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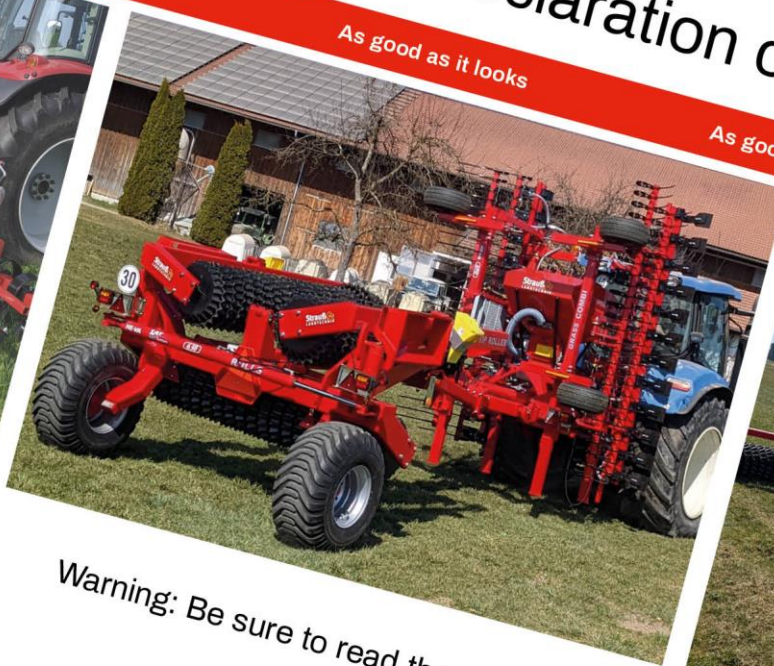
HE-VA

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.

Grass-Combi

Working Width: 6.00 and 7.00 m (2 and 3 rows)

Manual no. 8000201-03 170524



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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 machines:

Grass-Combi with 2 or 3 bars for tines
6,0m – 7,0m hydraulic foldable

Nykøbing the 23rd March 2020


Villy Christiansen

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

Delivery Check

Check the Grass-Combi for any damage when it is received at either the dealer and the final customer. Check that the frame construction has not been exposed to impacts. Check the air-pressure in the tires before operating.

Check the hydraulic hoses for cuts and squeezing damages. Check also the other hydraulic components, are not damaged during transport.

Machine description

The Grass-Combi is a 2 or 3 bar strigle which is suitable for aeration of pasture and loosen crop residue for faster degradation. The machine can only be delivered as a tail-mounted model.

The machine can only be mounted with one type of tines:

- Ø12 mm x 440 mm tines for aeration of pasture

Standard equipment:

- Adjustable wheels – 4 pcs. 18.5 x 8.5 x 8 6 PLY
- 2 or 3 hydraulic adjustable bars
- The individual angel between the bars is mechanically adjusted

Row spacing:

- 2 bars: 9.0 cm
- 3 bars: 9.0 cm

Distance between bars:

- 2 bars: 300 mm
- 3 bars: 330 mm



TECHNICAL SPECIFICATIONS

Working width	Bars	Prepared for Multi-Seeder	Transport width	Transport-height	No. of tines	HP requirement	Weight in kg
6,00m hydr.	2	Without AC/EC	2480	3200	66	120-175	1600
	2	With AC/EC	2480	3200	66	120-175	1575
6,00m hydr.	3	Without AC/EC	2480	3200	66	120-175	1750
	3	With AC/EC	2480	3200	66	120-175	1725
7,00m hydr.	2	Without AC/EC	2480	3730	78	130-185	1700
	2	With AC/EC	2480	3730	78	130-185	1675
7,00m hydr.	3	Without AC/EC	2480	3730	78	130-185	1850
	3	With AC/EC	2480	3730	78	130-185	1825
Tyre pressure				3,8 bar / 55 psi			
Oil pressure				min. 150 bar			
Hydraulic outlets				2 double acting			
Quick couplings, standard				Sterling type E 402			
Hydraulic oil:				Hydro Texaco HD32 Specification DIN 51524-3 / ISO 11158 L-HV			

Safety around the Grass-Combi

Do not operate the machine, if any **people**¹ are at risk in the dangerous **area**.²

When persons are at risk in the dangerous area (e.g. when doing adjustments, maintenance or connect or disconnecting), the following points must be met:

- Lower the machine on solid ground.
- Hydraulics must be relieved.
- Tractor must be turned off, and the key removed.
- Driver must be aware of, when operating that there is no persons at risk in the dangerous area.

Most accidents when operating the machine, transporting and doing maintenance occurs, when avoiding the most simple safety regulations.

For this reason, it is of highest importance, that any person who is operating the machine, strictly follows the safety regulations and other instructions, which belongs the machine.

The machine must only be operated, maintained and fixed by persons, who is confidential with and skilled for this work and is aware of moments of danger, which can occur.

ATTENTION!! Rotating parts and clothes in a loose condition, is a dangerous combination.

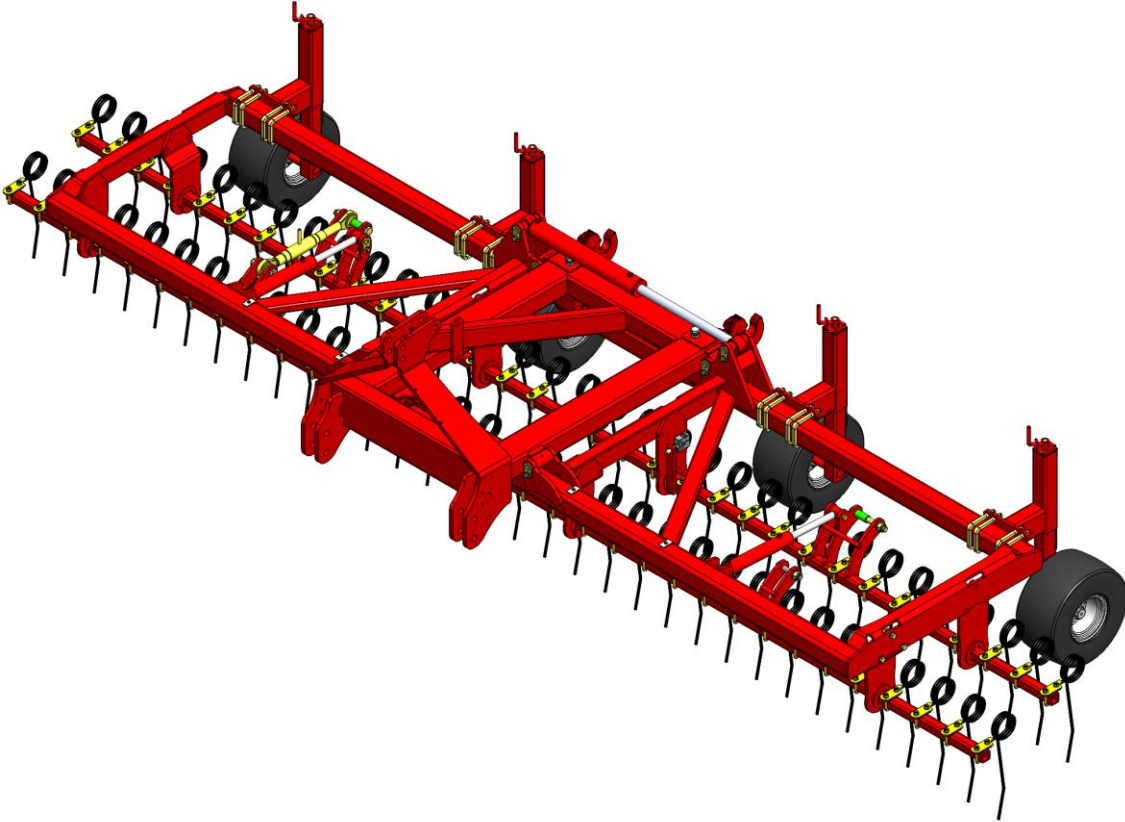
IMPORTANT!! It is strictly prohibited for any person to take place on the frame or chassis of the machine, when it is either operating or the tractor is idling.

¹ People at risk: Any person, who is completely or partially in the dangerous area.

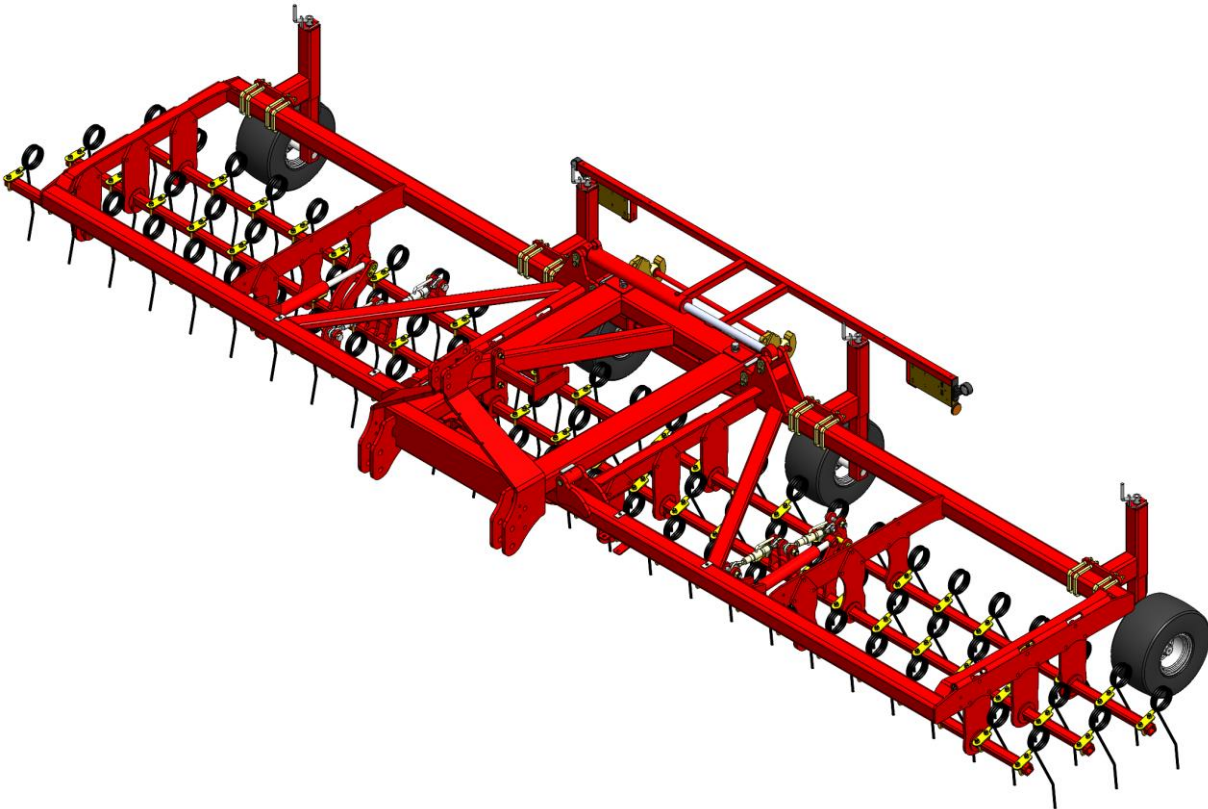
² Dangerous area: At the machine and underneath it, and in a distance of 4 m from it.



2 – bar 6.0m model



3 – bar 7.0m model



Instructions for transport at public roads:

Before transport at public roads, make sure that the attachment of the implement to the tractor, is in accordance with the local rules and regulations in force (permitted total weight, permitted axel load, transport width, lights and warning signs).

When driving at public roads, the tines must be folded towards the frame. This will reduce the width of the machine substantially.

Front axel load:

When the implement is attached and at maximum load, the tractors driving properties must be ensured. Check that the front axle is sufficiently loaded. The front axle load must be at least 20% of the tractors weight. Permitted axel load and total weight for the tractor must be respected.

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

Safety Instructions, regarding Hydraulic System

- The highest allowable pressure is **225 bar**.
- It is recommended to mark the hydraulic connections between the implement and tractor, to avoid incorrect operation!
- When checking for hydraulic leaks, suitable safety gear must be used due to danger. (Safety, goggles, gloves, etc.)
At high pressure, hydraulic oil can penetrate the skin and course **SERIOUS INJURIES**.
- Before any work at the hydraulic system, the implement must be lowered to solid ground. Pressure must be relieved, engine stopped, and ignition key removed.
- 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.
- Hydraulic hoses lasts for no more than 5 years.
New hydraulic hoses must be identical to the manufacturer's specifications.

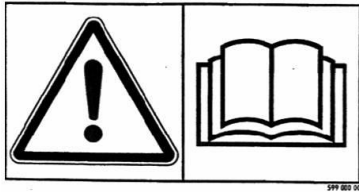
Markings on the machine

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



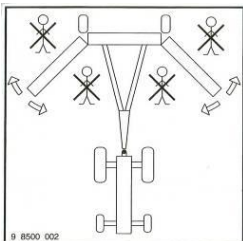
Study the operating instructions thoroughly before any operation of the machine and observe all safety instructions.



Plate with number and year of manufacture.



Tighten all bolts



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

Maintenance

After 10 hours of operation, tightening of wheels, bearings and stop rings must be done. If this is not respected our warranty will lapse.

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	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
Hub bolts M18x1,5 fine thread		385 Nm	
Hub bolts M22x1,5 fine thread		550 Nm	

- Pins and bushings with lubrication nipples must be greased every 25 hours of operation.
- Eventually damages at the paint must be repaired at least once in the season. This will preserve and make the machine stay in a good condition for many years.

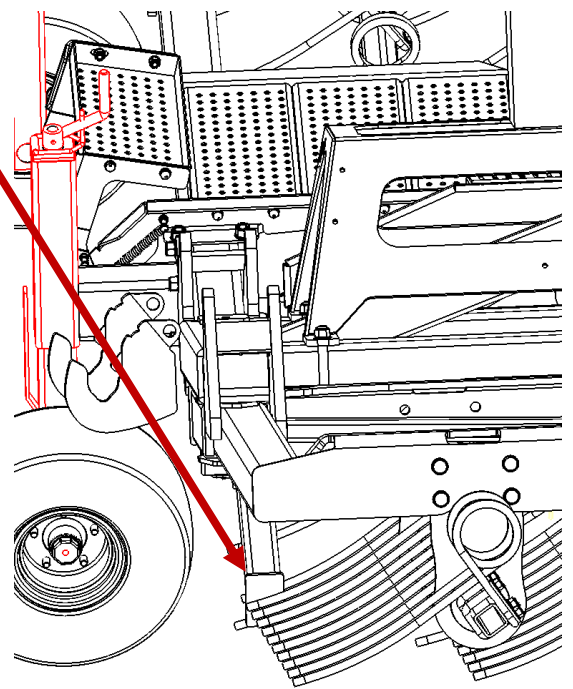
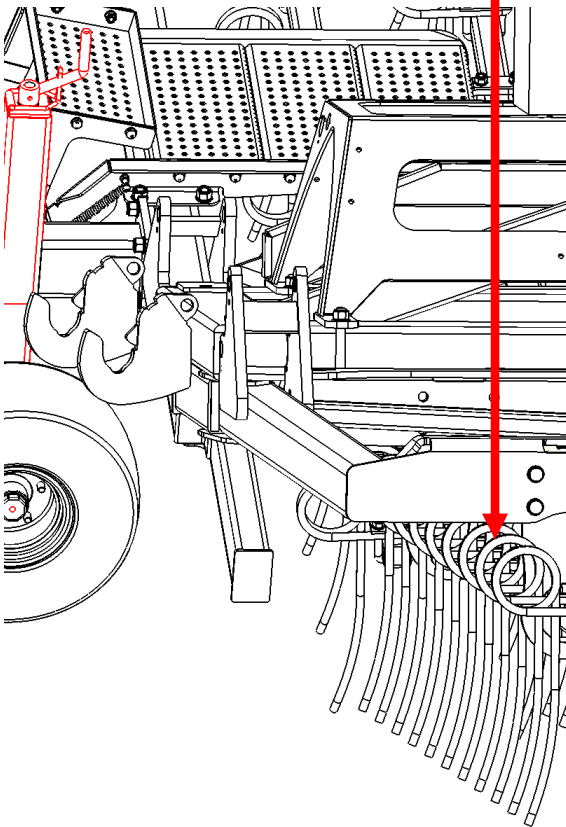


Warnings

To avoid damaging the tines, it is important to follow the instructions below:

- At all times when folding / unfolding the wings it is very important that the tines are in working position.
- If tines are in transport position when folding / unfolding the wings, tines at the rear bar, will make a conflict with the rear support legs.

Tines at transport position, when folding / unfolding



Tines at working position, when folding / unfolding



Disposal

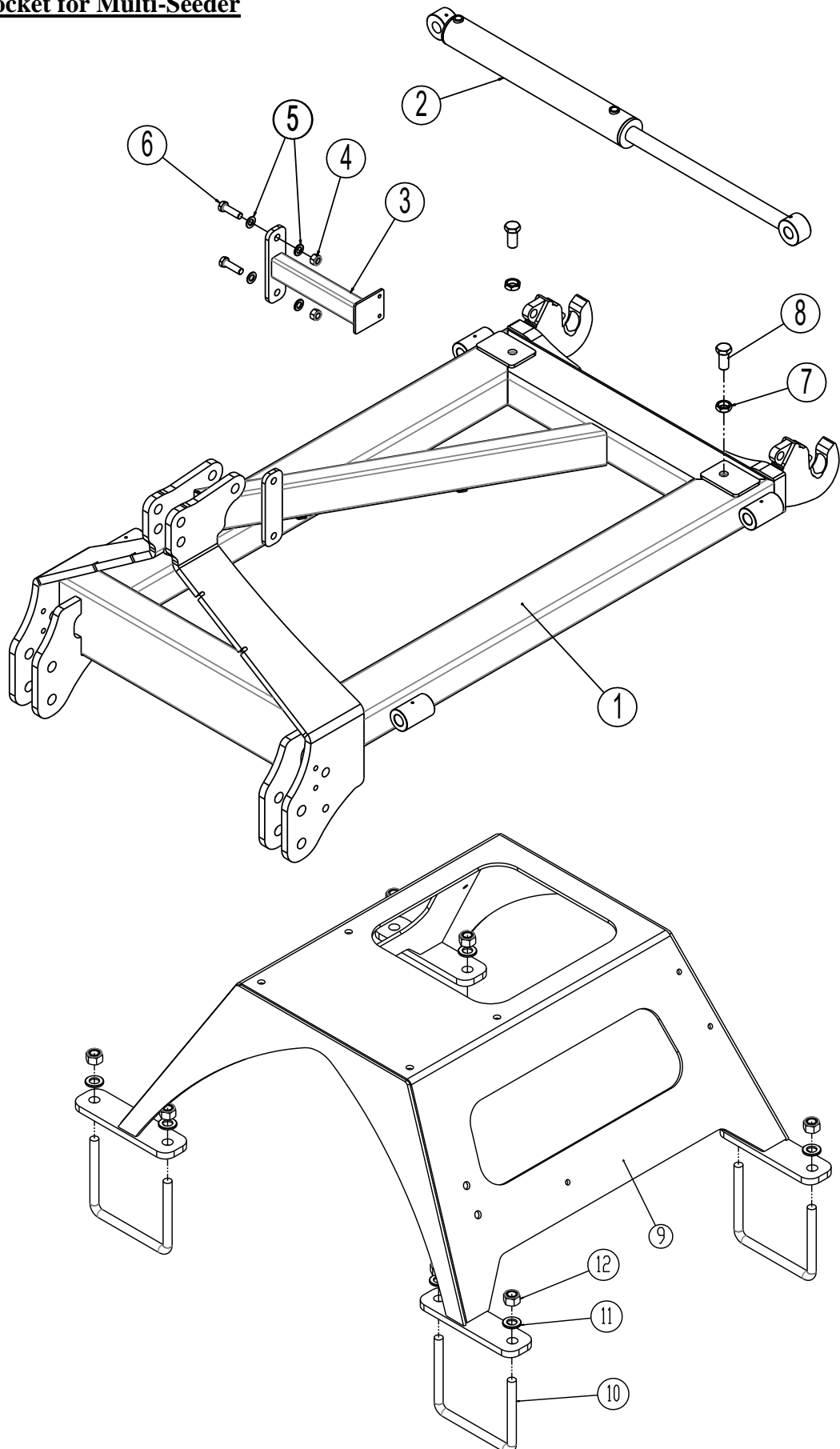
When, after many years of use, the machine is to be regarded as end-of-life, it must be disposed of to a registered and approved product dealer. This will carry out the statutory discharge and disposal of hydraulic oil, as well as sorting materials for further processing for recycling.

Notes

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Spare parts list

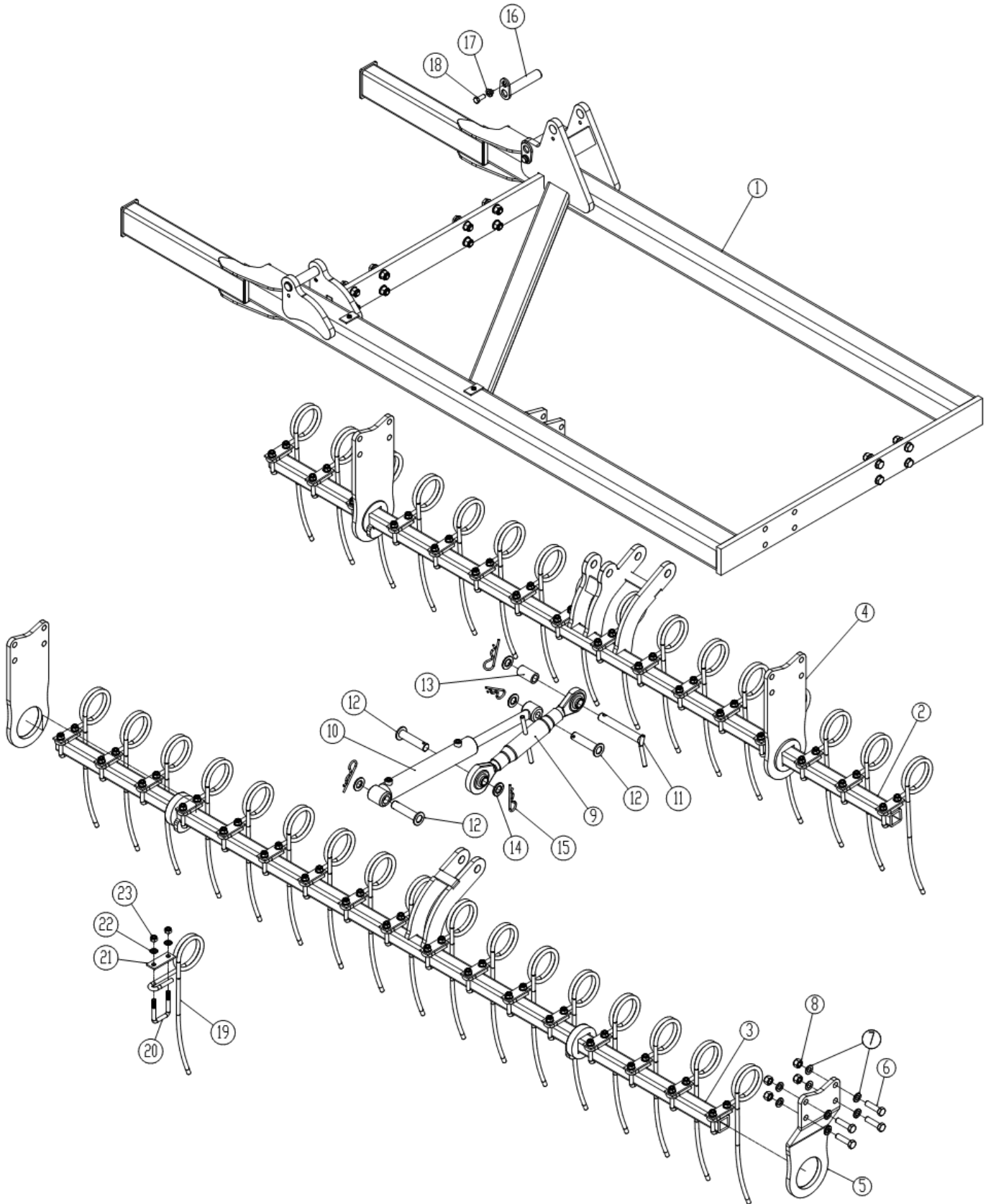
Middle frame w/socket for Multi-Seeder



Pos.	Part no.	Description	2 bars	3 bars
1	1335010	Middle frame for 2 bars model	1	
1	1335170	Middle frame for 3 bars model		1
2	690200050	Cylinder Ø80/40 – 500 (6.0m)	1	1
2	690200350	Cylinder Ø90/40 – 500 (7.0m)	1	1
3	1335060	Holder for fan	1	1
4	0264090	Self-locking nut, M16	2	2
5	0272290	Faceted washer Ø16	4	4
6	0235830	Bolt M16x55 8.8	2	2
7	0261430	Counter nut M24x3 DIN 439B	2	2
8	0236340	Bolt M24x50 8.8	2	2
9	1335018	Socket for Multi-Seeder	1	1
10	0382800	U-bolt M16x100x100x100	4	4
11	0272290	Faceted washer Ø16 DIN 125B	8	8
12	0264090	Lock-nut M16	8	8

Wing - 2 bars before 2021

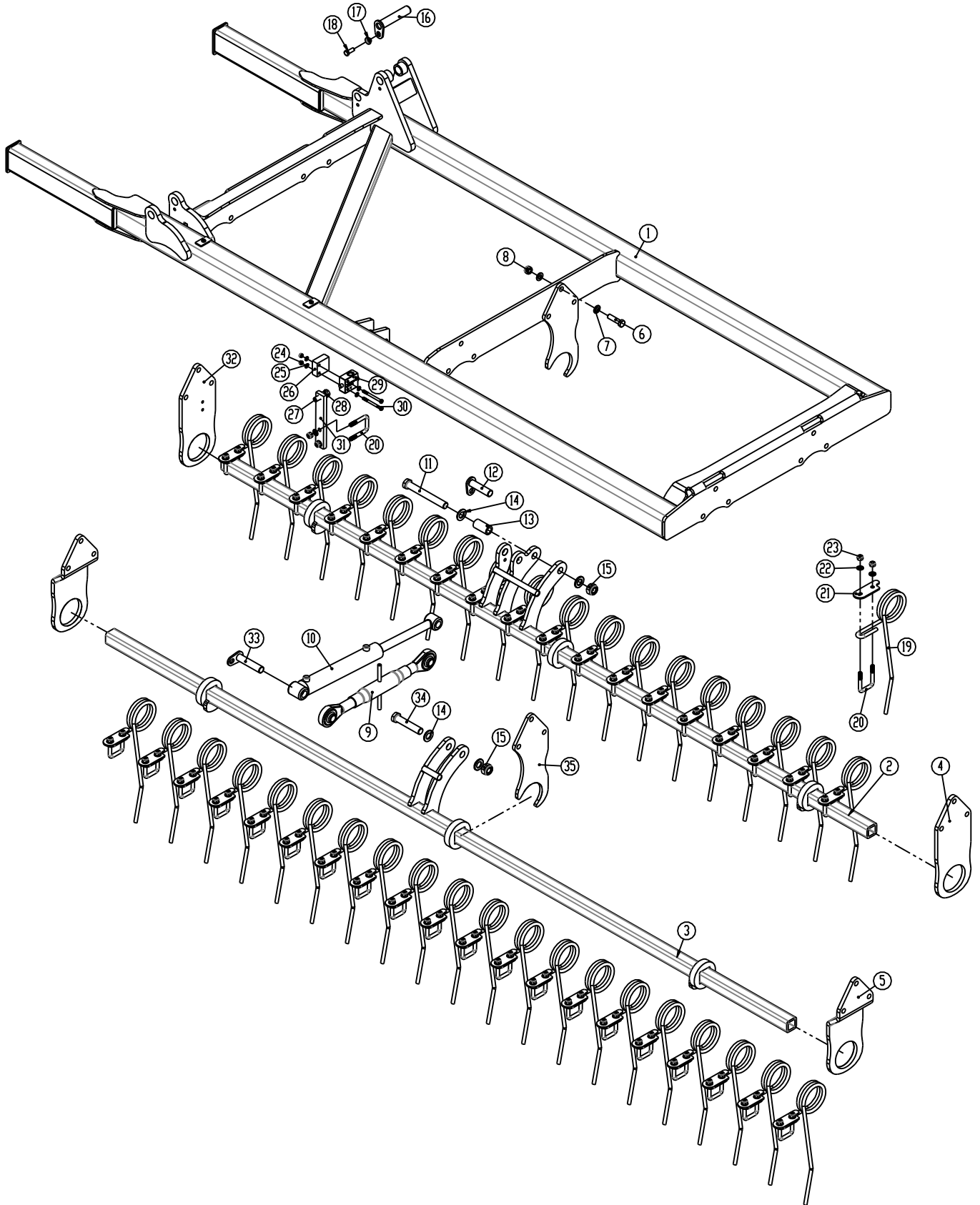
Left shown



Pos.	Part no.	Description	2 bars
1	1335146	Wing left	1
1	1335148	Wing right (ikke vist)	1
2	1335141	Bar left rear	1
3	1335142	Bar left front	1
2	1335143	Bar right rear (ikke vist)	1
3	1335144	Bar right front (ikke vist)	1
4	1275021	Holder for bar	3
5	1275448	Holder for bar bended	1
6	0235840	Bolt M16x60 8.8	16
7	0272290	Faceted washer Ø16	32
8	0264090	Lock-nut M16	16
9	690302011	Toplink M36 450 - 580	1
10	1275023	Cylinder 50/30 - 250	1
11	69525155B	Pin Ø25x155	1
12	69525095F	Pin Ø25x95	3
13	1335162	Bushing Ø33,7x5,6 L = 62	1
14	0272330	Faceted washer Ø24	4
15	0377600	Hair-clip 6 mm	4
16	69430145G	Pin Ø30x145	3
17	630532600	Lockbushing for pinhead	3
18	0235340	Bolt M12x30 8.8	3
19	0426110	Long finger tine Ø12x100 curved	
19	0426140	Long finger tine Ø12x100 aggressive	from 1. April 2024 33
20	0382125	U-bolt M12 50x50x50	33
21	1140792	Mounting plate	33
22	0272270	Faceted washer Ø12	66
23	0264070	Lock-nut M12	66

Wing - 2 bars after 2021

Left wing shown

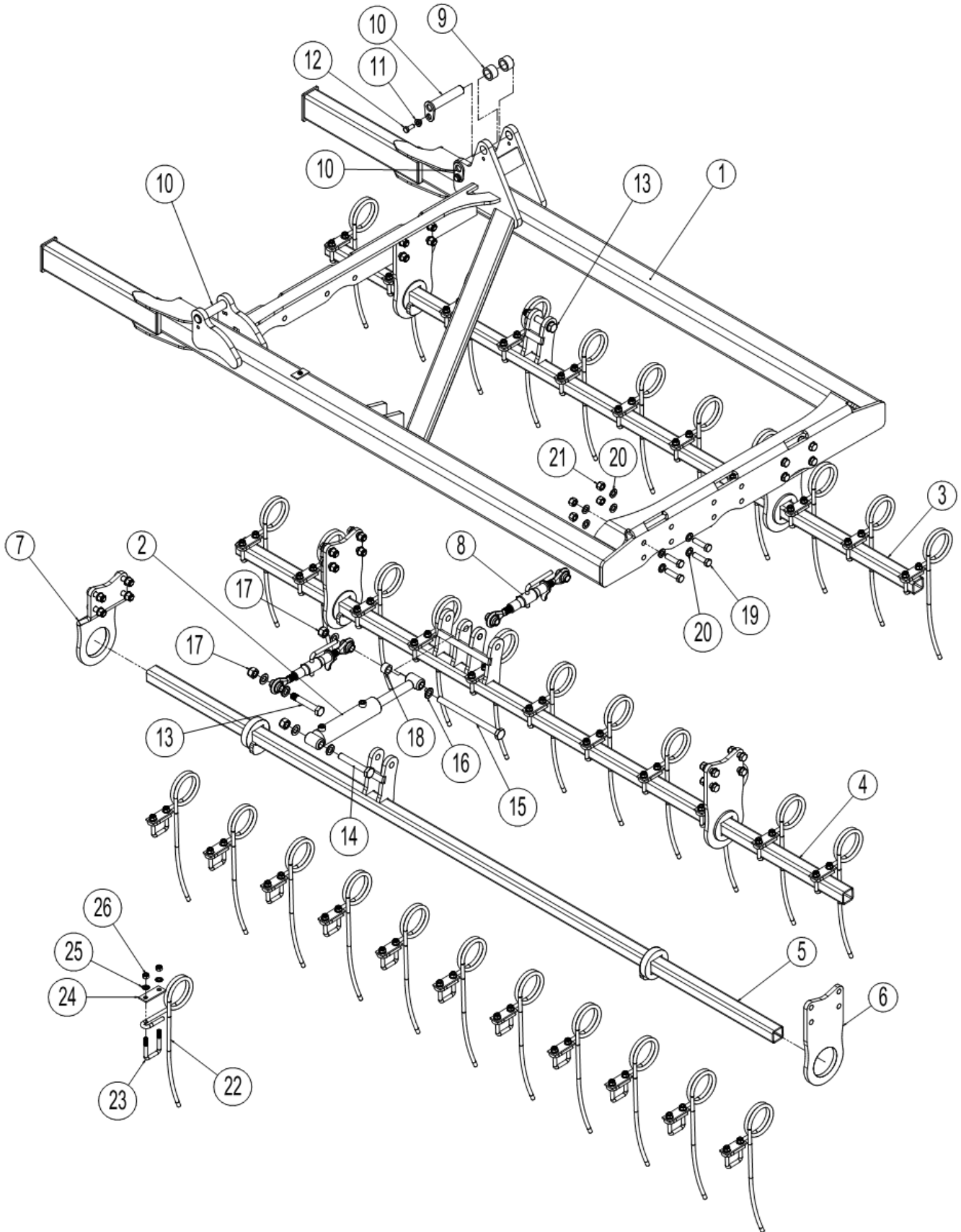


Pos	Part no.	Description – 2 bar	6m	7m	
1	1335145	Wing, left	1		
1	1335147	Wing, right	1		
2	1335141	Bar left rear	1		
3	1335142	Bar left, front	1		
2	1335143	Bar right rear	1		
3	1335144	Bar, left, front	1		
1	1335303	Wing, left		1	
1	1335304	Wing, right		1	
2	1335312	Bar left rear		1	
3	1335213	Bar left front		1	
2	1335314	Bar right rear		1	
3	1335315	Bar, right front		1	
4	1275855	Holder for bar	3	3	
5	1275782	Holder for bar, bended	4	4	
6	0235840	Bolt M16x60 8.8	24	36	
7	0272290	Facet washer Ø16	48	72	
8	0264090	Lock-nut M16	24	36	
9	690302011	Toplink M36 450 - 580	2	2	
10	1275023	Cylinder 50/30 - 250	2	2	
11	0236500	Bolt M24x190mm 8.8	2	2	
12	69525096G	Pin Ø25x96	2	2	
13	1335162	Bushing Ø33,7x5,6 L = 62	2	2	
14	0272330	Facet washer Ø24	8	8	
15	0264130	Lock-nut M24, 8.8	4	4	
16	69430145G	Pin Ø30x145	6	6	
17	630532600	Lockbushing for pinhead	6	6	
18	0235340	Bolt M12x30 8.8	6	6	
19	0426110	Strigle tine Ø12x100 curved			
19	0462140	Strigle tine Ø12x100 aggressive	from 1. April 2024	66	78
20	0382125	U-bolt M12 50x50x50	67	79	
21	1140792	Mounting plate	66	78	
22	0272270	Facet washer Ø12	134	158	
23	0264070	Lock-nut M12	134	158	
24	0264050	Lock-nut M8	2	2	
25	0272250	Facet washer Ø8	4	4	
26	1335386	Flat iron 60x25mm	1	1	
27	0235830	Bolt M16x55 8.8	1	1	
28	0261390	Steel nut M16, 8., fzb	1	1	
29	690207108	End stop valve v-101 3/8" DT NC	1	1	
30	0234850	Bolt M8x90 8.8	2	2	
31	1276501	Flat iron 40x15mm	1	1	
32	1276557	Holder for bar, straight with holes for End stop valve v-101 3/8" DT NC	1	1	
33	664004007	Pin Ø25 L=115	2	2	
34	0236430	Steel nut M24x120 8.8	2	2	
35	1335377	Support holder for bar, straight		4	



Wing - 3 bar before 2021

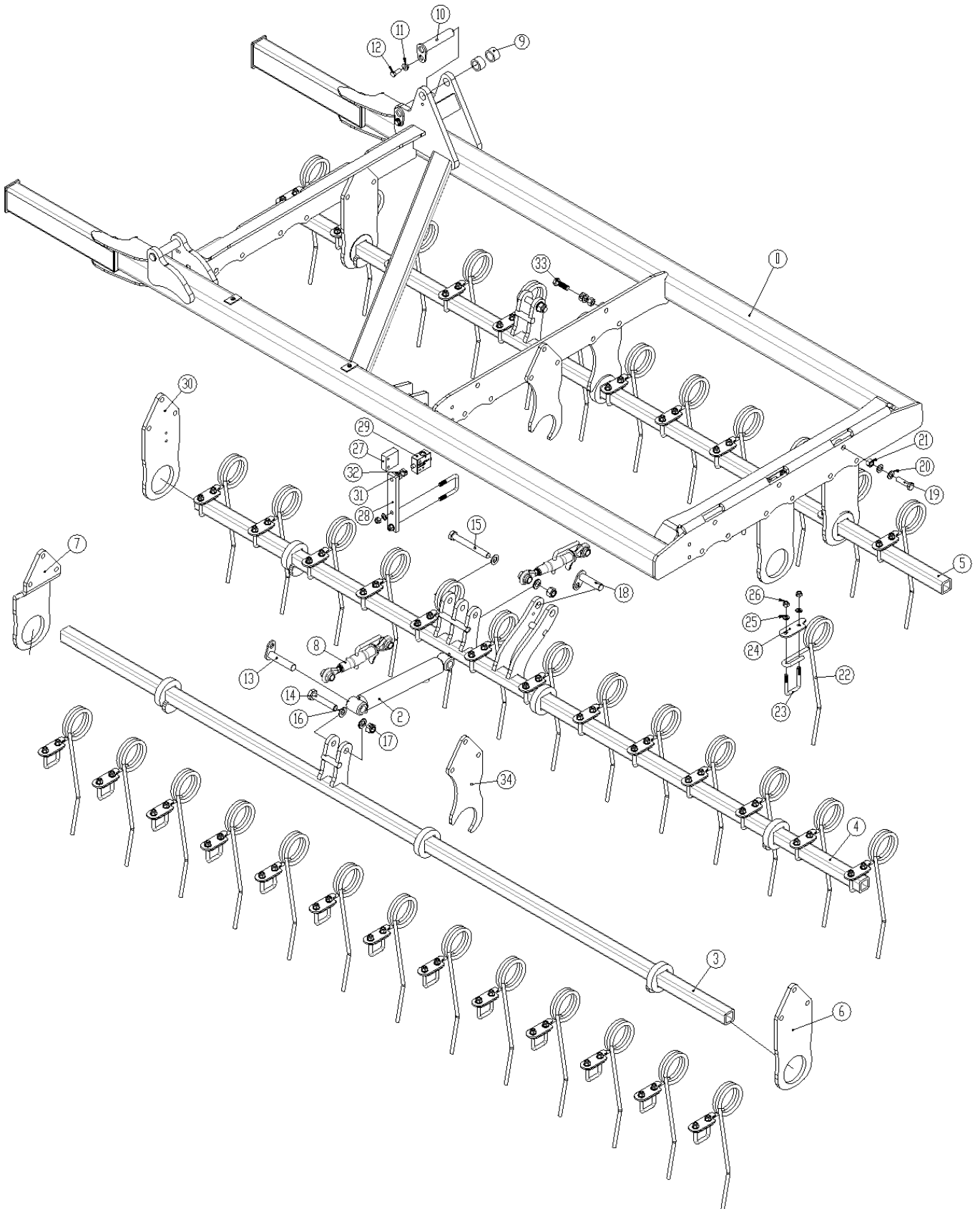
Left wing shown



Pos.	Part no.	Description	3 bars
1	1335157	Wing, left	1
1	1335158	Wing, right (not shown)	1
2	690200040	Cylinder 50/30 – 155	1
3	1335163	Bar, left rear	1
4	1335164	Bar, left middle	1
5	1335165	Bar, left front	1
3	1335166	Bar, right rear (not shown)	1
4	1335167	Bar, right middle (not shown)	1
5	1335168	Bar, right front (not shown)	1
6	1275022	Holder for bar	4
7	1280037	Holder for bar bended	2
8	690302008	Toplink M22 L = 270 - 360	2
9	1275363	Bushing Ø31,8x6,3 L = 26 mm	2
10	69430145G	Pin Ø30x145	3
11	630532600	Lockbushing for pinhead	3
12	0235340	Bolt M12x30 8.8	3
13	0236210	Bolt M20x120 8.8	2
14	0236220	Bolt M20x130 8.8	1
15	0236315	Bolt M20x280 8.8	1
16	0272310	Faceted washer Ø20	8
17	0264110	Lock-nut M20	4
18	1335188	Bushing Ø33,7x5,6 L = 20	1
19	0235840	Bolt M16x60 8.8	24
20	0272290	Faceted washer Ø16	48
21	0264090	Lock-nut M16	24
22	0426110	Long finger tine Ø12 x 100 curved	
22	0426140	Long finger tine Ø12 x 100 aggressive from 1. april 2024	33
23	0382125	U-bolt M12 50x50x50	33
24	1140792	Mounting plate	33
25	0272270	Facet washer Ø12	66
26	0264070	Lock-nut M12	66

Wing - 3 bar after 2021

Left wing shown

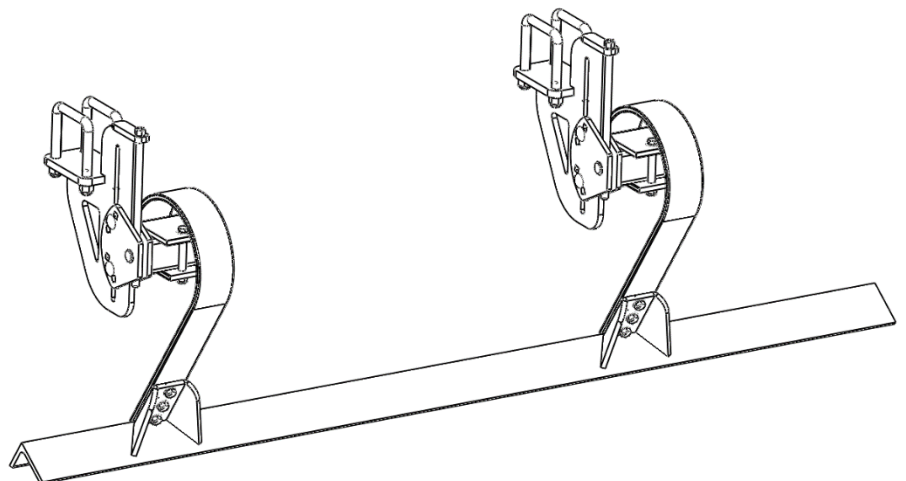
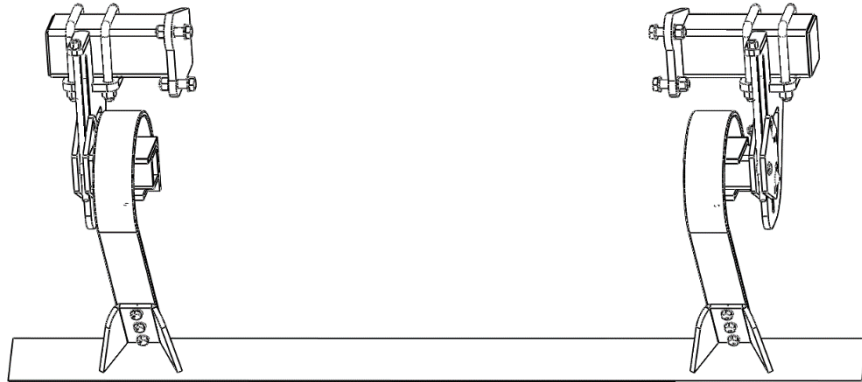
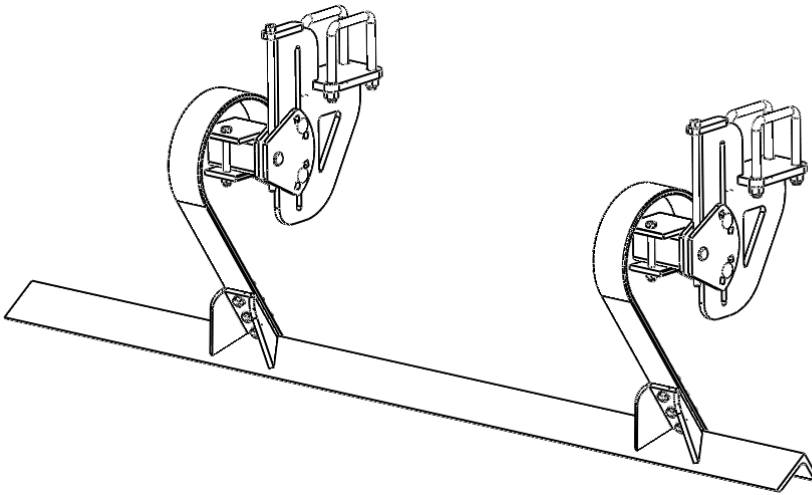


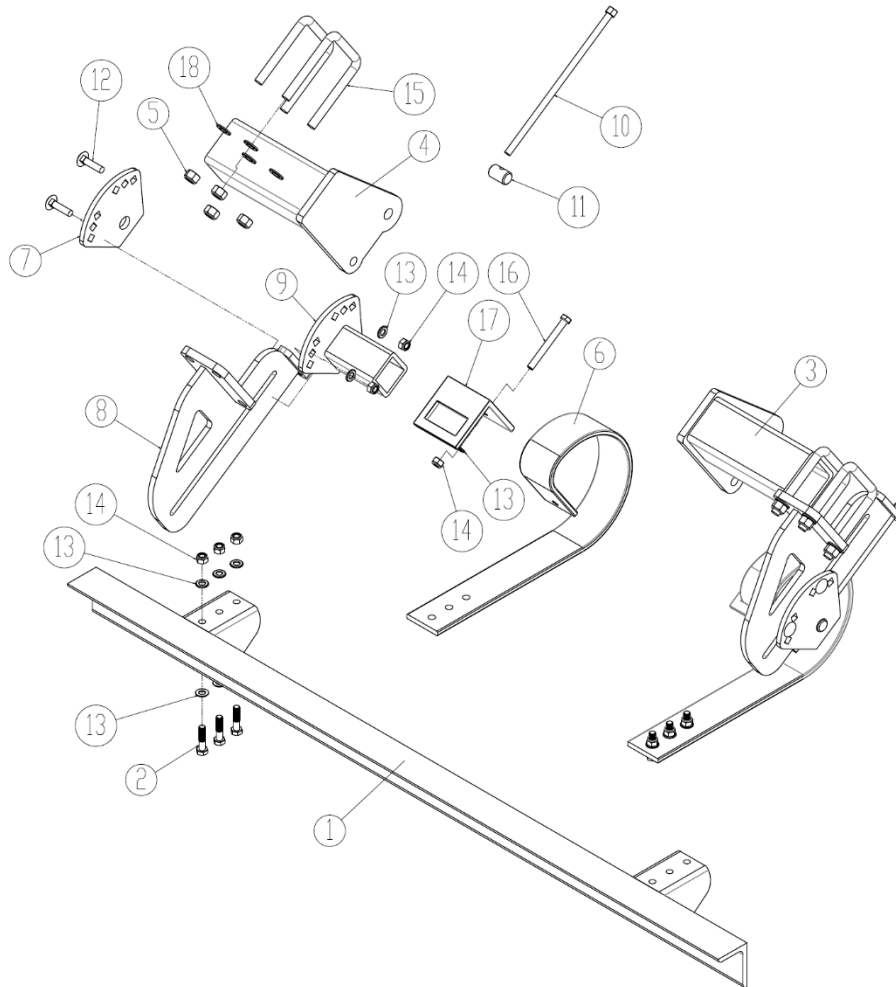
Pos.	Part no .	Description – 3 bullet	6m	7m
1	1335157	Wing left	1	
1	1335158	Wing right	1	
1	1335361	Wing left		1
1	1335363	Wing right		1
2	690200040	Cylinder 50/30 – 155mm	1	1
3	1335163	Bar left rear	1	
3	1335369	Bar left rear		1
4	1335164	Bar, left middle	1	
4	1335368	Bar, left middle		1
5	1335165	Bar, left front	1	
5	1335367	Bar, left front		1
3	1335166	Bar, right rear	1	
3	1335366	Bar, right rear		1
4	1335167	Bar, right middle	1	
4	1335365	Bar, right middle		1
5	1335168	Bar, right front	1	
5	1335364	Bar, right front		1
6	1275022	Holder for bar, straight	10	10
7	1280037	Holder for bar, bended	2	2
8	690302008	Toplink M22 L = 270 - 360	4	4
9	1275363	Bushing Ø31,8x6,3 L = 26 mm	4	4
10	69430145G	Pin Ø30x145	6	6
11	630532600	Lockbushing for pinhead	10	10
12	0235340	Bolt M12x30 8.8	10	10
13	664004007	Pin Ø25x115	2	2
14	0236220	Bolt M20x110, 8,8	4	4
15	0236315	Bolt M20x170, 8.8	2	2
16	0272310	Faceted washer Ø20	12	12
17	0264110	Lock-nut M20	6	6
18	69525096G	Pin Ø25x96	2	2
19	0235840	Bolt M16x60 mm 8.8	36	36
20	0272290	Faceted washer Ø16	72	108
21	0264090	Lock-nut M16	36	55
22	0426110	Long finger tine Ø12 x 100 curved		
22	0426140	Long finger tine Ø12 x 100 aggressive from 1. april 2024	66	78
23	0382125	U-bolt M12 50x50x50	68	80
24	1140792	Mounting plate	66	78
25	0272270	Facet washer Ø12	136	160
26	0264070	Lock-nut M12	136	160
27	1335386	Flat iron 60x25mm	1	1
28	1276501	Flat iron 40x15mm	1	1
29	690207108	End stop valve v-101 3/8" DT NC	1	1



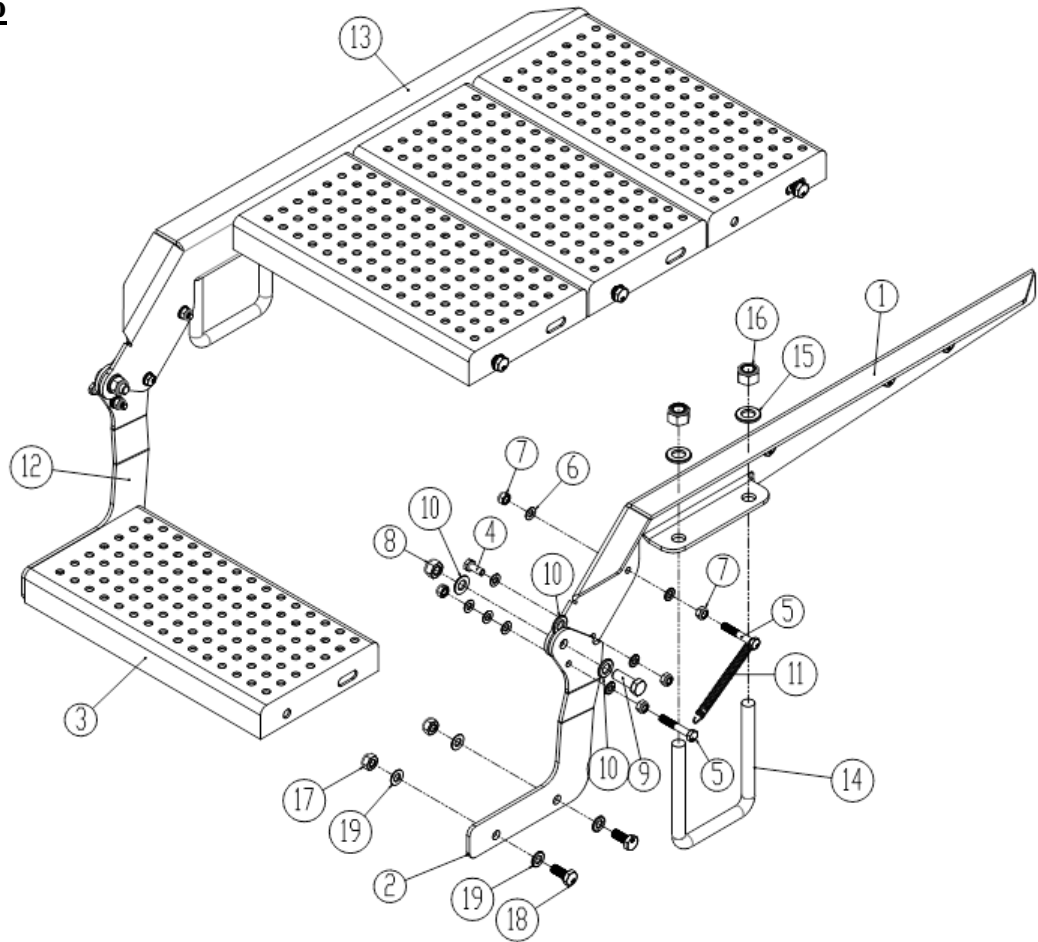
30	1276557	Holder for bar, straight with holes for End stop valve v-101 3/8" DT NC	1	1
31	0261390	Steel nut M16, 8., fzb	1	1
32	0235830	Bolt M16x55 mm 8.8	1	1
33	0235810	Bolt M16x50 mm 8.8		18
34	1335377	Support holder for bar, straight		6

Leveling bar



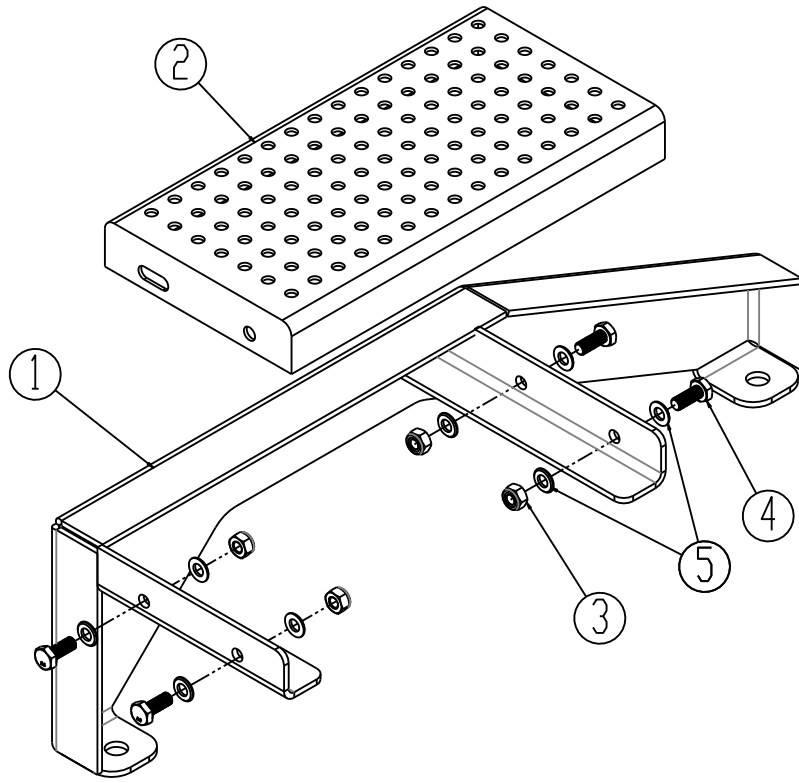


Pos.	Part no.	Description	2 – 3 bullet
1	1335191	Leveling bar, left	1
1	1335192	Leveling bar, center	1
1	1335193	Leveling bar, right	1
2	0235380	Bolt M12x50, 8.8 fzb	6
3	1335027	Holder f/leveling bar right (only on center section)	1
4	1335024	Holder f/leveling bar left (only on center section)	1
5	0264090	Lock-nut M16	8
6	0422145	Springboard tine 80x10mm - long	2
7	675170024	Mounting plate	2
8	675170025	Console f/hight adjustment of leveling bar	2
9	675170026	Mounting plate w/bar	2
10	630327217	Thread rod f/leveling bar	2
11	675170021	Shaft Ø25 L = 40 mm	2
12	0248680	Carriage bolt M12x50 8.8	4
13	0272270	Faceted washer Ø12 fzb DIN125B	8
14	0264070	Lock-nut M12 fzb DIN 985B	4
15	690110101	U-bolt M16 100x100x100	4
16	690103098	Bolt M12x110 10.9	2
17	633052200	Mounting plate for Spring-Board tine	2
18	0272290	Faceted washer Ø16 – DIN 125B	8

Platform with flap


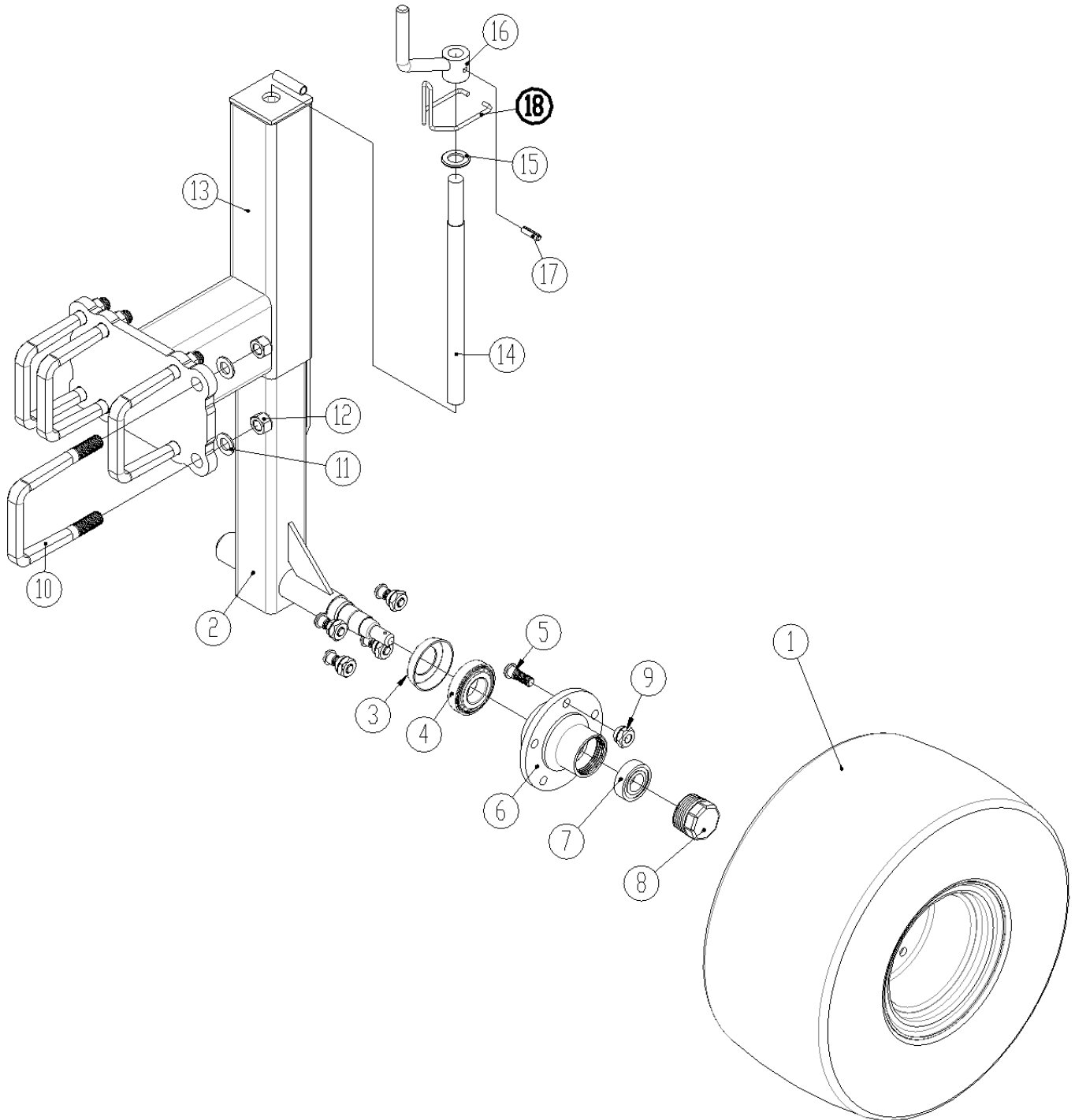
Pos.	Part no.	Description	Machines with Multi-Seeder
1	1335076	Frame right part	1
2	1335073	Frame foldable right part	1
3	0487007	Step Panel 200x400x45 galvanized	4
4	0234750	Set Screw M8x20 8.8	2
5	690103057	Set Screw M8x50 8.8	4
6	1272250	Facet washer Ø8	16
7	0264050	Lock-nut M8 fzb DIN 985	10
8	0264070	Lock-nut M12, fzb DIN 985	2
9	0235350	Bolt M12x35 8.8 fzb	2
10	0272270	Facet washer Ø12, fzb DIN 125B	6
11	1335069	Spring Ø11x83x178	2
12	1335074	Frame left part	1
13	1335077	Frame foldable left part	1
14	690110101	U-bolt M16 100x100x100	2
15	0272290	Facetskive Ø16 DIN 125B	4
16	0264090	Lock-nut M16	4
17	0264060	Lock-nut M10 DIN985	8
18	0235040	Bolt M10x25 8.8	8
19	0272260	Facet washer Ø10 fzb DIN 125B	16



Step at Multi-Seeder


Pos.	Part no.	Description	Machines with Multi-Seeder
1	1335044	Holder for step panel	1
2	0487007	Step panel	1
3	0264060	Lock-nut M10	4
4	0235040	Bolt M10x25 8.8	4
5	0272260	Faceted washer Ø10 mm, fzb DIN 125B	8

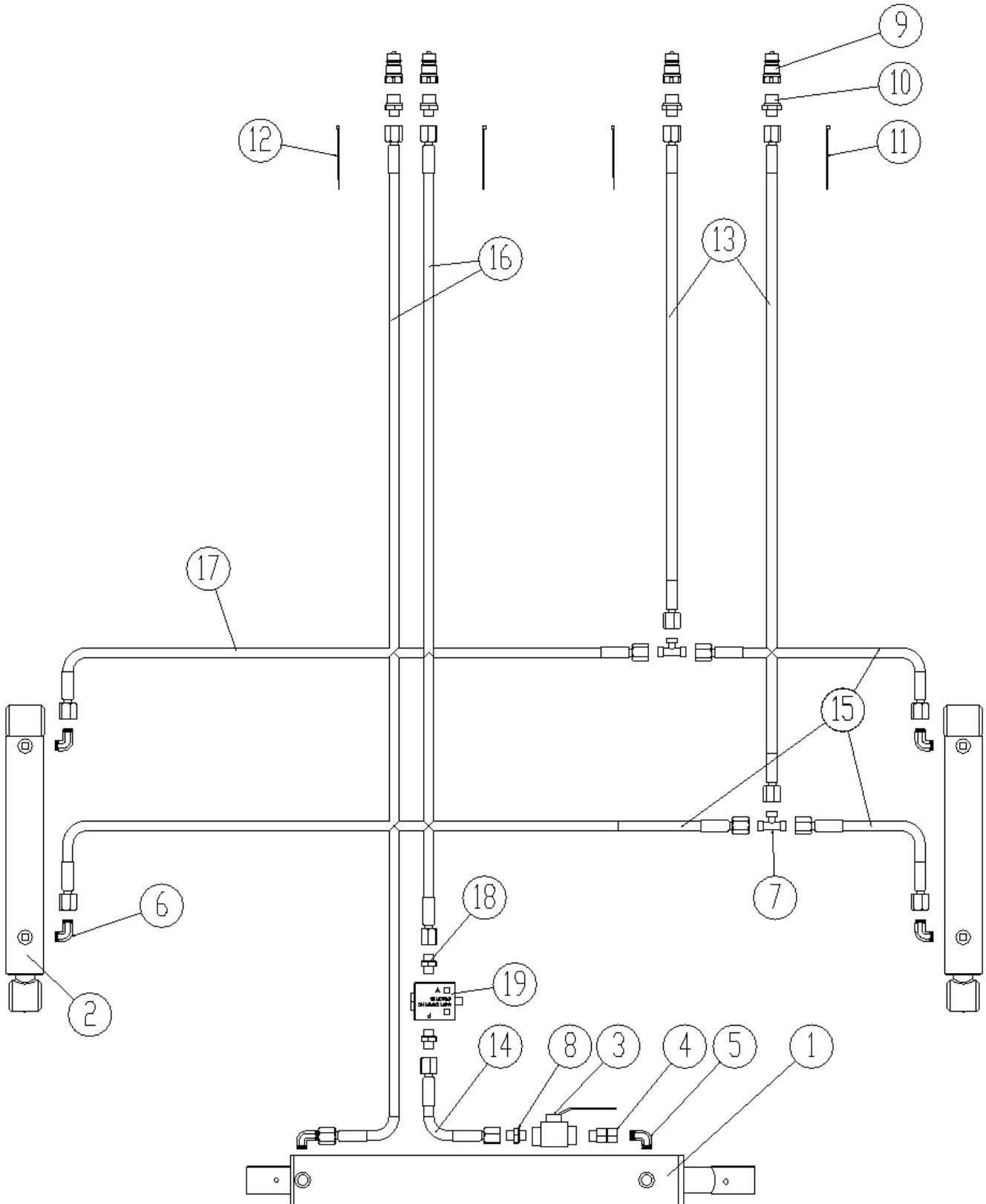
Support wheel



Pos.	Part no.	Description	Alle models
	1335040	Support wheel complete, facing left (2 stk. pr. maskine)	
	1335057	Support wheel complete, facing right (2 stk. pr. maskine)	
1	0394230	Wheel complete w/rim and tire	1
2	1103505	Inner tube with shaft	1
3	0393630	Sealing ring 72/35	1
4	0478990	Tapered roller bearing 30207 Ø35	1
5	0394803	Hub bolt M12x1,5x36 mm	5
6	0393612	Hub 5 huls	1
7	0478988	Tapered roller bearing 30205 Ø25	1
8	0393827	Cap f/hub Ø52	1
9	0394861	Hub nut M12x1,5	5
10	690110101	U-bolt M16 100x100x100	2
11	0272290	Faceted washer Ø16 DIN 125B	4
12	0264090	Lock-nut M16	4
13	1103520	Outer tube f/rod	1
14	108053-0	Rod with thread	1
15	0272310	Faceted washer Ø20 DIN 125B	1
16	103626-0	Handle	1
17	0371660	Roll pin Ø8x30 mm	1
18	0431980	Lock for spindle	1

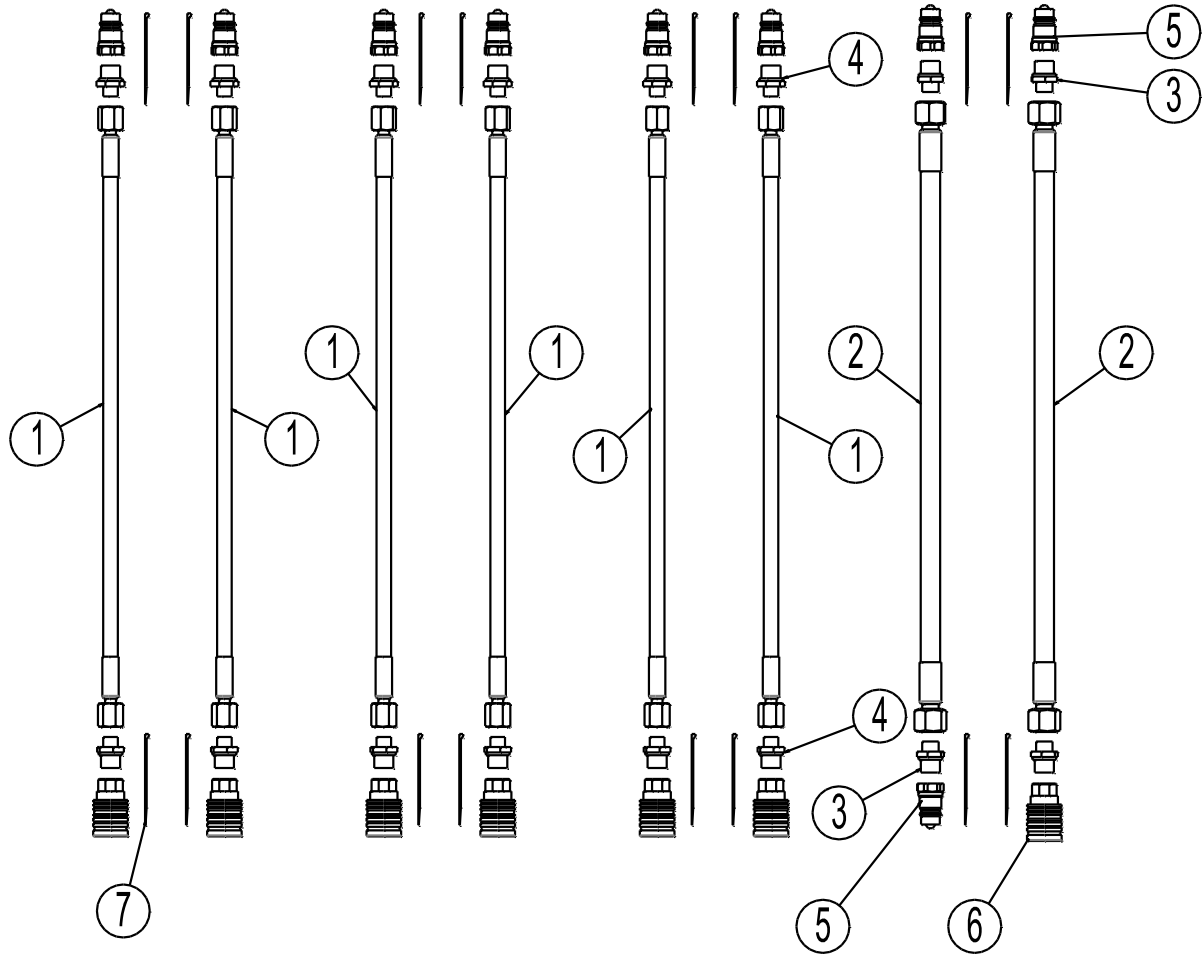
Hydraulic

Folding and angel of tines



Pos.	Part no.	Description	2 bar	3 bar
1	690200050	Cylinder 80/40 x 500 (6.0 m)	1	1
1	690200350	Cylinder 90/40 x 500 (7.0 m)	1	1
2	1290076	Cylinder 50/30 x 250 \varnothing 25,25/ \varnothing 25,25	2	2
3	0442350	Ball valve 3/8" BKH-3/8"	1	1
4	690203130	Fitting adjustable 12 mounted w/ O-ring	1	1
5	690203106	Fitting 90° 12-3/8" BSP	1	1
6	690203006	Fitting 90° 10-3/8" BSP	5	5
7	690203015	Connector T10	2	2
8	0446751	Fitting straight \varnothing 10 x 3/8"	1	1
9	0444020	Quick coupling 1/2", male	4	4
10	0446752	Fitting straight \varnothing 10 x 1/2"	4	4
11	-	Straps, 2 pc. green	2	2
12	-	Straps, 2 pc. blue	2	2
13	0454591	Hydraulic hose 1/4" L = 2000 mm	2	2
14	690201007	Hydraulic hose 1/4" L = 3700 mm	1	1
15	0454250	Hydraulic hose 1/4" L = 1010 mm	3	3
16	690201033	Hydraulic hose 1/4" L = 2500 mm	2	2
17	0454211	Hydraulic hose 1/4" L = 710 mm	1	1
18	0446754	Fitting \varnothing 12 x 3/8"	1	1
19	690207108	End stop valve v-101 3/8" DT NC	1	1



Extension hoses to connected roller


Pos.	Part no.	Description	Standard	Optional
1	690201033	Hydraulic hose 1/4" L = 2500 mm	6	
2	690201469	Hydraulic hose 1/2" L = 2500 mm		2
3	690204512	Fitting straight Ø15 x 1/2"		4
4	0446752	Fitting Straight Ø10 x 1/2"	12	
5	0444020	Quick Coupling 1/2", male	6	9
6	0444030	Quick Coupling 1/2", female	4	4
7	-	Straps	12	4

ATTENTION: When ordering new hydraulic hoses, always check the length incl. fittings.

Notes

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As good as it looks
As good as it looks
As good as it looks
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The design is subject to modification without notice.