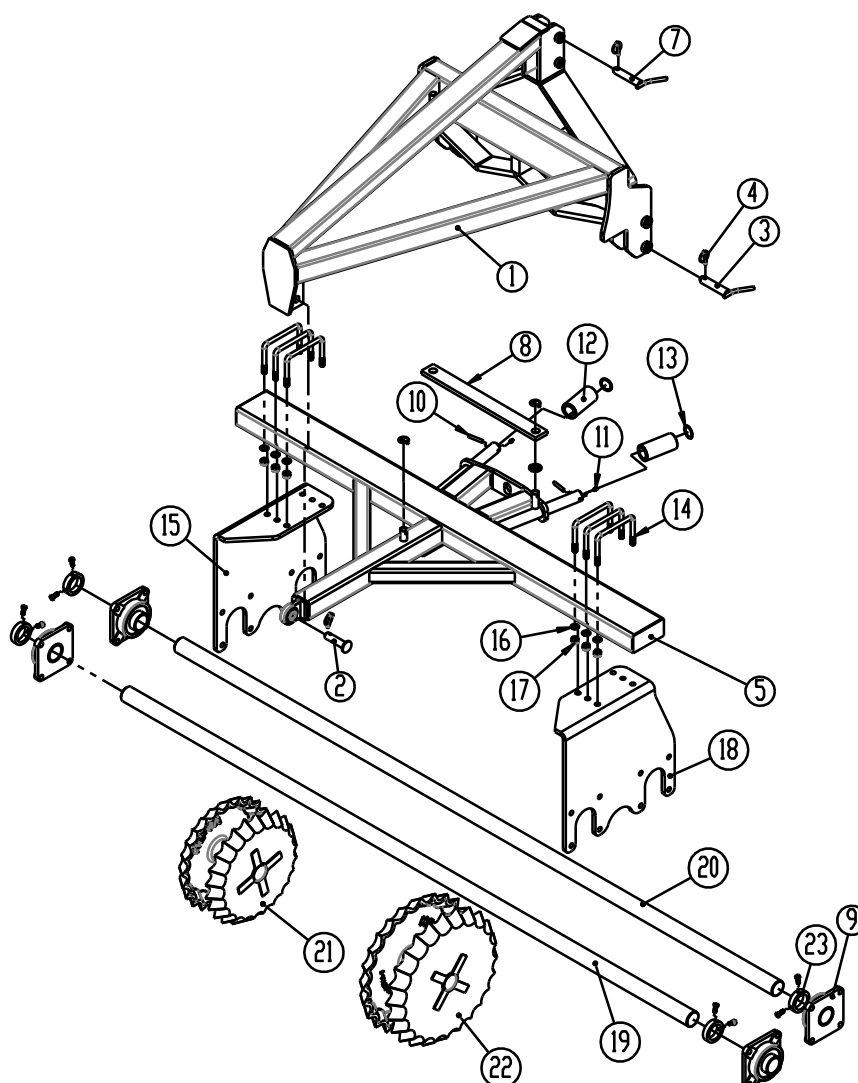


Pos.	Item no.	Designation	5,0m hydr	6,0m hydr
1	670473000	Top frame	1	1
2	69528096J	Pin Ø28 L=96	1	1
3	695134004	Ring pin Ø10	4	4
2a	69428105B	Pin Ø28 w/handle	2	2
4	69525105B	Pin for top link Ø28 w/handle	1	1
5	630471000	Middle section	1	1
7	630482000	Wing section (R)	1	
7	630482010	Wing section (L)	1	
7	630472000	Wing section (R)		1
7	630472010	Wing section (L)		1
8	630440201	Locking bar	1	1
9	690134003	Ring pin Ø8	2	2
10	690130168	Roll pin Ø8x50	2	2
11	0432510	Lubricating nipple M8	6	6
12	630440300	Supporting roller Ø63/Ø40 L=131 mm	2	2
13	690137911	Shim Ø50/Ø40x2,5mm DIN 988	2	2
14	690109204	Plastic plug 100x100	4	4
15	69530145G	Pin Ø30 L=145	4	4
16	630532600	Lock bush f/pin head	10	10
17	690101101	Bolt M12x25	10	10
18	671000100	Supporting roller	2	2
19	69530175I	Pin Ø30 L=175	2	2
30	690103146	Bolt M20x55 (set screw)	2	2
31	69516094A	Pin Ø16 L=94	3	3
32	690133005	Hairpin Ø4	3	3
33	630471100	Supporting leg (18" Cambridge)	3	3
33	671000300	Supporting leg (Crosskillring, V-profilering and 21" and 24" Cambridge)	4	4
39	0264090	Self-locking nut M16	12	12
40	0272290	Facet plate Ø16	24	24
42	690140821	Bearing UCF 212 (Ø60) from machine no 706305	6	6
	0421510	Lubricating nipple M8 (for Pos. 42)	6	6
43	0235840	Bolt M16x60 8.8	24	24

Pos.	Item no.	Designation	5,0m hydr	6,0m hydr
44	678632000	Axle 2000mm (Ø60) (middle section)	1	
44	678631548	Axle1548mm (Ø60) (wing section)	2	
44	678631996	Axle 1996mm (Ø60) (middle section)		1
44	678632037	Aksel 2037mm (Ø60) (wing section)		2
45	671040400	Stop ring w/bolt 20mm	6	6
47	690200301	Cylinder 80/40x400 (R)	1	1
47	690200300	Cylinder 80/40x400 (L)	1	1
47f	690200138	Gasket set 80/40	2	2
48	69430145G	Pin Ø30 L=145	4	4
49	670472001	Locking bar	1	1
50	690134001	Ring pin Ø4.5	2	2
51	690150030	Cambridge plain ring 21" (Ø60) (lenient)	49	59
52	690150032	Cambridge serrated ring21" (Ø60) (lenient)	46	56
51	690150024	Cambridge plain ring 21" (Ø60) (aggressiv)	49	59
52	690150025	Cambridge serrated ring21" (Ø60) (aggressiv)	46	56
51	690150045	Cambridge plain ring 24" (Ø60) (lenient)	49	59
52	690150046	Cambridge serrated ring 24" (Ø60) (lenient)	46	56
51	690150027	Cambridge plain ring 24" (Ø60) (aggressiv)	49	59
52	690150026	Cambridge serrated ring 24" (Ø60) (aggressiv)	46	56
53	690150034	Crosskillring 485mm (Ø60)	23	27
53	690150074	Crosskillring 550mm	23	27
54	690150011	Crosskillring (loose) 530mm (Ø60)	20	26
54	690150075	Crosskillring (loose) 600mm	20	26
55	690150035	Hub f/loose Crosskill ring (Ø60)	20	26
55	690150076	Hub f/loose Crosskillring ø104/ø60	20	26
56	690150036	V-profilering (Ø600)	38	46
57	690150044	V-profilering (Ø700)	30	36
58	0449406	Tube-support double Ø14/Ø14	4	4
59	690210211	Top plate f/double tupe-support	2	2
60	0234790	Bolt M8x40	2	2
61	690203001	Quick coupling ½" E402, male	2	2

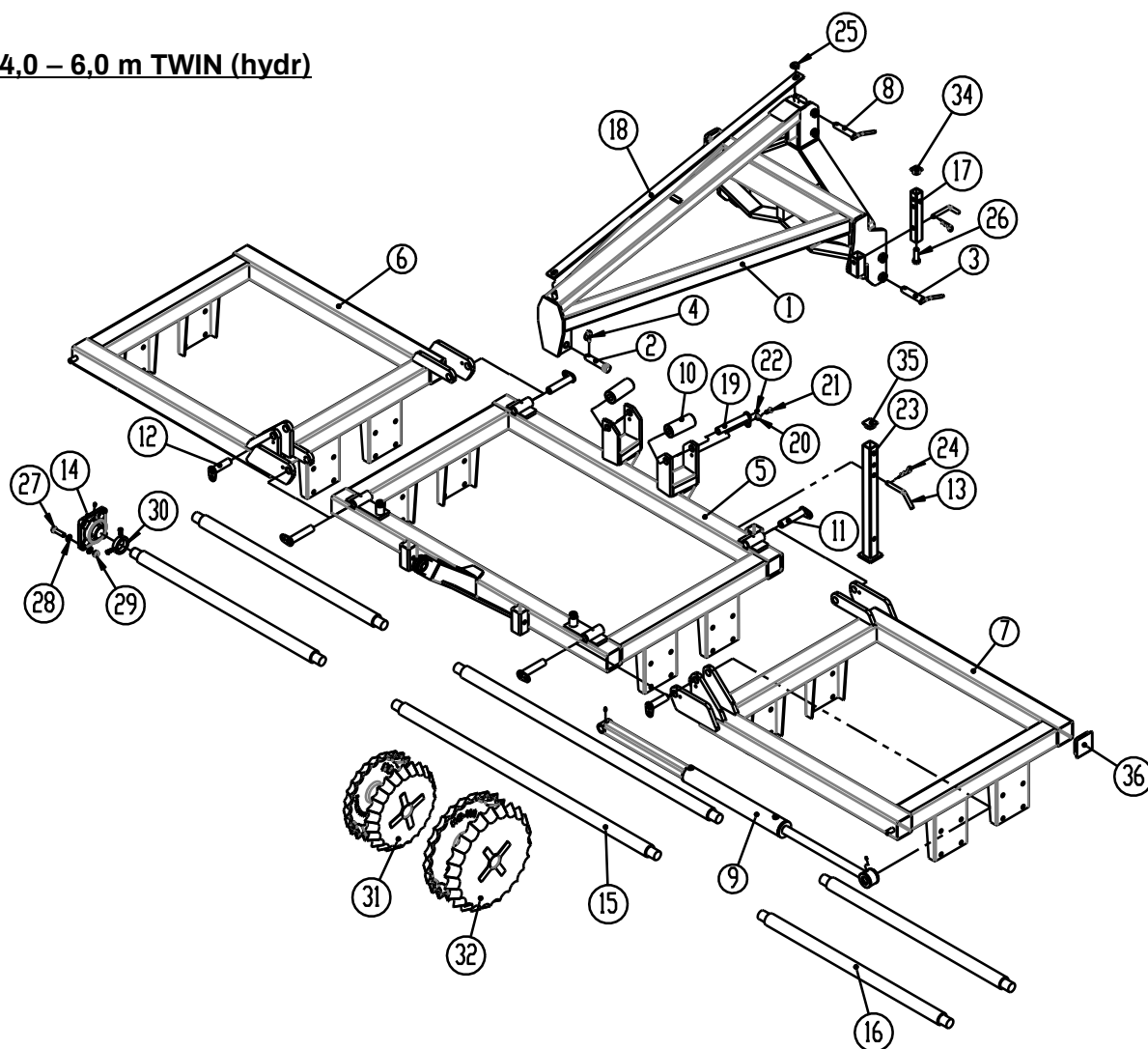
Pos.	Item no.	Designation	5,0m hydr	6,0m hydr
62	690203003	Fitting, straight 10-1/2" BSP	2	2
63	690201033	Hydr.hose. 2500 mm ¼" st/st	2	2
64	0454250	Hydr.hose 1010 mm ¼" st/st	1	1
65	690201051	Hydr.hose 250 mm ¼" st/st	1	1
66	690203006	Fitting, 90angle 10-3/8" BSP	4	4
67	690203016	Fitting, 90angle 10mm, premounted w/O-ring	1	1
68	690203120	Fitting T10L, premounted w/Oring	2	2
69	690207901	Restrictor 1 mm	4	4
71	690140813	Bearing UCF 211	6	6
71a	0432510	Lubricating nipple M8 (for Pos. 71)	6	6
72	671100212	Security bracket	2	2
73	0261441	Lucknut M20	2	2
74	0236130	Bolt M20x60 8.8 set screw	2	2
75	0489580	Plastic plug 40x40x2, black	2	2
76	69516094A	Pin Ø16 L=94	2	2
77	690133005	Hairpin Ø4	2	2
78	0489590	Plastic plug 50x50x2, black	4	4

Hydraulics**4.0 / 4.5 m (hydraulic)****5.0 / 6.0 m (hydraulic)**

1,5 – 4,0 m TWIN (rigid)

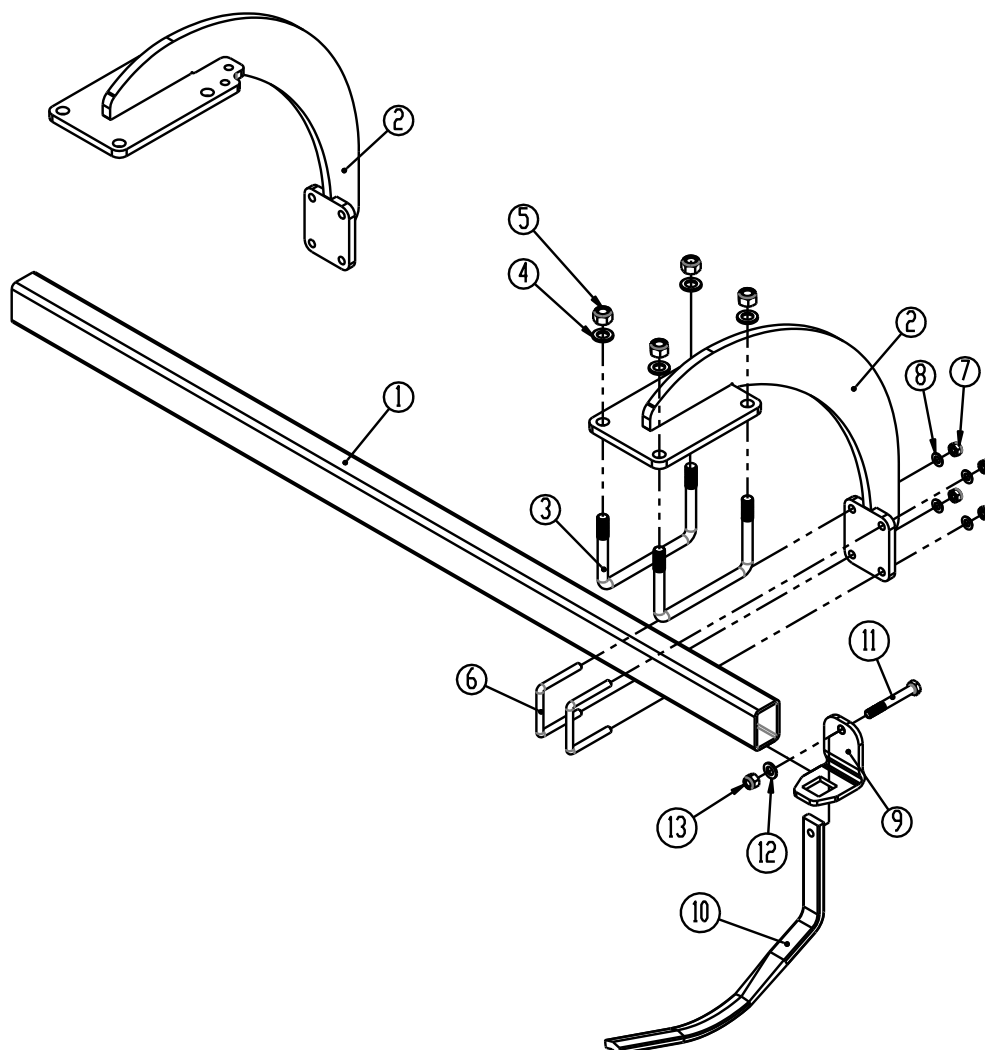
Pos.	Item no.	Designation	1,5	2,6	3,0	3,5	4,0
1	671100400	Top frame	1	1	1	1	
1	671100200	Top frame					1
2	69525077J	Pin Ø25 L=77	1	1	1	1	
2	69528096J	Pin Ø28 L=96					1
3	69428105B	Pin Ø28 w/handle	2	2	2	2	2
4	695134004	Ring pin Ø10	4	4	4	4	4
5	630440200	Frame	1	1	1	1	
5	630460200	Frame					1
7	69525105B	Pin for top link Ø28 w/handle	1	1	1	1	1
8	630440201	Locking bar	1	1	1	1	1

Pos.	Item no.	Designation	1,5	2,6	3,0	3,5	4,0
9	690140821	Bearing (complete) UCF 212 (Ø60)	4	4	4	4	4
10	690130167	Roll pin Ø8x50	2	2	2	2	2
11	0432500	Lubricating nipple M8	2	2	2	2	2
12	630440300	Supporting roller Ø63/Ø40 L=131 mm	2	2	2	2	2
13	690140652	Shim Ø50/Ø40x2,5mm DIN 988	2	2	2	2	2
14	690110102	U-bolt M16x80x160x80	6	6	6	6	6
15	1270072	Supporting for bearing f/TWIN model (R)	1	1	1	1	1
16	0272290	Facet plate Ø16	12	12	12	12	12
17	0264090	Self-locking nut M16	12	12	12	12	12
18	1270073	Supporting for bearing f/TWIN model (L)	1	1	1	1	1
19	7457005	Axle 1560mm. (Ø60)	2				
19	678612536	Axle 2536mm. (Ø60)		1			
19	678612860	Axle 2860mm. (Ø60)			1		
19	678613570	Axle 3570mm (Ø60)				1	
19	678624170	Axle 4200mm.(Ø60)					2
20	678612696	Axle 2696mm. (Ø60)		1			
20	678613020	Axle 3020mm. (Ø60)			1		
20	678613400	Axle 3400mm. (Ø60)				1	
21	690150064	Star ring Ø450mm	17	31	35	41	47
22	690150066	Star ring Ø550mm.	17	31	35	41	47

4,0 – 6,0 m TWIN (hydr)

Pos.	Item no.	Designation	4,0 hydr.	4,5 hydr.	5,0 hydr.	6,0 hydr.
1	671151410	Top frame	1	1		
1	670473000	Top frame			1	1
2	69528096J	Pin Ø28 L=96	1	1	1	1
3	69428105B	Pin for top link Ø25 w/handle	2	2	2	2
4	695134004	Ring pin Ø10	4	4	4	4
5	1270515	Middle section	1	1		
5	1270508	Middle section			1	1
6	1270516	Wing section (R)	1			
6	1270697	Wing section (R)		1		
6	1270511	Wing section (R)			1	
6	1270520	Wing section (R)				1
7	1270518	Wing section (L)	1			
7	1270698	Wing section (L)		1		
7	1270512	Wing section (L)			1	
7	1270521	Wing section (L)				1
8	69525105B	Pin Ø28 w/handle	1	1	1	1
9	630450400	Cylinder 70/40x500 (extended)	1	1		
9	690200301	Cylinder 80/40x400 (R)			1	1

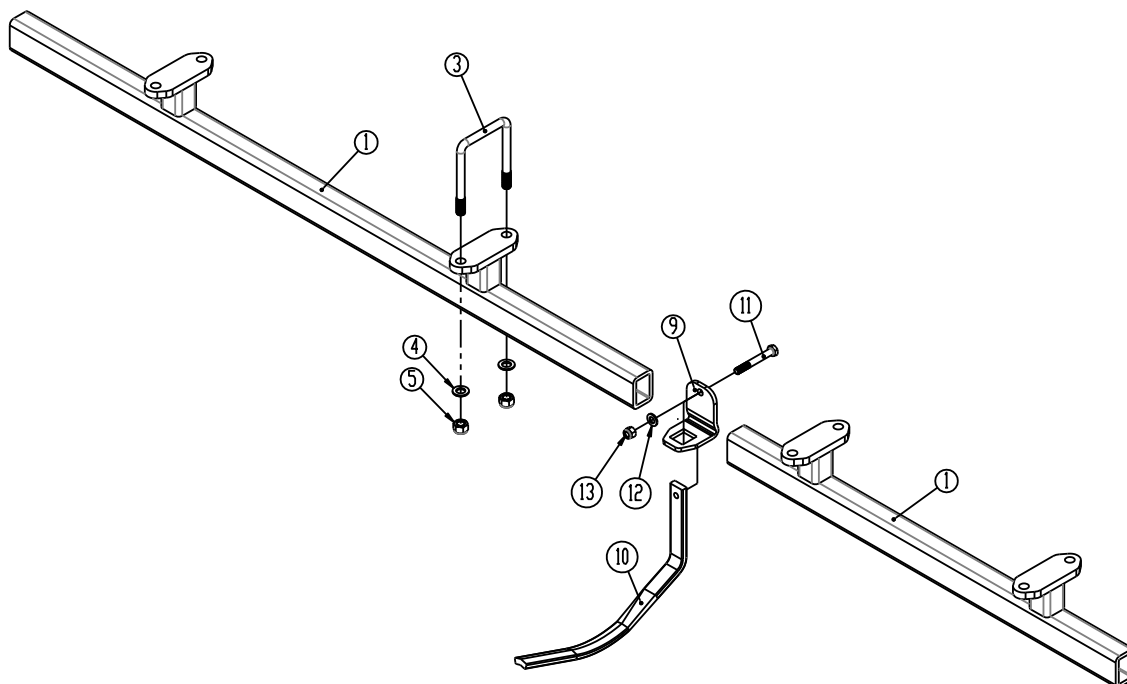
Pos.	Item no.	Designation	4,0 hydr.	4,5 hydr.	5,0 hydr.	6,0 hydr.
9	690200300	Cylinder 80/40x400 (L)			1	1
9a	0432100	Lubricating nipple M6	1	1	4	4
9a	0432510	Lubricating nipple M8	1	1		
9b	690200068	Gasket set 70/40	1	1		
9b	690200138	Gasket set 80/40			2	2
10	671000100	Supporting roller	2	2	2	2
11	69530145G	Pin Ø30 L=145	4	4	4	4
12	69430107G	Pin Ø30 L=107	2	2		
12	69430145G	Pin Ø30 L=145			4	4
13	69516094A	Pin Ø16 L=94	3	3	3	3
14	690140813	Bearing UCF 211	12	12	12	12
15	678631725	Axle 1725mm (Ø60) (Middle section)	2	2		
15	678681994	Axle 1994mm (Ø60) (Middle section)			2	2
16	678621220	Axle 1220mm (Ø60) (Wing section)	4			
16	678631471	Axle 1471mm (Ø60) (Wing section)		4		
16	678631532	Axle 1532mm (Ø60) (Wing section)			4	
16	678632037	Axle 2037mm (Ø60) (Wing section)				4
17	671100212	Security bracket	2	2	2	2
18	671150002	Locking bar	1	1		
18	670472001	Locking bar			1	1
19	69530175I	Pin Ø30 L=175	2	2	2	2
20	630532600	Lock bush f/pin head	8	8	10	10
21	690101101	Bolt M12x25	8	8	10	10
22	0432510	Lubricating nipple M8	2	2	6	6
23	671000300	Supporting leg	3	3	3	3
24	690133005	Hairpin Ø4	3	3	3	3
25	690134001	Ring pin Ø4,5 mm	2	2	2	2
26	0236130	Bolt M20x60	2	2	2	2
27	0235840	Bolt M16x60	48	48	48	48
28	0272290	Facet plate Ø16	96	96	96	96
29	0264090	Self-locking nut M16	48	48	48	48
30	671040400	Stop ring w/ 2x M12 bolts	12	12	12	12
30a	690101101	Bolt M12x25 8.8	24	24	24	24
31	690150064	Star ring Ø450	43	49	55	67
32	690150066	Star ring Ø550	43	49	55	67
34	0489580	Plastic plug 40x40	2	2	2	2
35	0489590	Plastic plug 50x50	4	4	4	4
36	0489660	Plastic plug 100x100	4	4	4	4

Scraper (Ø600 mm V-Profile rings. Rigid model)

Pos.	Item no.	Designation	1,5m	2,6m	3,0m	3,5m	4,0m
1	634400870	Scraper bar 1,5m	1				
1	634400871	Scraper bar 2,6m		1			
1	634400872	Scraper bar 3,0m			1		
1	634400874	Scraper bar 3,5m				1	
1	634400873	Scraper bar 4,0m					1
2	634400865	Bracket f/scraper bar Until machin no. 706737	2	2	2	2	2
2	634400867	Bracket f/scraper bar From machin no. 706744	2	2	2	2	2
2	1270182	Bracket f/scraper bar (L) From machin no709502	1	1	1	1	1
2	1270184	Bracket f/scraper bar (R) From machin no709502	1	1	1	1	1

Pos.	Item no.	Designation	1,5m	2,6m	3,0m	3,5m	4,0m
3	690110102	U-bolt M16x80x160x80 From machin no. 709502	4	4	4	4	4
3	690110101	U-bolt M16x100x110x100	4	4	4	4	4
4	0272290	Facet plate Ø16	8	8	8	8	8
5	0264070	Self-locking nut M16	8	8	8	8	8
6	690110020	U-bolt M10x70x70x70	4	4	4	4	4
6	690110025	U-bolt M10x50x70x50 From machin no. 709502	4	4	4	4	4
7	0264070	Self-locking nut M10	8	8	8	8	8
8	0272260	Facet plate Ø10	8	8	8	8	8
9	690152030	Clamp	12	16	20	23	26
10	630938525	Scrabber f/V-profile ring (long)	12	16	20	23	26
10	630938539	Scrabber f/V-profile ring (long) From machin no 710169	12	16	20	23	26
11	690103098	Bolt M12x110	12	16	20	23	26
12	0272270	Facet plate Ø12	12	16	20	23	26
13	0264070	Self-locking nut M12	12	16	20	23	26

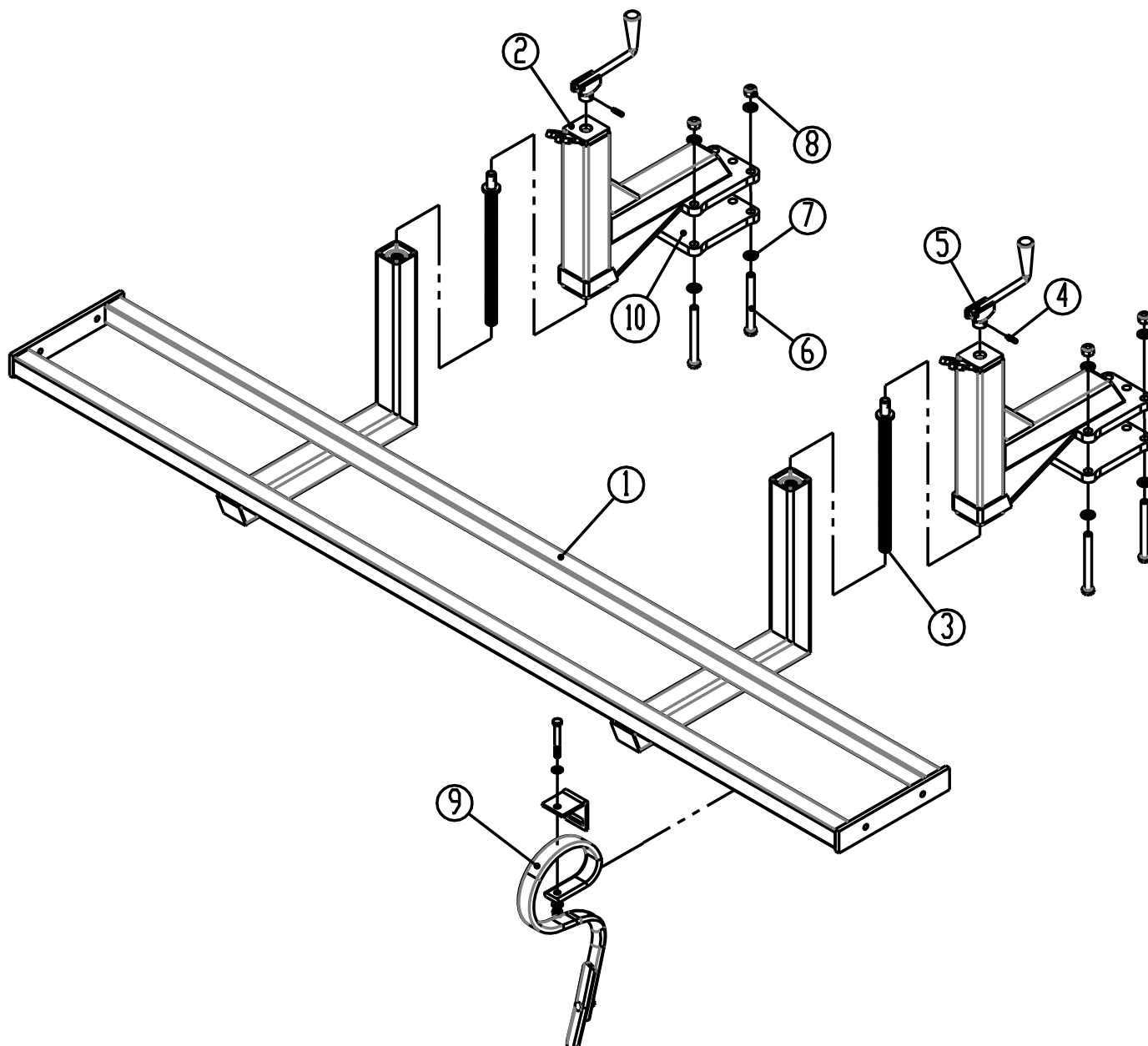
Scrabber (Ø700 mm V-Profile rings Hydr. model)



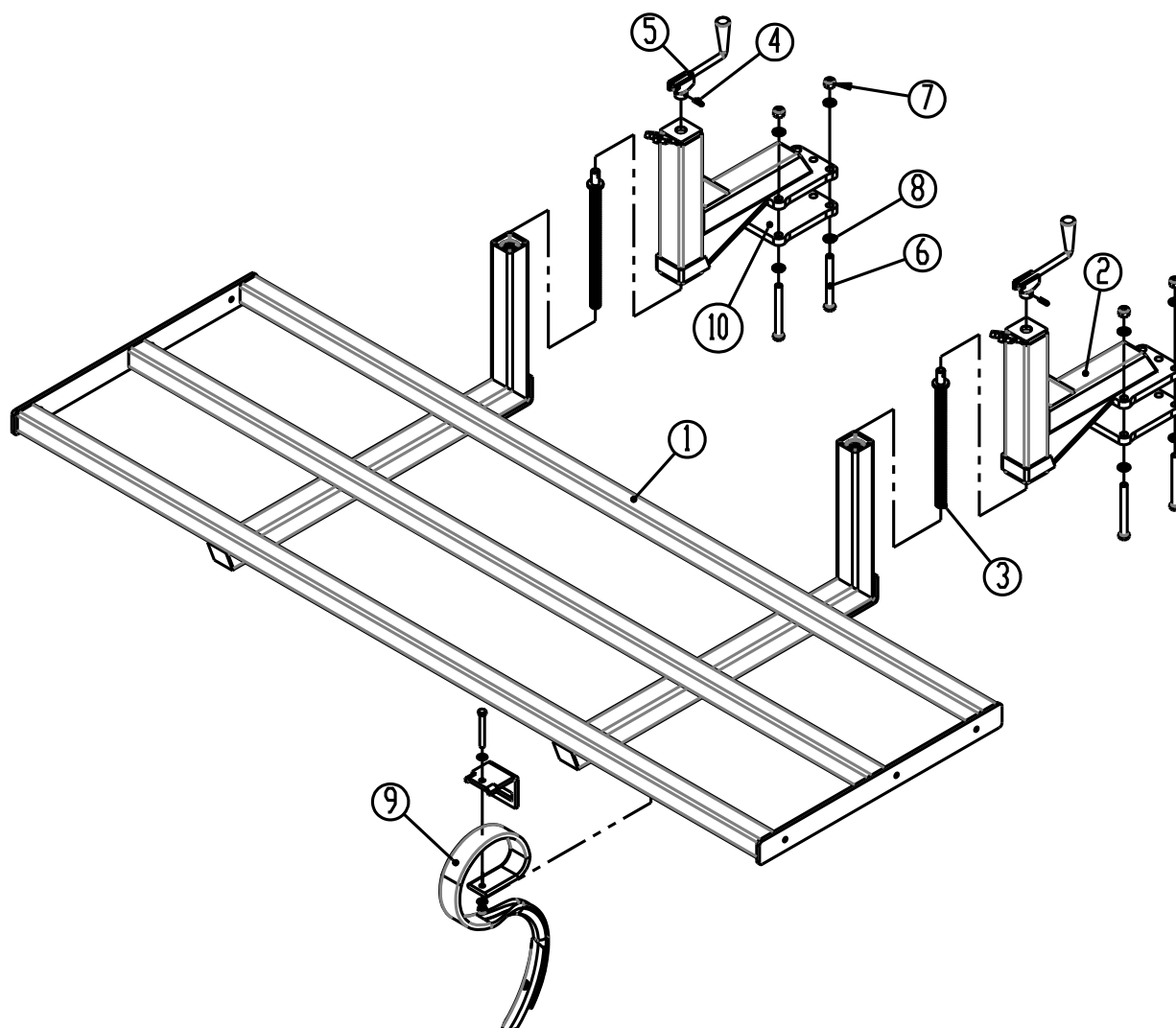
Pos.	Varenr.	Betegnelse	4,0m hydr.	4,5m hydr.	5,0m hydr.	6,0m hydr.
1	630458040	Scraber bar 4,0m (middle section)	1			
1	630458030	Scraber bar 4,0m (wing section)	2			
1	630458040	Scraber bar 4,5m (middle section)		1		
1	630458035	Scraber bar 4,5m (wing section)		2		
1	630488040	Scraber bar 5,0m (middle section)			1	
1	630488030	Scraber bar 5,0m (wing section)			2	
1	630478040	Scraber bar 6,0m (middle section)				1
1	630478030	Scraber bar 6,0m (wing section)				2
2	690110101	U-bolt M16x100x110x100	6	6	6	6
3	0272290	Facet plate Ø16	12	12	12	12
4	0264070	Self-locking nut M16	12	12	12	12
5	630938525	Scraber f/V-profile ring (long) Until machin no. 710168	27	31	36	44
5	630938539	Scraber f/V-profile ring (long) From machin no. 710169	27	31	36	44
6	690152030	Clamp Until machin no.710168	27	31	36	44
6	630938522	Clamp From machin no. 710169	27	31	36	44
7	0235450	Bolt M12x90	27	31	36	44
8	0272270	Facet plate Ø12	27	31	36	44
9	0264070	Self-locking nut M12	27	31	36	44

Spare Parts List – Extra equipment

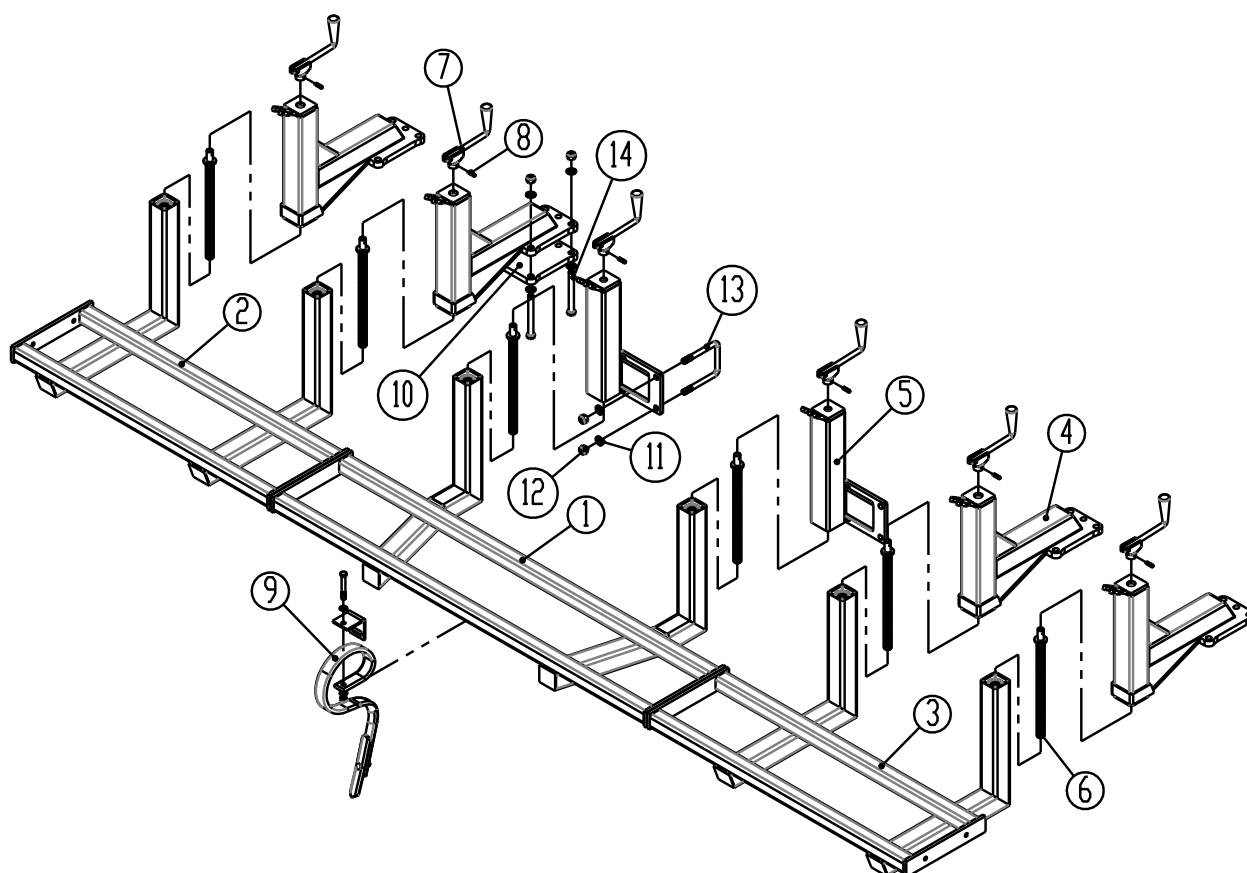
Front-Harrow – 2 bars rigid



Pos.	Item no.	Designation	2.6 m	3.0 m	3,5m	4.0 m
1	631305100	Frame 2.6 m	1			
1	631315100	Frame 3.0 m		1		
1	1270107	Frame 3,5 m			1	
1	631325100	Frame 4.0 m				1
2	631300100	Spindle console, Left Until oct. 2019	1	1	1	1
2	631300200	Spindle console, Right Until oct. 2019	1	1	1	1
2	1270153	Front-Harrow horn tybe 2 from oct. 2019	2	2	2	2
3	690304101	Spindle, TR28x5 L = 410 mm	2	2	2	2
4	690130158	Roll pin Ø8x30	2	2	2	2
5	690304102	Crank	2	2	2	2
6	0235950	Bolt M16x150 8.8	8	8	8	8
7	0272290	Facet plate Ø16	16	16	16	16
8	0264090	Self-locking nut M16	16	16	16	16
9	0422170	Harrow tine w/point 45x12mm (cpl) **Jackpot**	15	17	20	23
9a	0422171	Harrow tine Jackpot (straight) 45x12mm w/point	15	17	20	23
9a	0422371	Clamp f/tine 45x12	15	17	20	23
9a	0422050	Point, straight - f/harrow tine	15	17	20	23
9a	0386220	Cultivator bolt M10x45, w/nut 8.8 black	15	17	20	23
9a	0272270	Facet washer Ø12	30	34	40	46
9a	0235450	Bolt M12x90 8.8	15	17	20	23
9a	0264070	Self-locking nut M12	15	17	20	23
10	1270151	Clamping plate	2	2	2	2

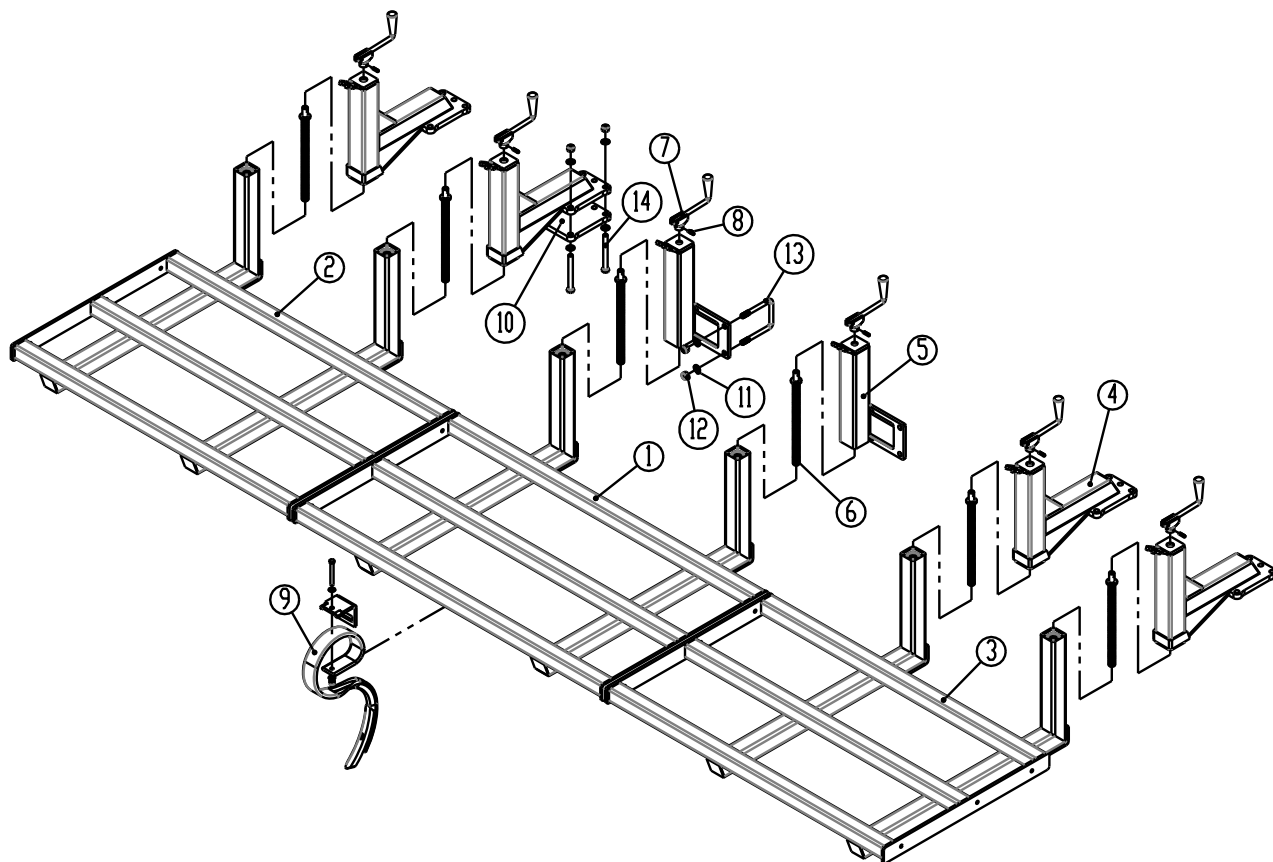
Front-Harrow 3-bars Rigid

Pos.	Item no.	Designation	2,6m	3,0m	3,5m	4,0m
1	1270606	Frame 2,6m	1			
1	1270160	Frame 3,0m		1		
1	1270608	Frame 3,5m			1	
1	1270610	Frame 4,0m				1
2	631300100	Spindle console, left, until Oct. 2019	1	1	1	1
2	631300200	Spindle console, right untill Oct. 2019	1	1	1	1
2	1270153	Front-harrow horn type 2 from Okt. 2019	2	2	2	2
3	690304101	Spindel, TR28x5 L = 410 mm	2	2	2	2
4	690130158	Roll pin Ø8x30	2	2	2	2
5	690304102	Crank	2	2	2	2
6	0235950	Bolt M16 x 150 8,8	8	8	8	8
7	0264090	Self-locking nut M16	16	16	16	16
8	0272290	Facet plate Ø16	16	16	16	16
9	690152027	Harrow tine w/point 65x12mm, "Topline"	15	17	20	23
9a	0422394	Tine bracket, tine 65x12	15	17	20	23
9a	0422033	Point f/harrow tine 65x12mm *Topline*	15	17	20	23
9a	0387448	Cultivator bolt M12x60mm, w/nut	15	17	20	23
9a	0235460	Bolt M12x100	15	17	20	23
9a	0272270	Facet plate Ø12	30	34	40	46
9a	0264070	Self locking nut M12	15	17	20	23
10	1270151	Clamping plate	2	2	2	2

Front-Harrow 2-bars hydr.

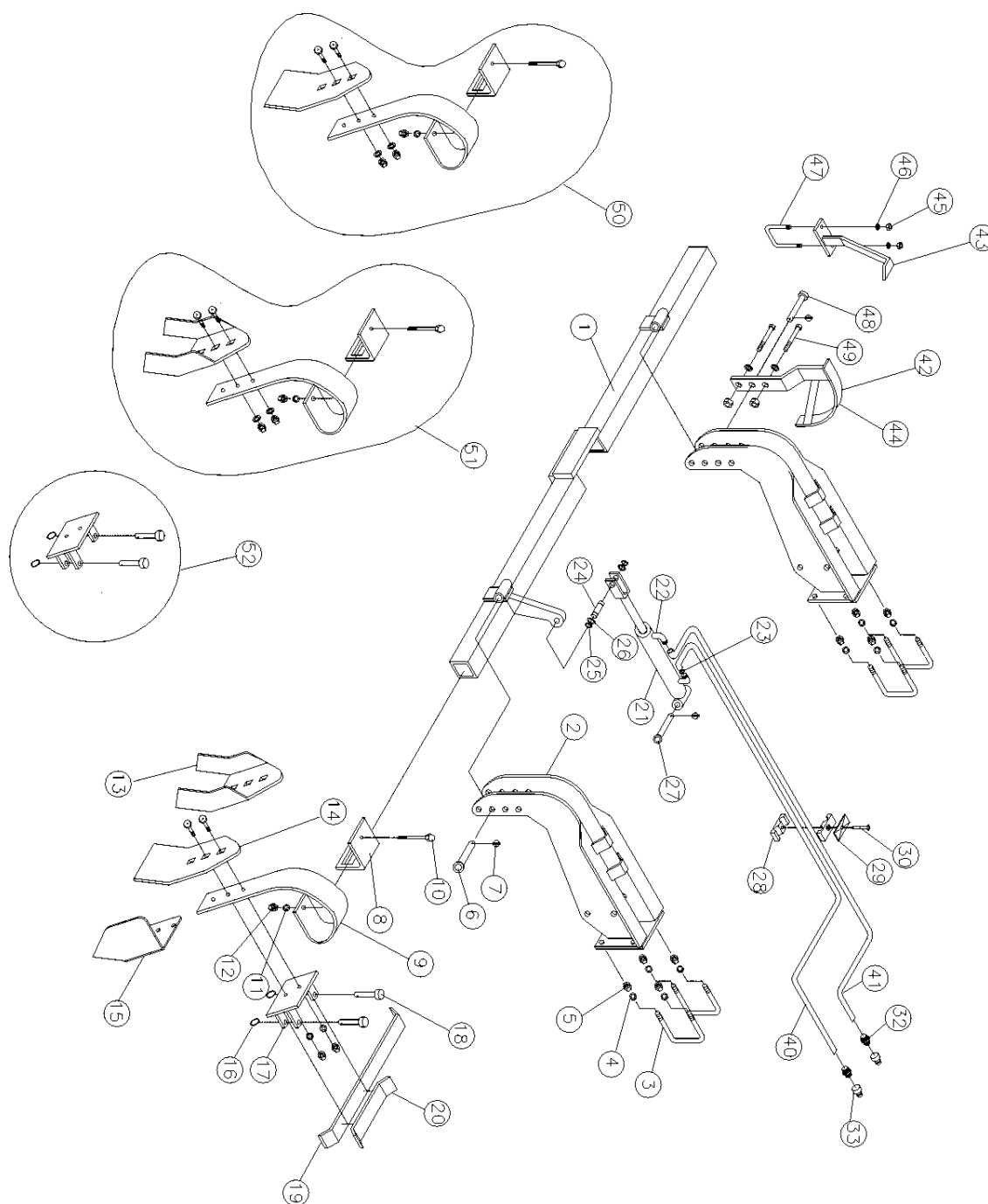
Pos.	Item no.	Designation	4,0m hydr.	4,5m hydr.	5,0m hydr.	6,0m hydr.
1	631345100	Middel section 4,0m	1			
1	631345100	Middel section 4,5m		1		
1	631335100	Middel section 5,0m			1	
1	631335100	Middel section 6,0m				1
2	631456101	Wing section 4.0 m hydr. (right)	1			
2	1260357	Wing section 4.5m hydr. (right)		1		
2	1270602	Wing section 5.0 m hydr. (right)			1	
2	631335101	Wing section 6.0 m hydr. (right)				1
3	631456102	Wing section 4.0 m hydr. (left)	1			
3	1260358	Wing section 4.5 m hydr. (left)		1		
3	1270603	Wing section 5.0 m hydr. (left)			1	

Pos.	Item no.	Designation	4,0m hydr.	4,5m hydr.	5,0m hydr.	6,0m hydr.
3	631335102	Wing section 6.0 m hydr. (left)				1
4	631300100	Spindle console, left, until Machine nr. 706739	2	2	2	2
4	631300200	Spindle console, right until Machine nr. 706739	2	2	2	2
4	1270153	Front-harrow horn type 2 from Oct.. 2019	4	4	4	4
5	1260323	Front-Harrow Horn f/hydr. Middle section	2	2	2	2
6	690304101	Spindel, TR28x5 L = 410 mm	6	6	6	6
7	690130158	Roll pin Ø8x30	6	6	6	6
8	690304102	Crank	6	6	6	6
9	0422170	Harrow tine w/point 45x12mm (cpl) **Jackpot**	23	25	29	35
9a	0422050	Harrow tine **Jackpot** (straight) 45x12mm w/point	23	25	29	35
9a	0422371	Clamp f/tine 45x12 mm	23	17	20	23
9a	0422050	Point f/tine 45x12 mm	23	17	20	23
9a	0386220	Cultivator bolt M10x45, w/nut 8.8 black	23	17	20	23
9a	0235560	Bolt M12x90	23	17	20	23
9a	0272270	Facet plate Ø12	30	34	40	46
9a	0264070	Self locking nut M12	15	17	20	23
10	1270151	Clamping plate	4	4	4	4
11	0272290	Faces plate Ø16	32	32	32	32
12	0264090	Self-Locking nut M16	16	16	16	16
13	690110101	U-bolts M16x100x110x100	4	4	4	4
14	0235950	Bolt M16x150 8,8	16	16	16	16

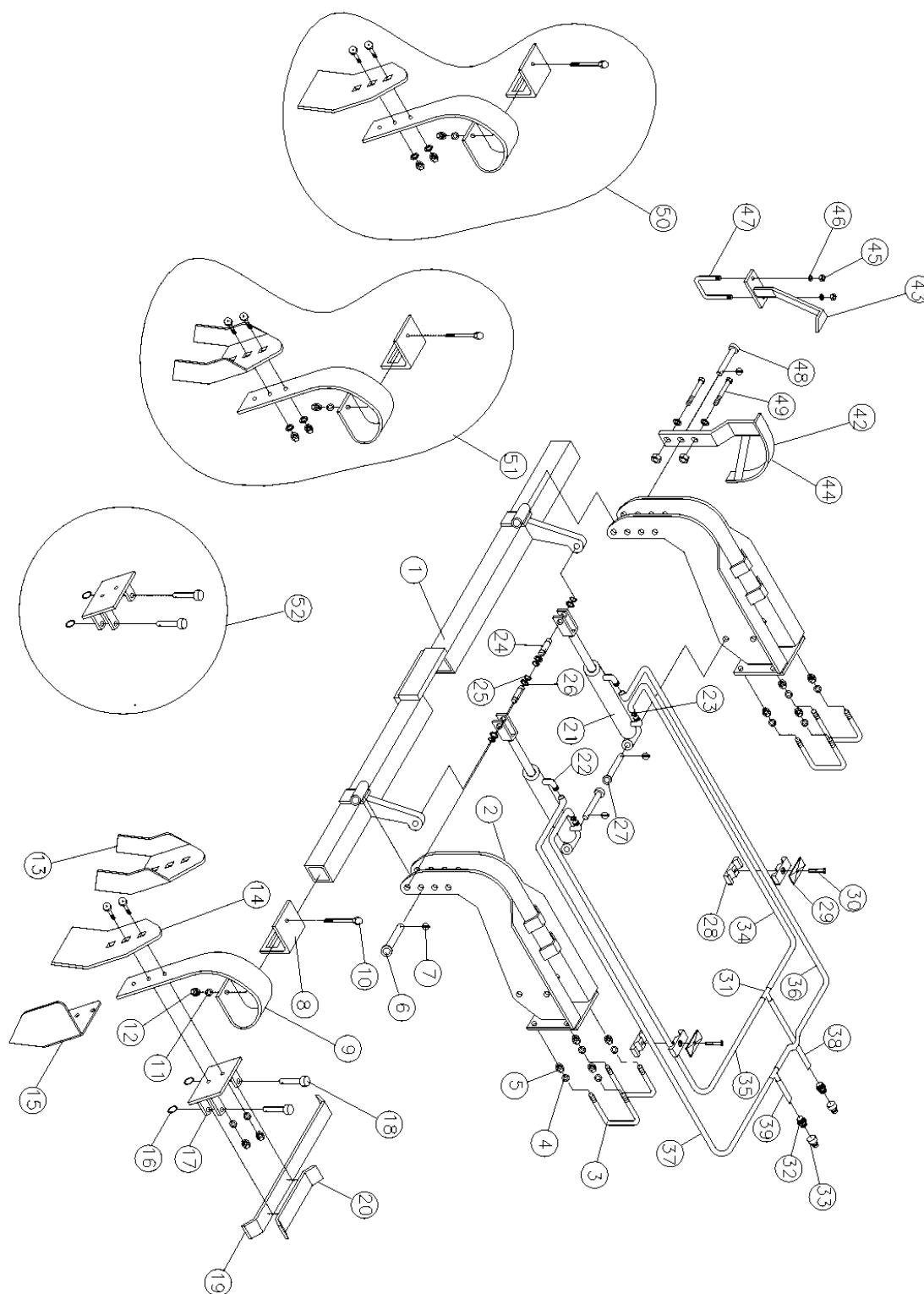
Front-Harrow 3-bars hydr.

Pos.	Item no.	Designation	4,0m hydr.	4,5m hydr.	5,0m hydr.	6,0m hydr.
1	1270618	Middel section 4,0m	1			
1	1260360	Middel section 4,5m		1		
1	1270623	Middel section 5,0m			1	
1	1270327	Middel section 6,0m				1
2	1270619	Wing section 4.0 m hydr. (right)	1			
2	1260361	Wing section 4.5m hydr. (right)		1		
2	1270624	Wing section 5.0 m hydr. (right)			1	
2	1270335	Wing section 6.0 m hydr. (right)				1
3	1270620	Wing section 4.0 m hydr. (left)	1			
3	1260362	Wing section 4.5 m hydr. (left)		1		
3	1270626	Wing section 5.0 m hydr. (left)			1	

Pos.	Item no.	Designation	4,0m hydr.	4,5m hydr.	5,0m hydr.	6,0m hydr.
3	1270335	Wing section 6.0 m hydr. (left)				1
4	631300100	Spindle console, left, until Machine nr. 706739	2	2	2	2
4	631300200	Spindle console, right until Machine nr. 706739	2	2	2	2
4	1270153	Front-harrow horn type 2 from Oct.. 2019	4	4	4	4
5	1260323	Front-Harrow Horn f/hydr. Middle section	2	2	2	2
6	690304101	Spindel, TR28x5 L = 410 mm	6	6	6	6
7	690130158	Roll pin Ø8x30	6	6	6	6
8	690304102	Crank	6	6	6	6
9	690152027	Harrow tine w/point Complete, 65x12mm "Topline"	23	25	29	35
9a	0422394	Clamp f/tine 65x12 mm	23	17	20	23
9a	0422033	Point f/tine 65x12 mm	23	17	20	23
9a	0387448	Cultivator bolt M12x 60mm, w/nut	23	17	20	23
9a	0235450	Bolt M12x90	23	17	20	23
9a	0272270	Facet plate Ø12	30	34	40	46
9a	0264070	Self locking nut M12	15	17	20	23
10	1270151	Clamping plate	4	4	4	4
11	0272290	Faces plate Ø16	32	32	32	32
12	0264090	Self-Locking nut M16	16	16	16	16
13	690110101	U-bolt M16x100x110x100	4	4	4	4
14	0235950	Bolt M16x150 8,8	16	16	16	16

Spring-Board 2,6 m. 3,0 m and 3,5m (Rigid)**Note:**

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

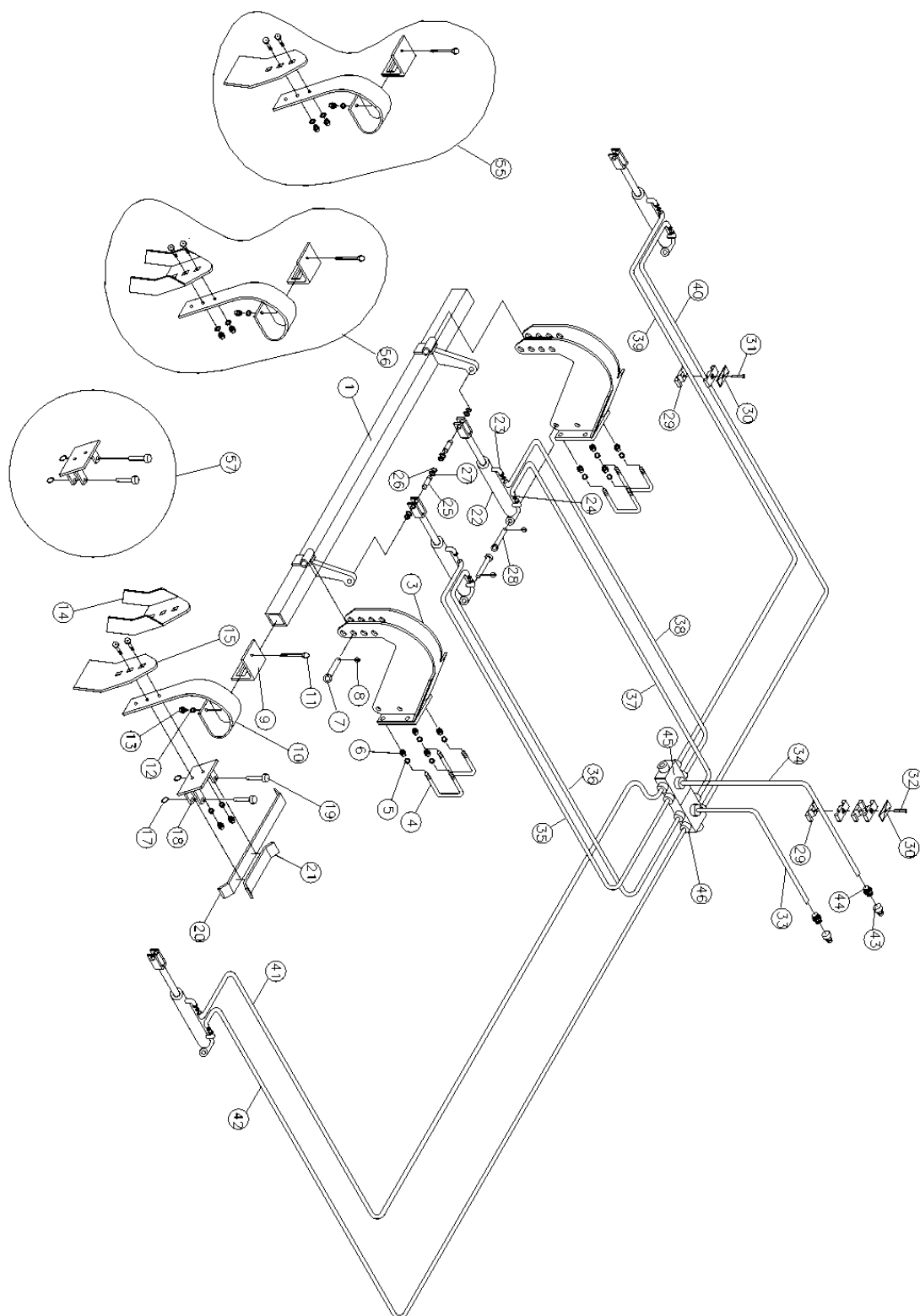
Spring-Board 4.0 m (rigid)

Note:

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

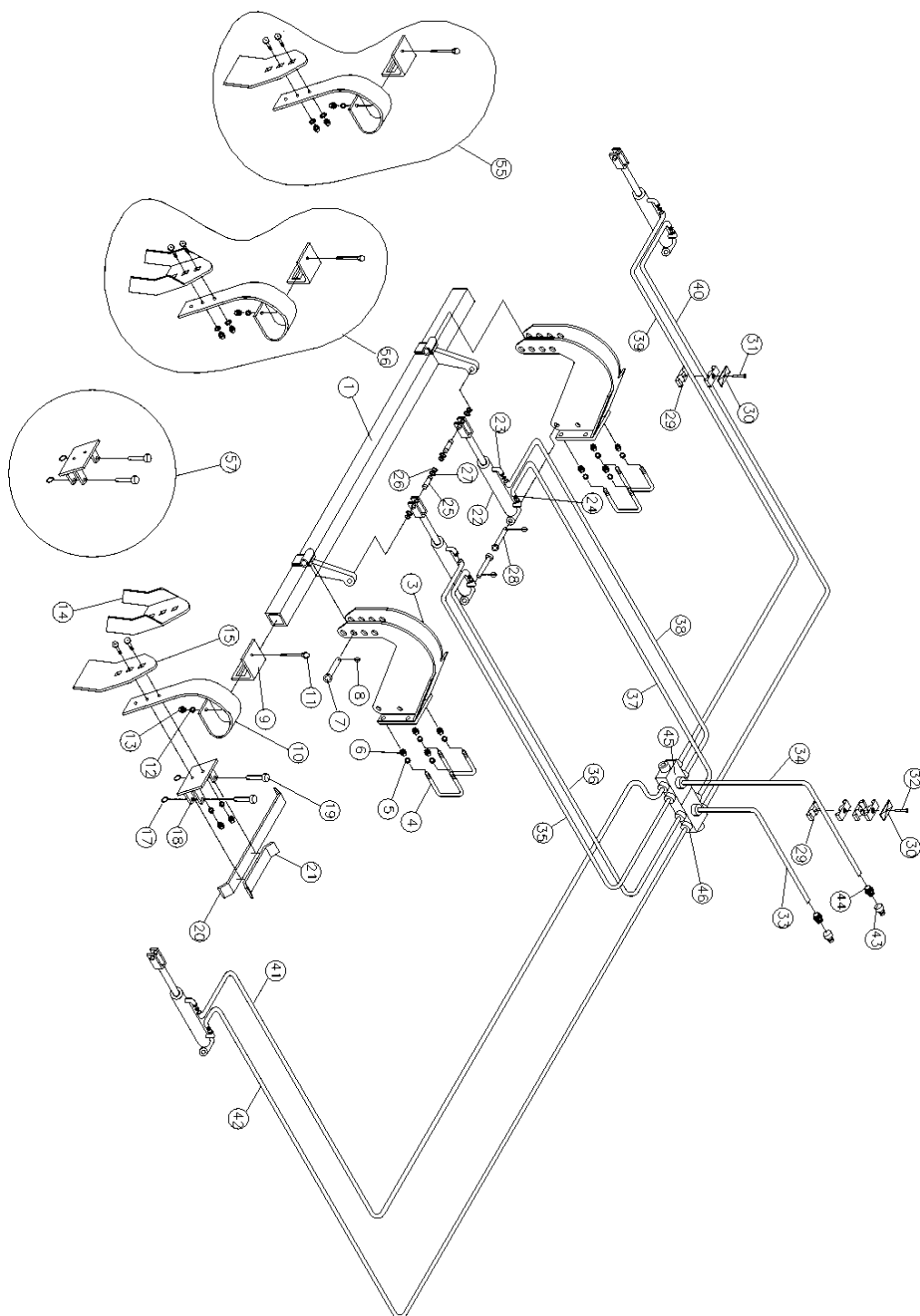
Pos.	Item no.	Designation	2.6 m	3.0 m	3,5 m	4.0 m
1	633230260	Bar	1	0	0	0
1	633240300	Bar	0	1	0	0
1	671840350	Bar	0	0	1	0
1	633260400	Bar	0	0	0	1
2	633244500	Horn	2	2	2	2
2	633244510	Horn from aug 2010	2	2	2	2
3	690110402	U-bolt M16x160x80x160	4	4	4	4
3	690110405	U-bolt M18x160x80x160 from aug 2010	4	4	4	4
4	690117013	Facet plate Ø16	8	8	8	8
4	690117015	Facet plate Ø18 from aug 2010	8	8	8	8
5	690113008	Self-locking nut M16	8	8	8	8
5	690113016	Self-locking nut M18 from aug 2010	8	8	8	8
6	69525087F	Pin Ø25 L = 87	1	1	1	1
7	690134001	Ring pin Ø4,5	3	3	3	4
8	633052200	Clamp f/tine	10	12	14	16
9	633052050	Tine (10x80)	10	12	14	16
9a	633052000	Tine complete	10	12	14	16
10	690103098	Bolt M12x110 10.9	10	12	14	16
11	0272270	Facet plate Ø12	10	12	14	16
12	0264070	Self-locking nut M12	10	12	14	16
13	633052150	Slicing plates point incl. bolts	10	12	14	16
14	633052100	Tine point (8x150) incl. bolts	10	12	14	16
15	633052250	Edge equipment (L)	1	1	1	1
15	633052255	Edge equipment (R)	1	1	1	1
16	690134000	Locking ring Ø30x3	20	24	28	32
17	633055500	Tine bracket f/transverse locking system	10	12	14	16
18	69512040K	Pin Ø12,5x40	20	24	28	32
19	633055710	Locking bar f/transverse locking system (long)	9	11	13	15
20	633055700	Locking bar f/transverse locking system (short)	2	2	2	2
21	690200160	Cylinder 50/30x155	1	1	1	2
22	690203006	Fitting, 90angle 10-3/8" BSP	2	2	1	4
23	690207901	Restrictor 1 mm	1	1	2	2
24	69520046D	Pin Ø20 L = 46	1	1	1	2

Pos.	Item no.	Designation	2.6 m	3.0 m	3,5 m	4.0 m
25	691372020	Seeger circlip ring Ø20	2	2	2	4
26	690115010	Washer Ø20/Ø28x1mm	2	2	2	4
27	69520087F	Pin Ø20 L = 87	1	1	1	2
28	690210210	Tube-support double Ø14/Ø14	2	2	2	6
29	690210211	Top plade f/double tube-support	1	1	1	3
30	690103054	Bolt M8x40	1	1	1	3
31	690203015	Fitting T10				2
32	690203003	Fitting, straight 10-1/2" BSP	2	2	2	2
33	690203001	Quick coupling ½" E402, male	2	2	2	2
34	690201053	Hydr. hose 1260 mm ¼" st/st (for single and double frame)				1
35	690201036	Hydr. hose 1590 mm ¼" st/st (for single and double frame)				1
36	690201053	Hydr. hose 1260 mm ¼" st/st (for single and double frame)				1
37	690201036	Hydr. hose 1590 mm ¼" st/st (for single and double frame)				1
38	690201020	Hydr. hose 1625mm ¼" st/st (single frame)				1
38	690201033	Hydr. hose 2500 mm ¼" st/st (double frame)				1
39	690201020	Hydr. hose 1625 mm ¼" st/st (single frame)				1
39	690201033	Hydr. hose 2500 mm ¼" st/st (double frame)				1
40	690201033	Hydr. hose 2500 mm ¼" st/st (single frame)	1	1	1	
40	690201060	Hydr. hose 3000 mm ¼" st/st (double frame)	1	1	1	
41	690201033	Hydr. hose 2500 mm ¼" st/st (single frame)	1	1	1	
41	690201060	Hydr. hose 3000 mm ¼" st/st (double frame)	1	1	1	
42	633151000	Scale f/depth control	1	1	1	1
43	633152000	Pointer f/depth control	1	1	1	1
44	698500018	Label for scale f/depth control	1	1	1	1
45	0264060	Self-locking nut M10	4	4	4	4
46	0272260	Facet plate Ø10	4	4	4	4
47	690110020	U-bolt M10x70x70x70 mm	1	1	1	1
48	69525095F	Pin Ø25 L=95	1	1	1	1
49	690101083	Bolt M10x35	2	2	2	2
50	633052000	Tine w/flat tine point (complete)	10	12	14	16
51	633052025	Tine w/slicing plates point (complete)	10	12	14	16
52	633055510	Tine bracket f/transverse locking system (complete)	10	12	14	16

Spring-Board middle section 4.0 – 4,5 m (hydraulic)**Note:**

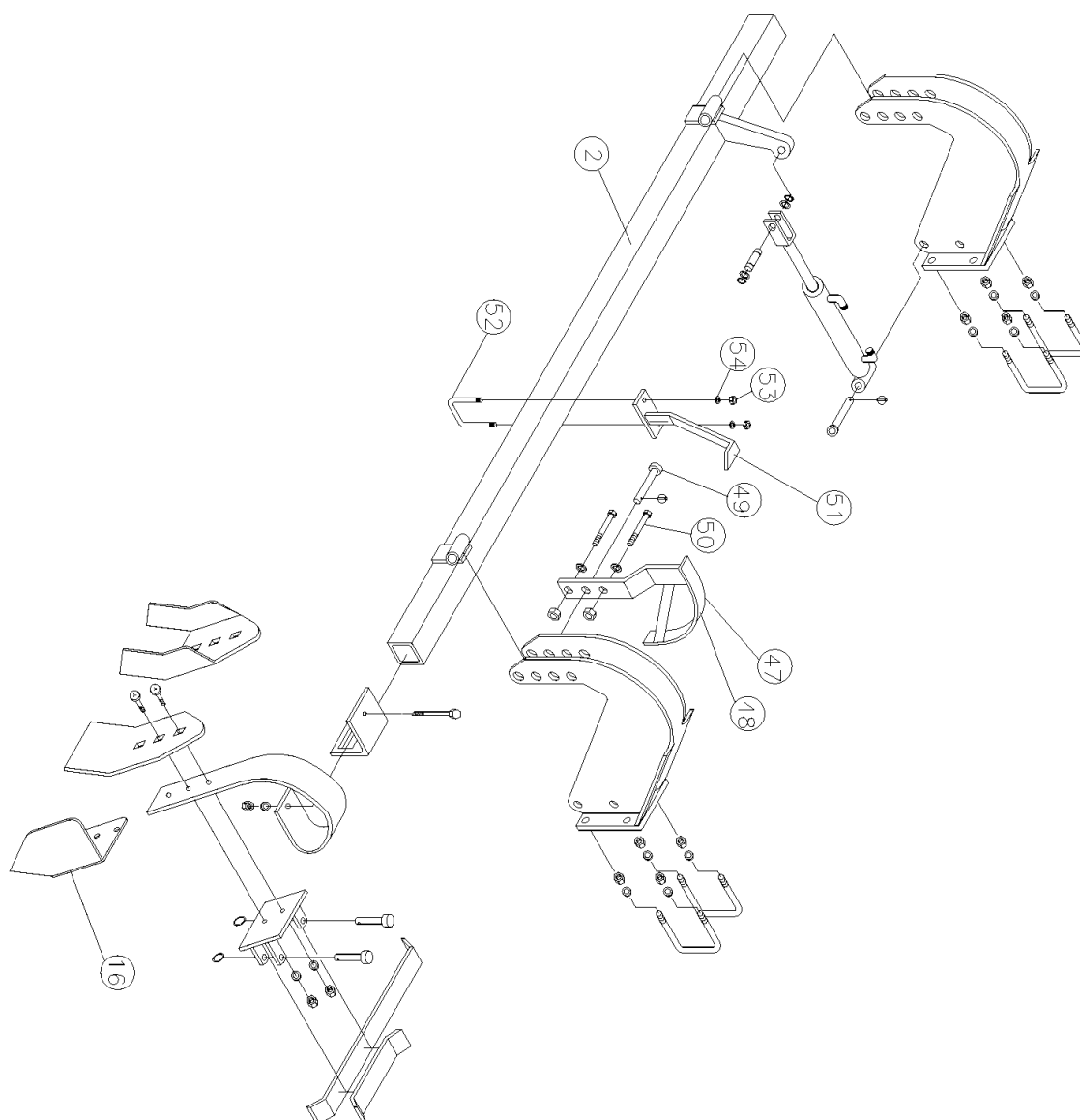
Check number and measurements of all hoses before ordering the spare parts.

Spring-Board middle section 5,0 - 6.0 m (hydraulic)



Note:

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

Spring-Board wing section 4.0 – 4,5 – 5.0 and 6.0 m (hydraulic)

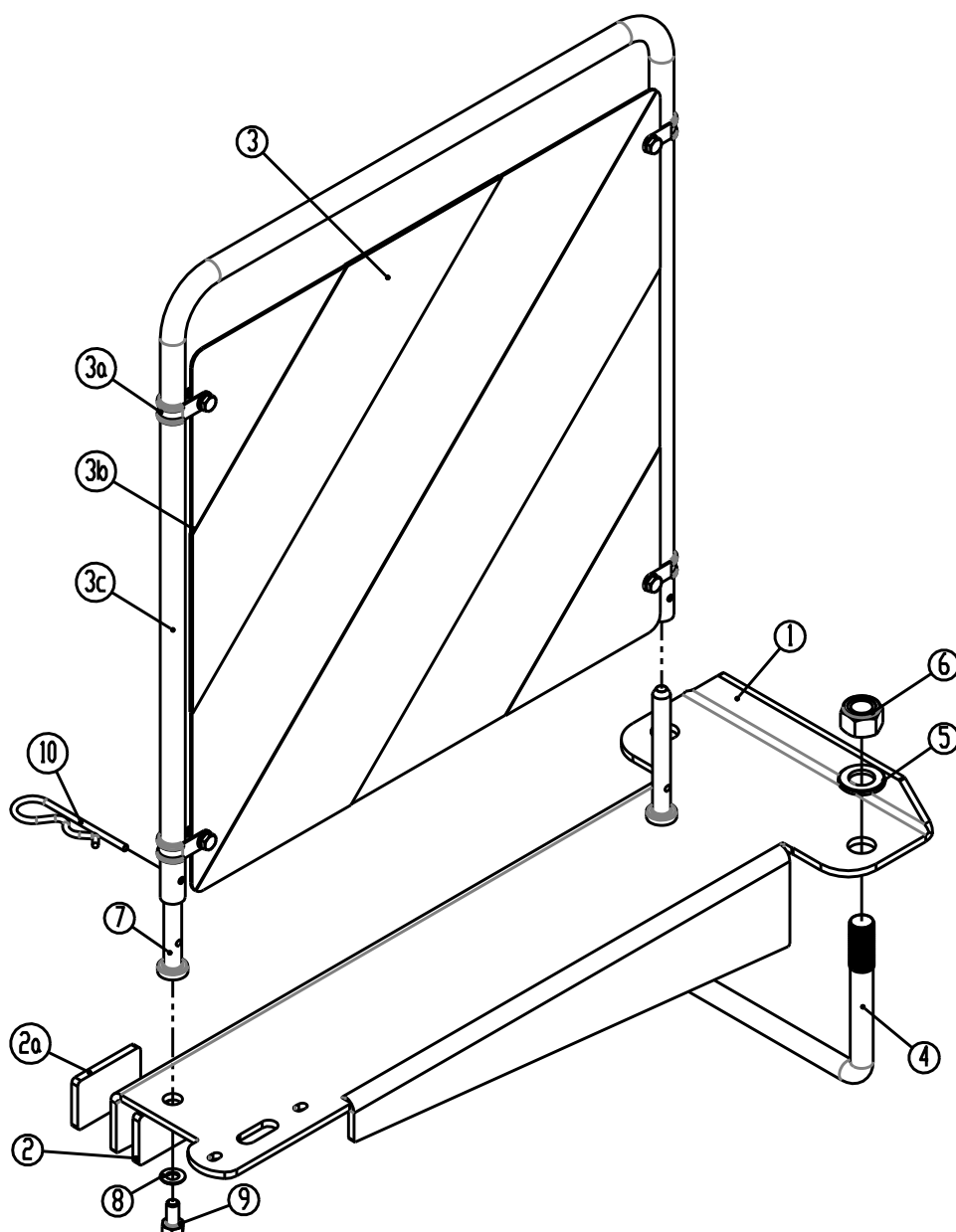
Pos.	Item no.	Designation	4.0m hydr.	4,5m hydr.	5.0m hydr.	6.0m hydr.
1	671880400	Bar (centre)	1			
1	671880400	Bar (centre)		1		
1	671920500	Bar (centre)			1	
1	671900600	Bar (centre + left side)				2
2	671880410	Bar (right side)	1			
2	671880420	Bar (left side)	1			
2	1260365	Bar (left side)		1		
2	671920510	Bar (left side)			1	

Pos.	Item no.	Designation	4.0m hydr.	4,5m hydr.	5.0m hydr.	6.0m hydr.
2	1260366	Bar (right side)		1		
2	671920520	Bar (right side)			1	
2	671900610	Bar (right side)				1
3	671844500	Horn	6	6	6	6
3	671844510	Horn from aug 2010	6	6	6	6
4	690110101	U-bolt M16x100x100x100	12	12	12	12
4	690110404	U-bolt M18x100x100x100 from aug 2010	12	12	12	12
5	0272290	Facet plate Ø16	24	24	24	24
5	0272300	Facet plate Ø18 from aug 2010	24	24	24	24
6	0264090	Self-locking nut M16	24	24	24	24
6	0264100	Self-locking nut M18 from aug 2010	24	24	24	24
7	69525087F	Pin Ø25 L=87	6	6	6	6
8	690134001	Ring pin Ø4.5	9	9	9	9
9	633052200	Clamp f/tine	16	18	20	24
10	0422145	Tine (10x80)	16	18	20	24
10a	633052000	Tine complete	16	18	20	24
11	690103098	Bolt M12x110 10.9	16	18	20	24
12	0272270	Facet plate Ø12	16	18	20	24
13	0264070	Self-locking nut M12	16	18	20	24
14	633052150	Slicing plates point incl. bolts	16	18	20	24
15	633052100	Tine point (8x150) incl. bolts	16	18	20	24
16	633052250	Edge equipment (L)	1	1	1	1
16	633052255	Edge equipment (R)	1	1	1	1
17	690134000	Locking ring Ø30x3	32	36	40	48
18	633055500	Tine bracket f/transverse locking system	16	18	20	24
19	69512040K	Pin Ø12,5x40	32	36	40	48
20	633055710	Locking bar f/transverse locking system (long)	13	15	17	21
21	633055700	Locking bar f/transverse locking system (short)	6	6	6	6
22	690200160	Cylinder 50/30x155	4	4	4	4
23	690203006	Fitting, 90angle 10-3/8" BSP	8	8	8	8
24	690207901	Restrictor 1 mm	4	4	4	4
25	69520046D	Pin Ø20 L=46	4	4	4	4
26	691372020	Seeger circlip ring Ø20	8	8	8	8
27	690115010	Washer Ø20/Ø28x1 mm	8	8	8	8
28	69520087F	Pin Ø20 L=87	3	3	3	3

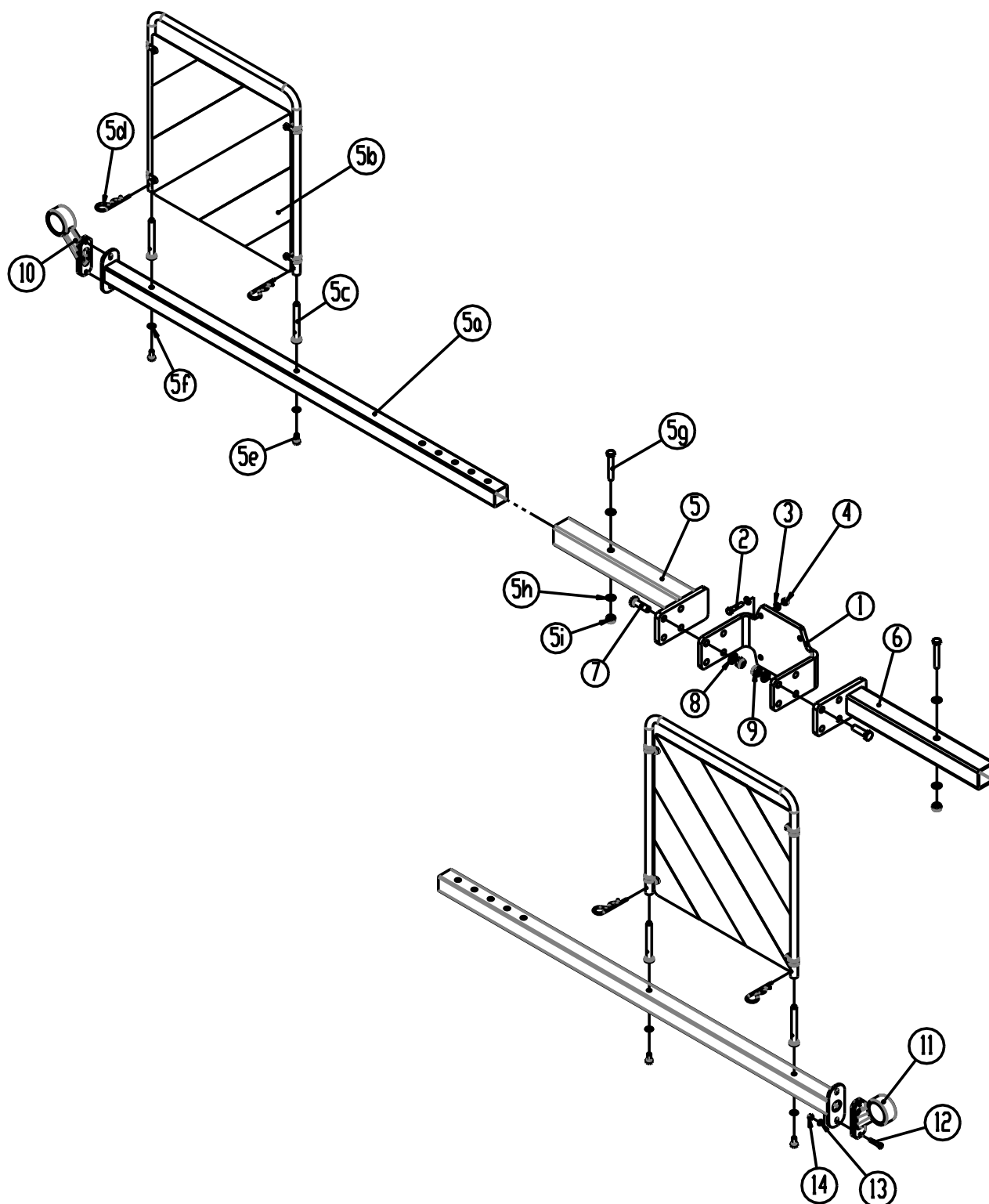
Pos.	Item no.	Designation	4.0m hydr.	4,5m hydr.	5.0m hydr.	6.0m hydr.
29	690210210	Tube-support double Ø14/Ø14	8	8	8	8
30	690210211	Top plate f/double tupe-support	3	3	3	3
31	0234790	Bolt M8x40	2	2	2	2
32	0234831	Bolt M8x65	1	1	1	1
33	690201033	Hydr. hose 2500 mm ¼" st/st	1	1	1	1
34	690201033	Hydr. hose 2500 mm ¼" st/st	1	1	1	1
35	690201015	Hydr. hose 710 mm ¼" st/st	1	1	1	1
36	690201015	Hydr. hose 710 mm ¼" st/st	1	1	1	1
37	690201015	Hydr. hose 710 mm ¼" st/st	1	1		
38	690201015	Hydr. hose 710 mm ¼" st/st	1	1		
39	690201018	Hydr. hose 1480 mm ¼" st/st	1	1		
39	690201020	Hydr. hose 1625 mm ¼" st/st			1	1
40	690201018	Hydr. hose 1480 mm ¼" st/st	1	1		
40	690201020	Hydr. hose 1625 mm ¼" st/st			1	1
41	690201018	Hydr. hose 1480 mm ¼" st/st	1	1		
41	690201020	Hydr. hose 1625 mm ¼" st/st			1	1
42	690201018	Hydr. hose 1480 mm ¼" st/st	1	1		
42	690201020	Hydr. hose 1625 mm ¼" st/st			1	1
43	690203001	Quick coupling ½" E402, male	2	2	2	2
44	690203003	Fitting, straight 10-½" BSP	2	2	2	2
45	660501440	Assembly block 12x3/8 BSP	1	1	1	1
46	690203002	Fitting, straight 10-3/8" BSP	10	10	8	8
47	633151000	Scale f/depth control	1	1	1	1
48	698500018	Label t/scale f/depth control	1	1	1	1
49	69525095F	Pin Ø25 L=95	1	1	1	1
50	0235060	Bolt M10x35	2	2	2	2
51	633152000	Pointer f/depth control	1	1	1	1
52	0382110	U-bolt M10x70x70x70mm	1	1	1	1
53	0264060	Self-locking nut M10	4	4	4	4
54	0272260	Facet plate Ø10	4	4	4	4
55	633052000	Tine w/flat tine point (complete)	16	18	20	24
56	633052025	Tine w/slicing plates point (complete)	16	18	20	24
57	633055510	Tine bracket f/transverse locking system (complete)	16	18	20	24

Note:

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

Reflektor 1,5m – 2,6m – 3,0m – 3,5m – 4,0m (rigid)

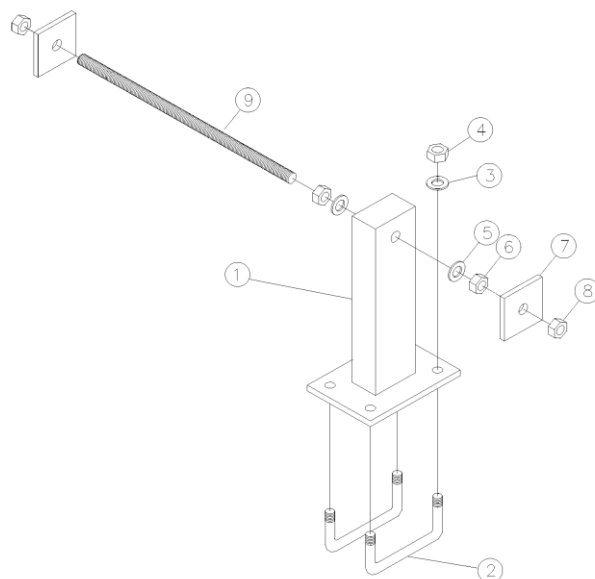
Pos.	Item no.	Designation	Qty.
1	690160069	Reflector holder, left f/ Front-Roller 1,5m – 2,6m – 3,0m - 3,5m	1
1	690160068	Reflector holder, right f/ Front-Roller 1,5m – 2,6m – 3,0m - 3,5m	1
1	690160064	Reflector holder, left f/ Front-Roller 4,0m	1
1	690160063	Reflector holder, right f/ Front-Roller 4,0m	1
2	690160048	Reflector, adhesive white 57x38	1
2a	690160046	Reflector, adhesive red 57x38	1
3	690160074	Full-mounted warning sign	1
3a	690160072	ABA Rubber clamps 15,9	4
3b	690160071	Warning sign 423x423 double	1
3c	690160073	Tube for warning sign Ø16	1
4	690110102	U-bolt M16x80x160x80	1
5	0272290	Facet plate Ø16	2
6	0264090	Self-locking nut M16	2
7	7357599	Flanged pin	2
8	0272250	Facet plate plate Ø8	2
9	0234740	Bolt M8x16, 8.8	2
10	0377400	Hairpin Ø4	2

Marking lights/reflector (4,0m – 4,5m – 5,0m – 6,0m hydr)

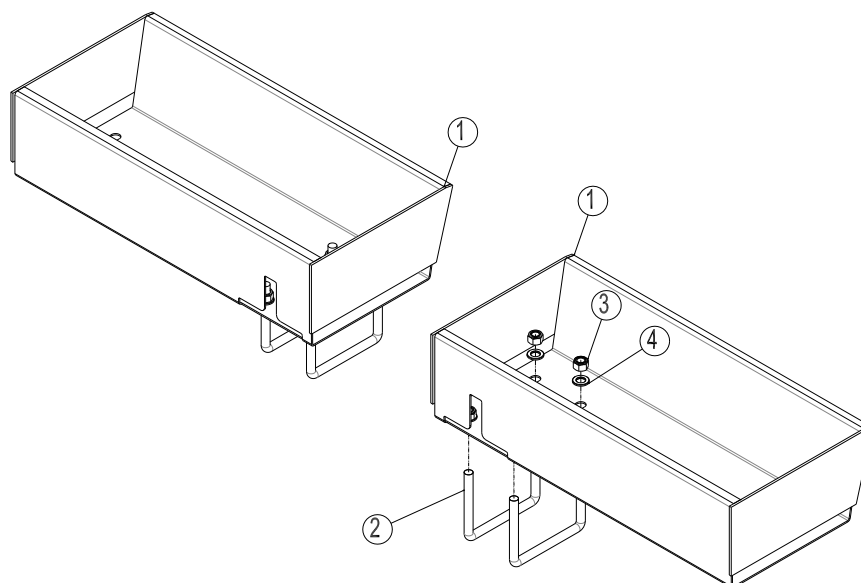
Note: Pos. 5a can be adjusted regardless to the types of rings being mounted on the machine. Applies to 4,0m rigid and all hydraulic models **without** Spring-Board or Front-Harrow

Pos.	Item no.	Designation	4,0m (hydr)	4,5m (hydr)	5,0m (hydr)	6,0m (hydr)
1	1260402	Mounting plate f/ marking lights/reflector	1	1	1	1
2	690103052	Bolt M8x35mm, 8.8	4	4	4	4
3	0272250	Facet plate Ø8	8	8	8	8
4	0264050	Self-locking nut M8	4	4	4	4
5	1260418	Bracket f/ markinglights/reflector (R)	1	1	1	1
5a	1260415	Profile f/mounting marking lights/reflector	2	2	2	2
5b	690160074	Warning sign	2	2	2	2
5c	7357599	Flanged pin	4	4	4	4
5d	0377400	Hairpin M4	4	4	4	4
5e	0234740	Bolt M8x16mm, 8.8	4	4	4	4
5f	0272250	Facet plate plate Ø8	4	4	4	4
5g	0235120	Bolt M10x65mm, 8.8	2	2	2	2
5h	0272260	Facet plate plate Ø10	4	4	4	4
5i	0264060	Self-locking nut k M10	2	2	2	2
6	1260419	Bracket f/ markinglights/reflector (L)	1	1	1	1
7	0235360	Bolt M12x40mm	8	8	8	8
8	0272270	Facet plate plate Ø12	8	8	8	8
9	0264070	Self-locking nut M12	8	8	8	8
10	7357509	Marking light LED, white/red, right complete	1	1	1	1
11	7357507	Marking light LED, white/red, left complete	1	1	1	1
10/11a	690160080	Cable 5 x 1 mm ² L = xxxx mm	1			
10/11a	690160080	Cable 5 x 1 mm ² L = xxxx mm		1		
10/11a	690160080	Cable 5 x 1 mm ² L = xxxx mm			1	
10/11a	690160080	Cable 5 x 1 mm ² L = xxxx mm				1
10/11b	690160070	Plug (7 poles) DIN 72 577 ISO 1724	1	1	1	1
10/11c	690160080	Cable 5 x 1 mm ² L = xxxx mm	1			
10/11c	690160080	Cable 5 x 1 mm ² L = xxxx mm		1		
10/11c	690160080	Cable 5 x 1 mm ² L = xxxx mm			1	
10/11c	690160080	Cable 5 x 1 mm ² L = xxxx mm				1
12	0234350	Bolt M6x30mm, 8.8	4	4	4	4
13	0272240	Facet plate Ø6	4	4	4	4
14	0264040	Self-locking nut M6	4	4	4	4

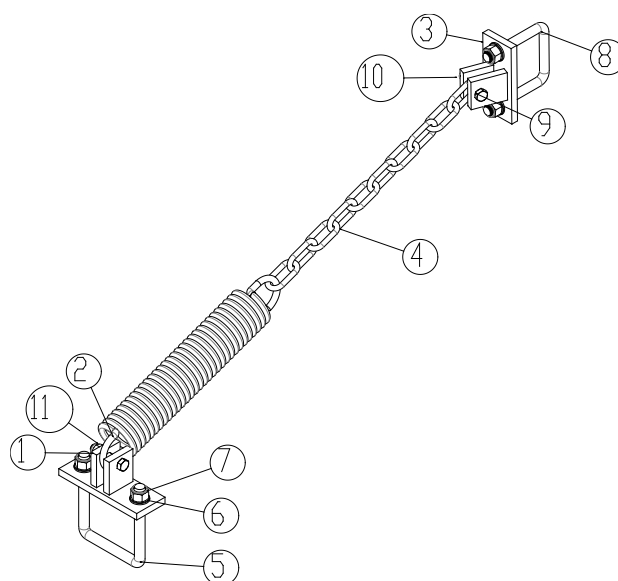
Note: Check number and measurements of all cables before ordering the spare parts

Weight carriers

Pos .	Item no.	Designation	Qty.
1	634400400	Stand	2
2	690110102	U-bolt M16x80x160x80	4
3	0272290	Facet plate Ø16	8
4	0264090	Self-locking nut M16	8
5	0272310	Facet plate Ø20	4
6	0261410	Nut M20 (lock nut)	4
7	634400401	Clamping plate	4
8	0264110	Self-locking nut M20	4
9	630400601	Threaded rod M20 L = 500 mm	2

Stone boxes

Pos.	Item no.	Designation	Qty.
1	630555004	Stonebox, left	1
1	630555006	Stonebox, right	1
1	630555005	Set of stonebox, incl 4 pcs. U-bolts M16x100x150x100	
2	690110103	U-bolt	4
3	0264090	Self-locking nut M16	8
4	0272290	Facet plate Ø16	8

Stabilization device

Pos .	Item no.	Designation	Pr. machine
1	670860010	Bracket for wing-section	2
2	690139001	Spring	2
3	670860005	Bracket upper	2
4	670860006	Chain	2
5	690110102	U-bolt M16x80x160x80	2
6	0272290	Facet plate Ø16	8
7	0264090	Self-locking nut M16	8
8	690110107	U-bolt M16x80x80x80	2
9	690103095	Bolt M12x60 8.8	4
10	0272270	Facet plate Ø12	4
11	0264070	Self-locking nut M12	4

Notes

as it looks

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The design is subject to modification without notice.