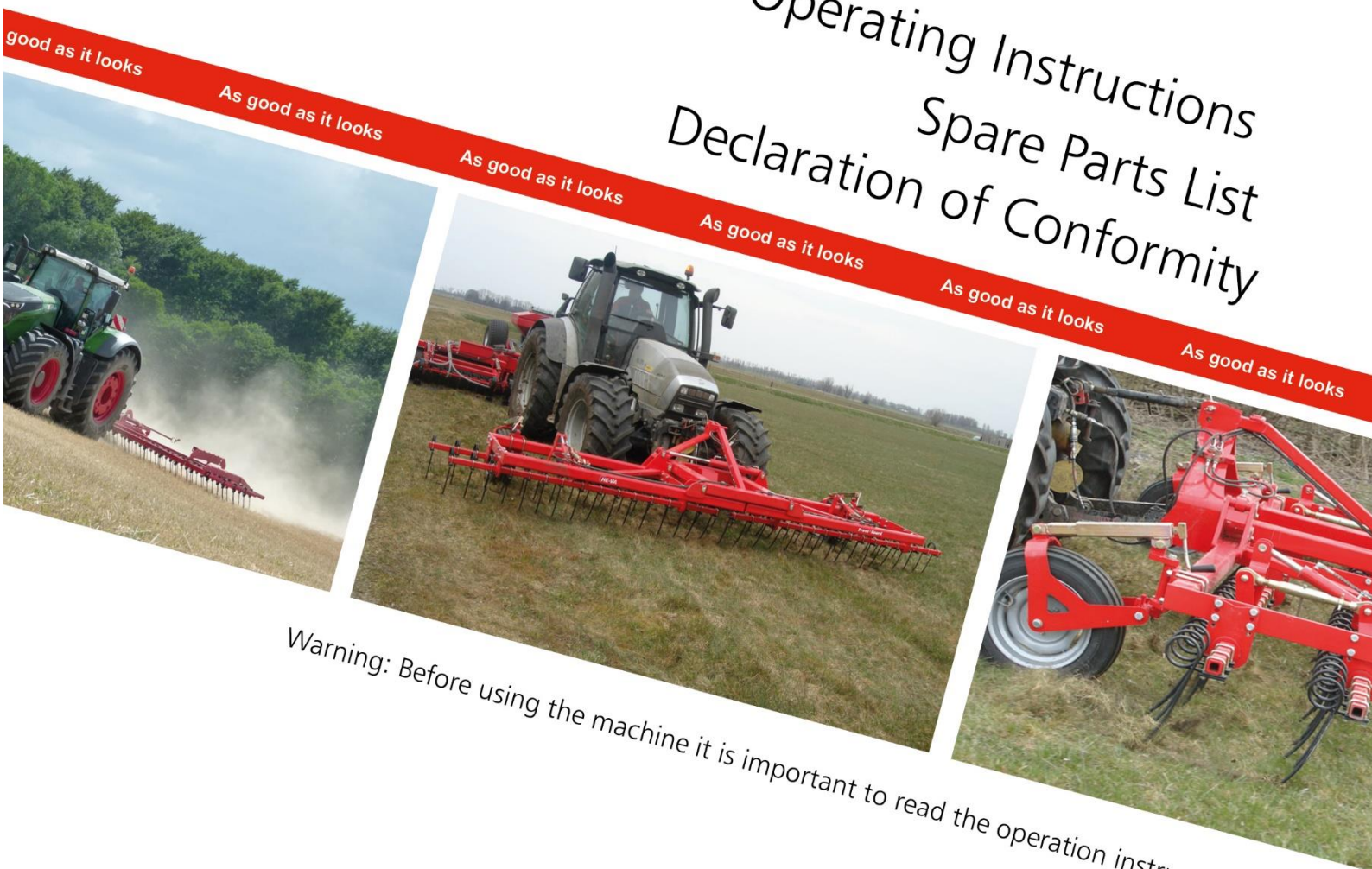


UK

fmo

# HE-VA

Operating Instructions  
Spare Parts List  
Declaration of Conformity



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

## Top-Strigle

Working width: 3,0 - 4,0 - 5,0 - 6,0 - 7,0 - 8,0 m (2-rows)

Manual no. 8000101-02 301120



N. A. Christensensvej 34  
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## Indhold

<b>EC DECLARATION OF CONFORMITY .....</b>	<b>4</b>
<b>Delivery Check .....</b>	<b>5</b>
<b>Machine description.....</b>	<b>5</b>
<b>Technical specifications .....</b>	<b>6</b>
<b>Working with the Strigle .....</b>	<b>6</b>
<b>Safety around the Top-Strigle.....</b>	<b>7</b>
<b>Safety instructions, regarding Hydraulic System .....</b>	<b>8</b>
<b>Markings on the machine .....</b>	<b>9</b>
<b>Maintenance .....</b>	<b>10</b>
<b>Disposal .....</b>	<b>11</b>
<b>Notes .....</b>	<b>12</b>
<b>Spare parts list.....</b>	<b>13</b>
<b>Leveling bar and tine Ø12 mm .....</b>	<b>13</b>
<b>3 meter Rigid .....</b>	<b>14</b>
<b>5 and 6 meter Hydraulic (from machine no. 354650) .....</b>	<b>18</b>
<b>Support wheel.....</b>	<b>20</b>
<b>Support wheel (only on previous models).....</b>	<b>21</b>
<b>LED - Lighting set.....</b>	<b>22</b>
<b>Hydraulic .....</b>	<b>23</b>



## **EC DECLARATION OF CONFORMITY**

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

Top-Strigle w/2 bars  
3,0m – 4,0m rigid  
4,0m – 8,0m hydraulic

Nykøbing d. 28. februar 2011

  
Villy Christiansen

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

## **Delivery Check**

Check the Top-Strigle 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 Top-Strigle is a 2 bar strigle which is suitable for aeration of pasture or spreading out heaps of straw as well as making seeds from weeds and wasted grain germinate. The machine can be delivered as either a front- or a tail mounted Strigle, and also with both options.

The machine can be delivered with two different types of tines:

- 12 mm x 440 mm tines for aeration of pasture
- 16 mm x 660 mm tines for spreading straw and make undesirable seeds germinate

Standard equipment:

- Wheels – 2 stk. 200/60x14,5”
- 2 hydraulic adjustable bars
- The individual angle between the bars are mechanically adjusted

Row spacing:

- With 12 mm tines: 9,0 cm
- With 16 mm tines: 12,5 cm

Distance between bars:

- 400 mm



### Technical specifications

Working width	Tine size	Transport width	Transport-height	No. of tines	HP requirement	Weight in kg
3,00m rigid	12mm	3050	1500	33	78-100	340
	16mm	3050	1500	24	85-105	400
4,00m rigid	12mm	4050	1500	44	90-115	400
	16mm	4050	1500	32	100-125	460
4,00m hydr.	12mm	1500	2100	44	90-115	650
	16mm	1500	2100	32	100-125	710
5,00m hydr.	12mm	1500	2600	55	105-130	750
	16mm	1500	2600	40	115-140	840
6,00m hydr.	12mm	1500	3100	66	120-150	860
	16mm	1500	3100	48	135-160	960
7,00m hydr.	12mm	1500	3600	78	140-175	990
	16mm	1500	3600	56	170-210	1100
8,00m hydr.	12mm	1500	3600	88	150-200	1120
	16mm	1500	3600	64	200-250	1240
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: The machine is filled with			Hydro Texaco HD32			

### Working with the Strigle

There is no standard tine angle recommended. The operator may adjust to achieve the desired results. The following issues listed must be taken in consideration:

- Actual settings will vary with tine wear
- Ensure frame is leveled horizontal
- Operate with the lift hydraulic in float position
- For best results in stubble operate at 14 - 18 km/h, in pasture 8 - 12 km/h
- A more aggressive tine angle will hold up straw for a longer period, allowing for a more even distribution of residue
- Breaking down straw is much more effective in dry conditions
- A second pass may be required in extremely heavy straw conditions. Then work the second pass at a 30° - 45° angle to how it was worked the first time
- To prevent tine damage, avoid tight turning



## **Safety around the Top-Strigle**

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

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.

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

\*\* **People at risk: Any person, who is completely or partially 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.**

### **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 axel is sufficiently loaded. The front axel 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 cause 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 last for no more than 5 years.  
New hydraulic hoses must be identical to the manufacturer's specifications.



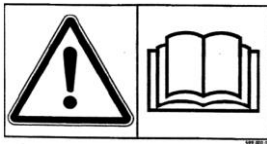


## Markings on the machine

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



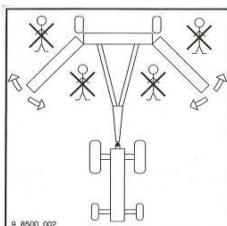
Study the Operating Instructions thoroughly before any operation of the machine and observe all safety instructions.



Plate with number and year of manufacture.

**HUSK - PLEASE NOTE -  
ACHTUNG - ATTENTION**  
EFTERSPÆND BOLTE  
TIGHTEN UP THE BOLTS  
BOLZEN NACHZIEHEN  
RESSERRER LES BOULONS

Plate with number and year of manufacture.



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



## Maintenance

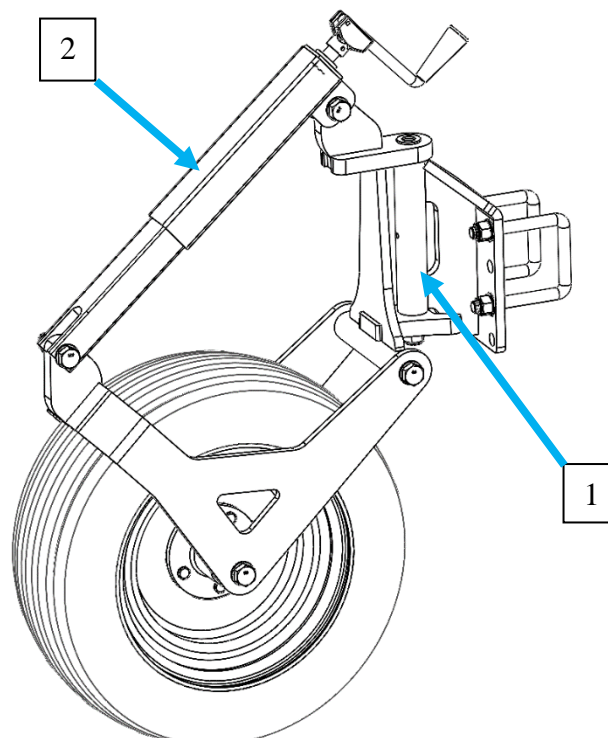
After 10 hours of operation, tightening of wheels, bearings and stop rings must be done. If this is not respected our warranty will lapse.

Maximale tilspændingsmomenter i Nm. med oliesmurt gevind			
Metrisk gevind	Kvalitet 8.8	Kvalitet 10.9	Kvalitet 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
Hjulbolt M18x1,5 fingevid		433 Nm	
Hjulbolt M22x1,5 fingevid		803 Nm	

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.

At every 25 hours of operation: The turnable bushings at the wheels must be greased (1).

Once in the season the horizontal pins/hinges for the wheel console (2) and the adjustment threads for depth must be cleaned and greased. Air pressure in the wheels must be checked.



## **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.

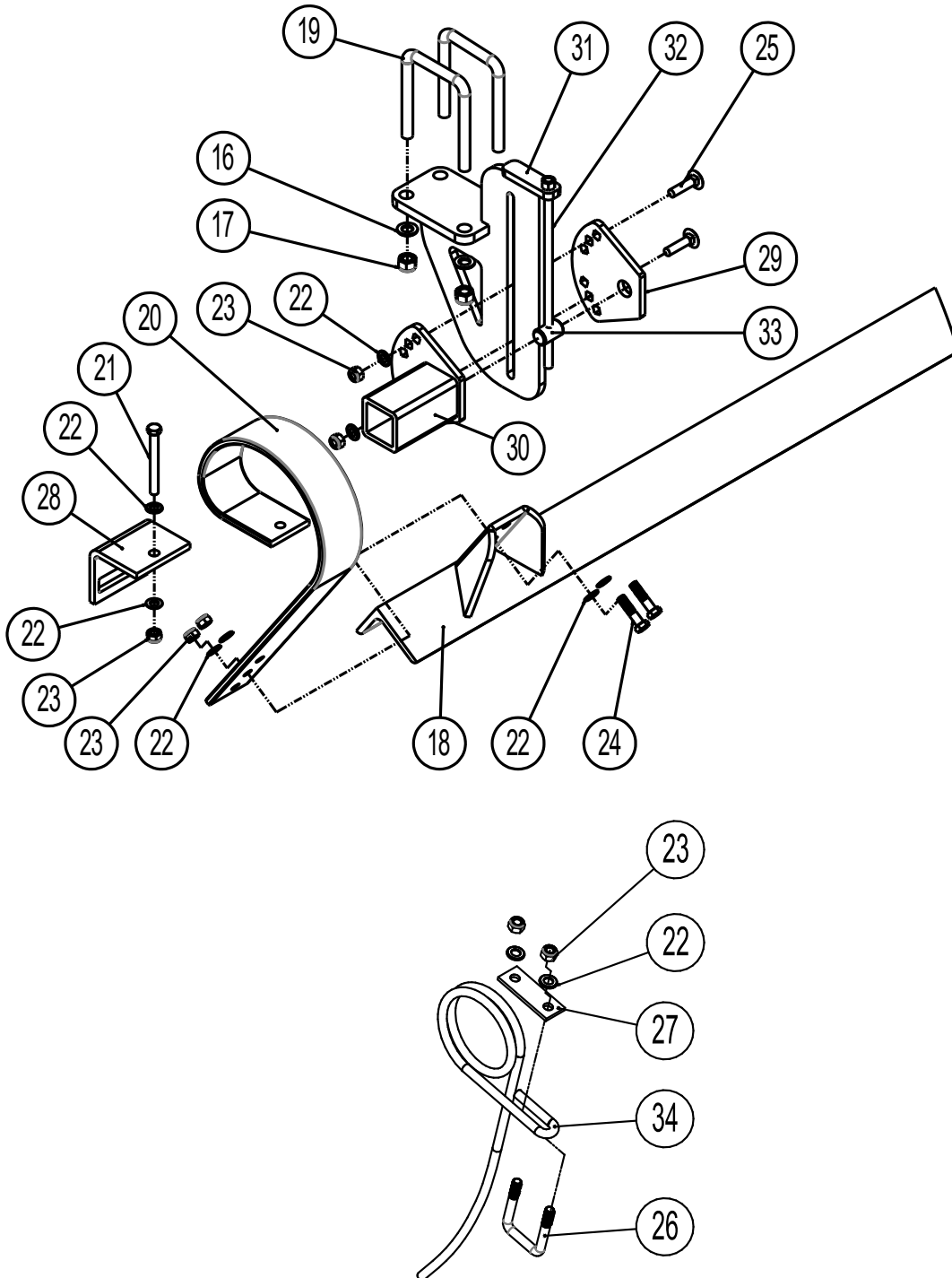


## Notes

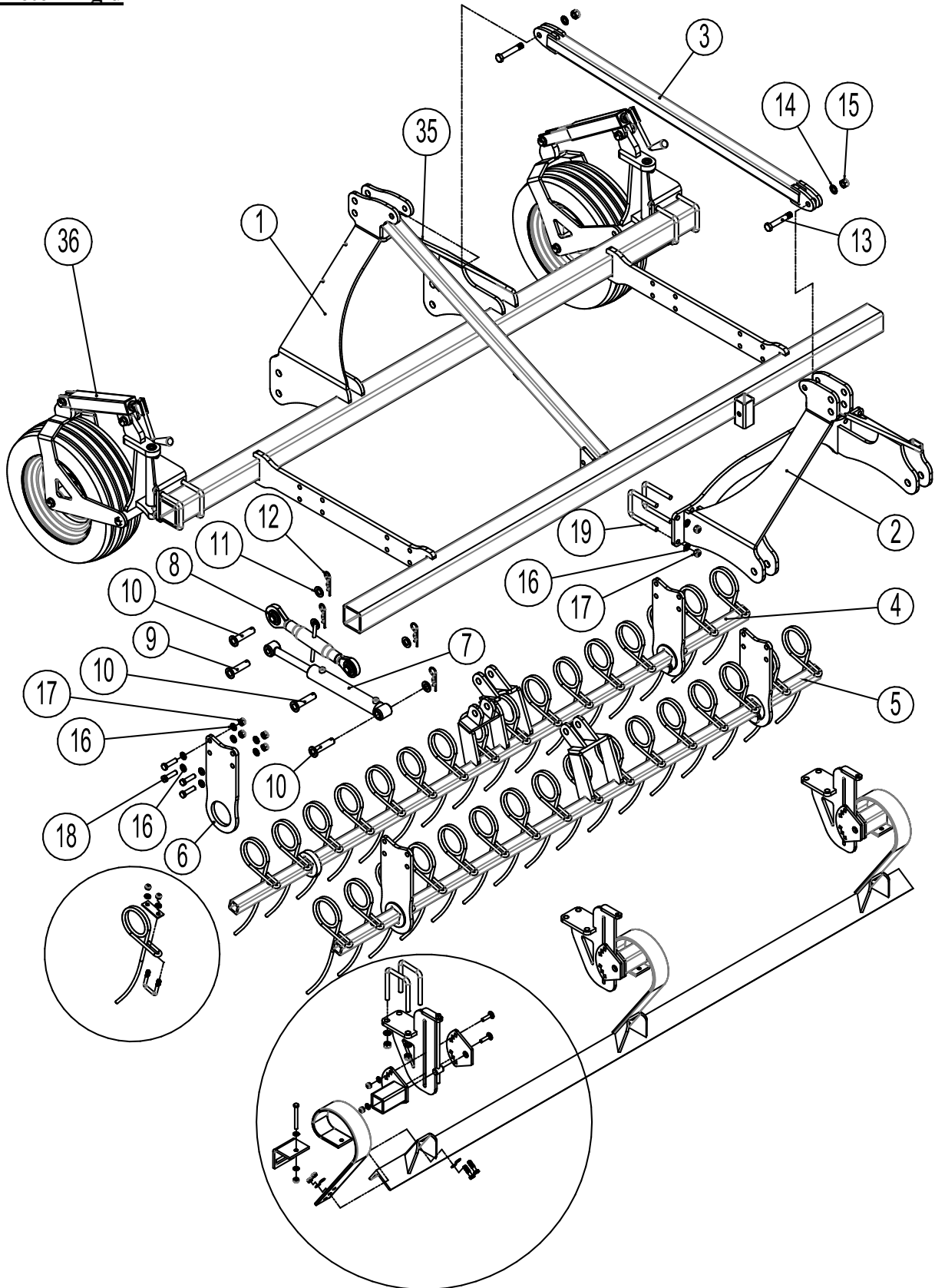



## Spare parts list

### Leveling bar and tine Ø12 mm



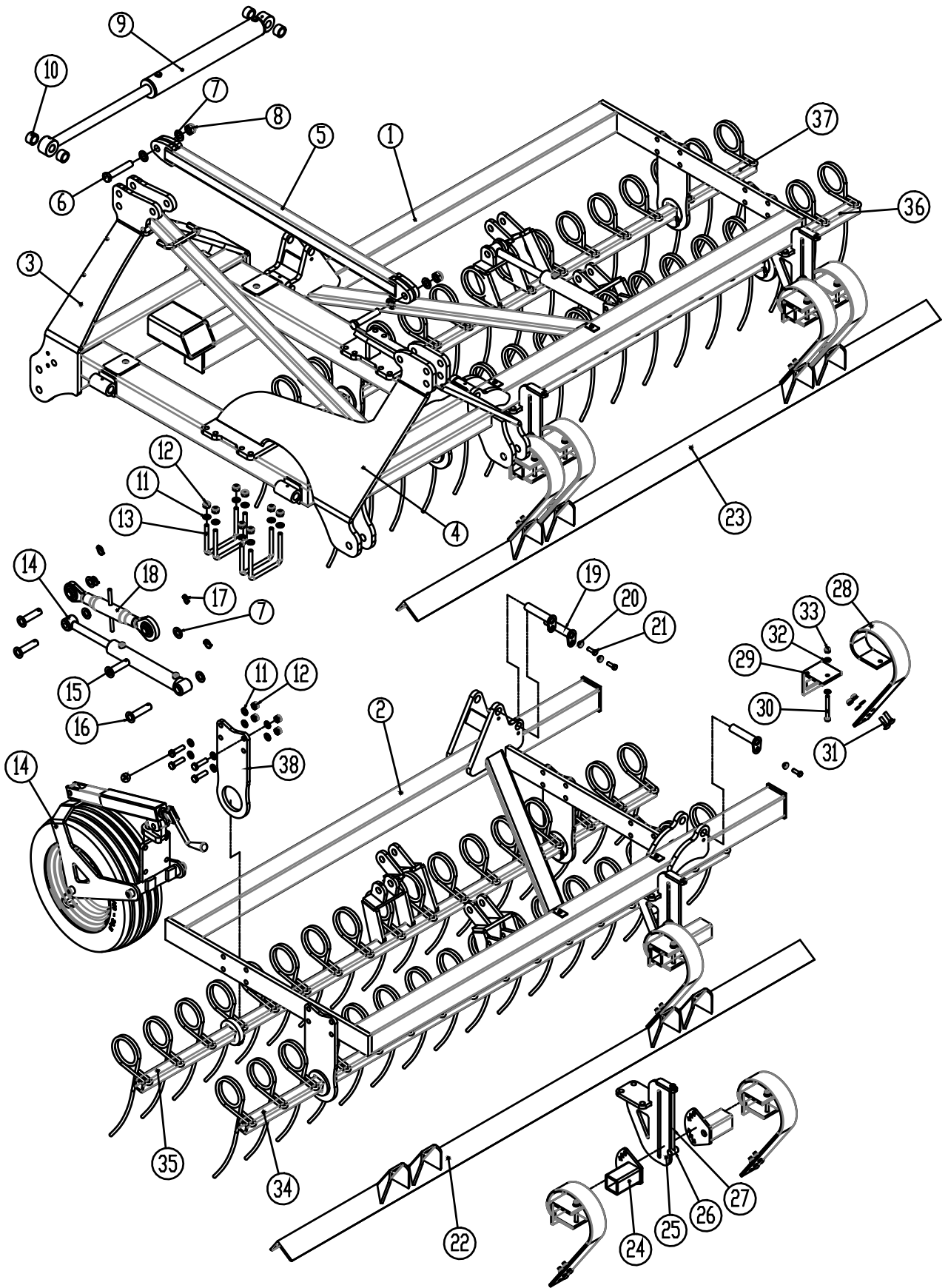
**3 meter Rigid**



Pos.	Part no.	Description	3m
1	1275004	Frame MK II	1
2	675150001	3-point linkage KAT II	1
3	1275017	Top-link MK II	1
4	1275005	Bar rear	1
5	1275006	Bar front	1
6	1275021	Holder for bar	4
7	1275023	Cylinder 50/30x250	1
8	690302011	Top-link M36, 430 – 620 mm	1
9	69525087F	Pin Ø25 L=87 mm	1
10	69525095F	Pin Ø25 L=87 mm	3
11	0272330	Facet washer Ø24 mm fzb	4
12	690133006	Hair-clip 6mm	4
13	0236210	Bolt M20x120	2
14	0272310	Facet washer Ø20 DIN 125B fzb	2
15	0264110	Lock-nut M20	2
16	0272290	Facet washer Ø16 DIN125B	52
17	0264090	Lock-nut M16	36
18	675150037	Leveling bar 3m	1
19	690110101	U-bolt M16 100x100x100	4
20	0422145	Springboard tine 80x10 mm	3
21	690103098	Bolt M12x110 mm 10.9	3
22	0272270	Facet washer 12mm DIN125B fzb	90
23	0264070	Lock-nut M12 DIN 985 fzb	84
24	0235380	Bolt M12x50 8.8	6
25	0248680	Carriage bolt M12x50 8.8	6
26	0382125	U-bolt M12 50x50 mm	33
27	1140792	Mounting plate 5x35 mm st. 37	33
28	0422395	Mounting bracket, f/tine 90x14 – bar 60x60	33
29	675170024	Plate for height adjustment	3
30	675170026	Plate for height adjustment with bar, welded	3
31	675170025	Height adjustment for leveling bar	3
32	630327217	Rod with threads f/leveling bar	3
33	675170021	Nut for height adjustment, shaft Ø25 L=40	3
34	0426125	Tine Ø12 DIN 17223 C	33
35	630410050	Holder for hose	1
36	675170000	Support wheel complete	2



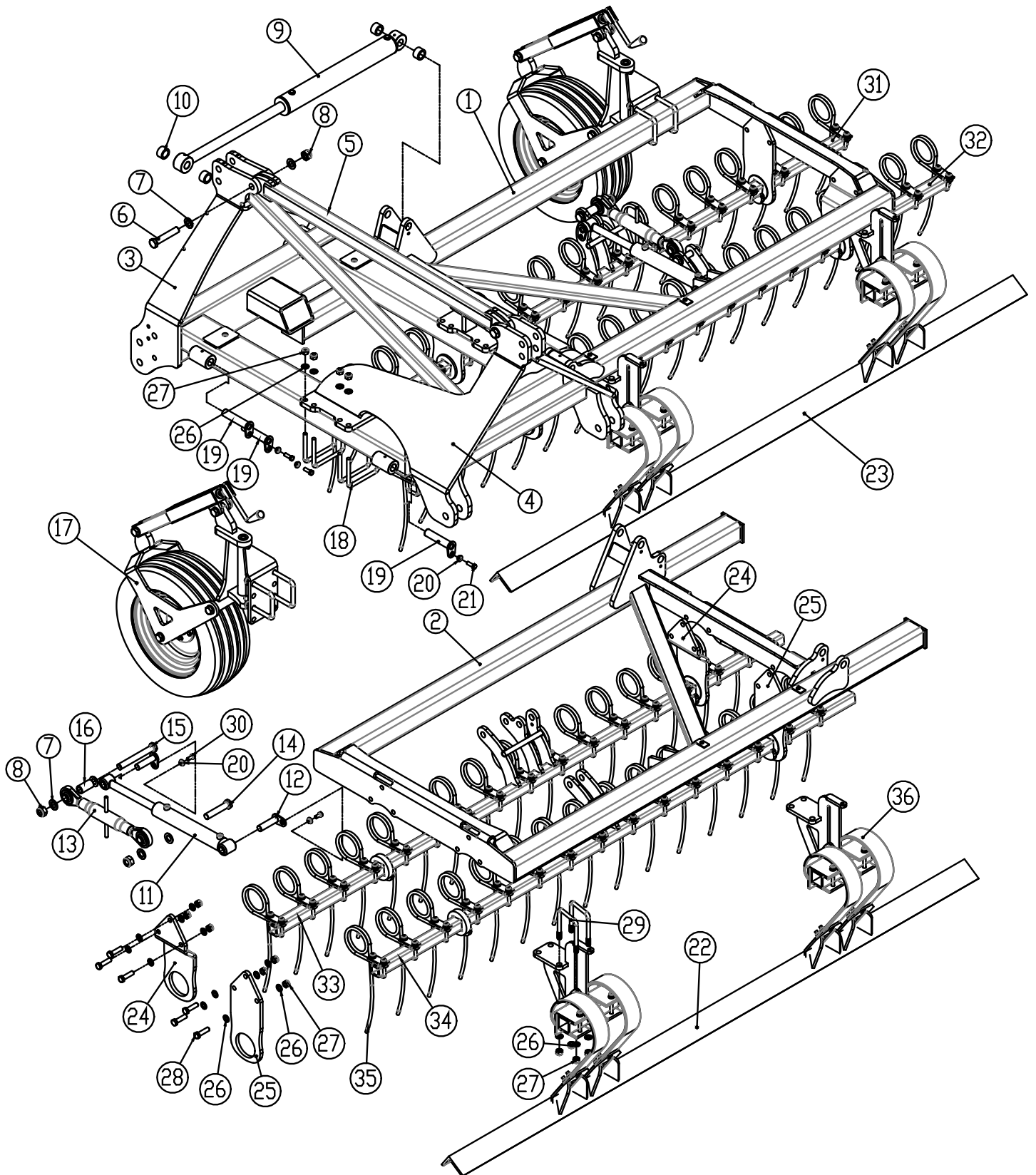
**6 meter hydraulic**





Pos.	Part no.	Description	6m
1	1275047	Left wing, 5 – 6 m	1
2	1275048	Right wing, 5 – 6 m	1
3	1275051	Main frame MK II	1
4	1275090	3-point linkage for rear mounting	1
5	1275087	Top-bar for rear mounting	1
6	0236440	Bolt M24x130 8.8	1
7	0272330	Facet washer Ø24 mm, fzb	12
8	0264130	Lock-nut M24 8.8 DIN985 fzb	2
9	690200060	Cylinder Ø70/Ø40 x 500	1
10	1275303	BK-pipe 45x7 L=26	4
11	0272290	Facet washer Ø16 DIN125B	80
12	0264090	Lock-nut M16	48
13	0382800	U-bolt M16x100x150x100	8
14	1275023	Cylinder 50/30 x 250	2
15	69525087F	Pin Ø25 L=87	3
16	69525095F	Pin Ø25 L=95	1
17	0378200	Ring pin Ø4,5	8
18	690302011	Top-link M36, 430 – 620 mm	2
19	69430140G	Pin Ø30 L=140	6
20	630532600	Lock bushing for pin head	6
21	0235350	Bolt M12x35 mm	6
22	1275082	Leveling bar rieght 6,0 m	1
23	1275081	Leveling bar left 6,0	1
24	675170026	Plate for heigth adjustment with bar, welded	8
25	675170025	Height adjustment for leveling bar	4
26	630327217	Rod with threads f/leveling bar	4
27	675170021	Nut for height adjustment, shaft Ø25 L=40	4
28	0422145	Springboard tine 80x10 mm	8
29	0422395	Mounting bracket for tine 90x14 – bar 60x60 mm	8
30	690103098	Bolt M12x110 mm 10.9	8
31	0248680	Carriage bolt M12x50 8.8	16
32	0272270	Facet washer 12mm DIN125B fzb	32
33	0264070	Lock-nut M12 DIN 985 fzb	24
34	1275073	Bar right front	1
35	1275074	Bar right rear	1
36	1275075	Bar left front	1
37	1275076	Bar left rear	1
38	1275021	Holder for bars	8
	0426110	Tine (page 11 pos. 34)	66

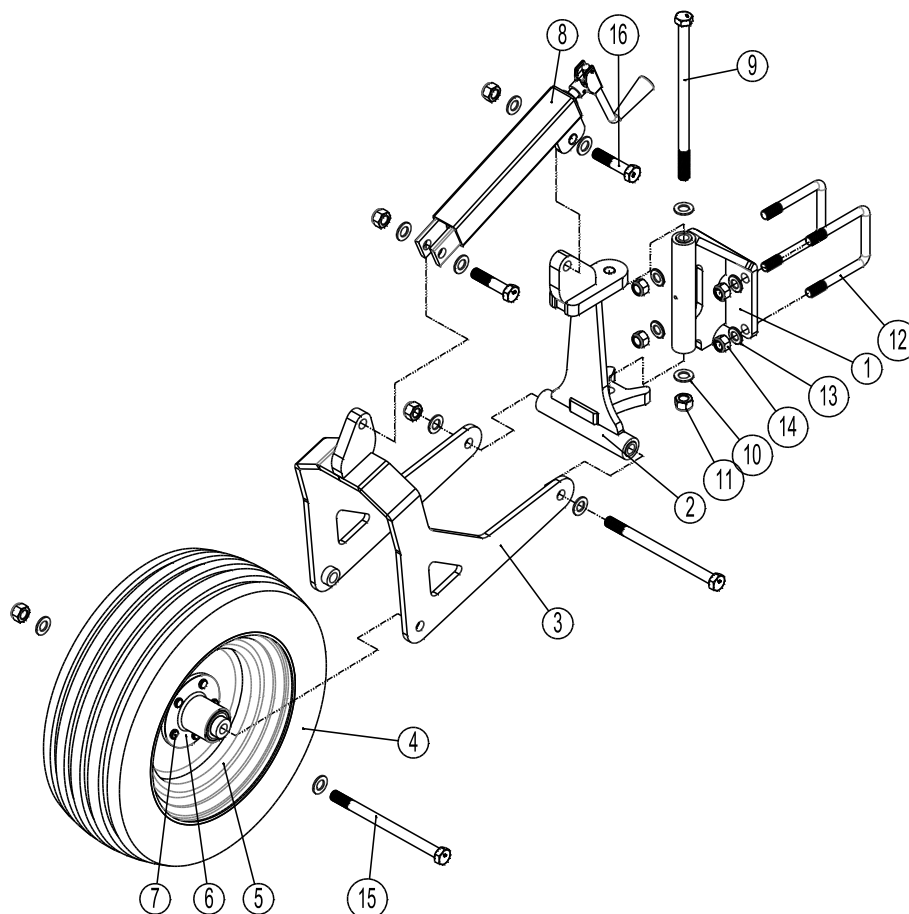


**5 and 6 meter Hydraulic (from machine no. 354650)**

Pos.	Part no.	Description	5 - 6m
1	1275864	Left wing, 5 – 6 m	1
2	1275865	Right wing, 5 – 6 m	1
3	1275051	Main frame MK II	1
4	1275090	3-point linkage for rear mounting	1
5	1275087	Top-bar for rear mounting	1
6	0236440	Bolt M24x130 8.8	2
7	0272330	Facet washer Ø24 mm, fzb	12
8	0264130	Lock-nut M24 8.8 DIN985 fzb	6
9	690200060	Cylinder Ø70/Ø40 x 500	1
10	1275303	Bushing 45x7 L=26	4
11	1290076	Cylinder 50/30 x 250	2
12	69525096G	Pin Ø25 L=96	4
13	690302011	Top-link M36, .430 – 620 mm	2
14	0236430	Bolt M24x120 8.8	2
15	0236500	Bolt M24x190 8.8	2
16	1335162	Spacer bushing for top-link Ø33,7x5,6 L=64	2
17	675170000	Support wheel (look at next section for parts)	2
18	0382800	U-bolt M16x100x150x100	8
19	69430140G	Pin Ø30 L=140	6
20	630532600	Lock bushing for pin head	10
21	0235350	Bolt M12x35 mm	6
22	1275082	Leveling bar rieght 6,0 m (for spare parts, look at page 13 - 17)	1
23	1275081	Leveling bar left 6,0 (for spare parts, look at page 13 - 17)	1
24	1275782	Holder for bar, bended	4
25	1275855	Holder for bar, straight	4
26	0272290	Facet washer Ø16	80
27	0264090	Lock-nut M16	56
28	0235840	Bolt M16x60	24
29	690110101	U-bolt M16x100x100x100	8
30	0235330	Bolt M12x25	4
31	1335141	Bar left rear, 6,0m	1
32	1335142	Bar left front, 6,0m	1
33	1335143	Bar rieght rear, 6,0m	1
34	1335144	Bar rieght front, 6,0m	1
31	1275860	Bar left rear, 5,0m	1
32	1275861	Bar left front, 5,0m	1
33	1275862	Bar rieght rear, 5,0m	1
34	1275863	Bar rieght front, 5,0m	1
35	0426110	Tand (se side 13 pos. 34)	66
36		Holder for leveling bar, (for spare parts see page 13 - 17)	

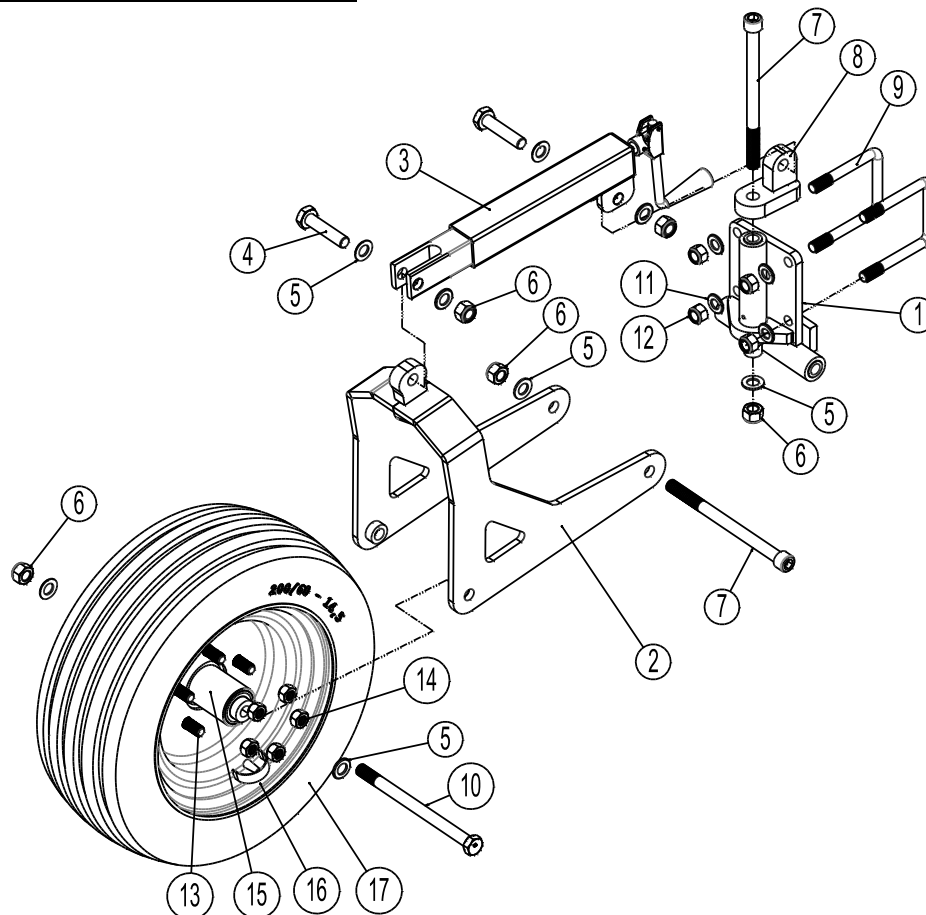


## Support wheel



Pos.	Part no.	Description	3m – 4m - 5m – 6m
1	675170015	Mounting bracket	1
2	675170014	Turnable console	1
3	675170013	Wheel suspension	1
4	0395630	Tyre 200/60 – 14,5” 10 ply	1
5	0395610	Rim 200/60 – 14,5” 5/80/115 w/valve protection	1
6	690141020	Hub for wheel 5-M12/80-115	1
		Bearing 6203 RS	2
	690141320	Wheel w/hub complete	1
7	0396460	Bolt for hub M18x1,5 L=49	5
8	690304105	Spindle for adjustment	1
9	690103284	Bolt M20x360 8.8	1
10	690117005	Facet washer Ø20	10
11	0264110	Safety nut M20	5
12	690110404	U-bolt M18x100x100x100	2
13	0272300	Facet washer Ø18	4
14	0264100	Safety nut M18	4
15	690103285	Bolt M20x280 8.8	2
16	0236180	Bolt M20x90 mm, 8.8 DIN931 fzb	2

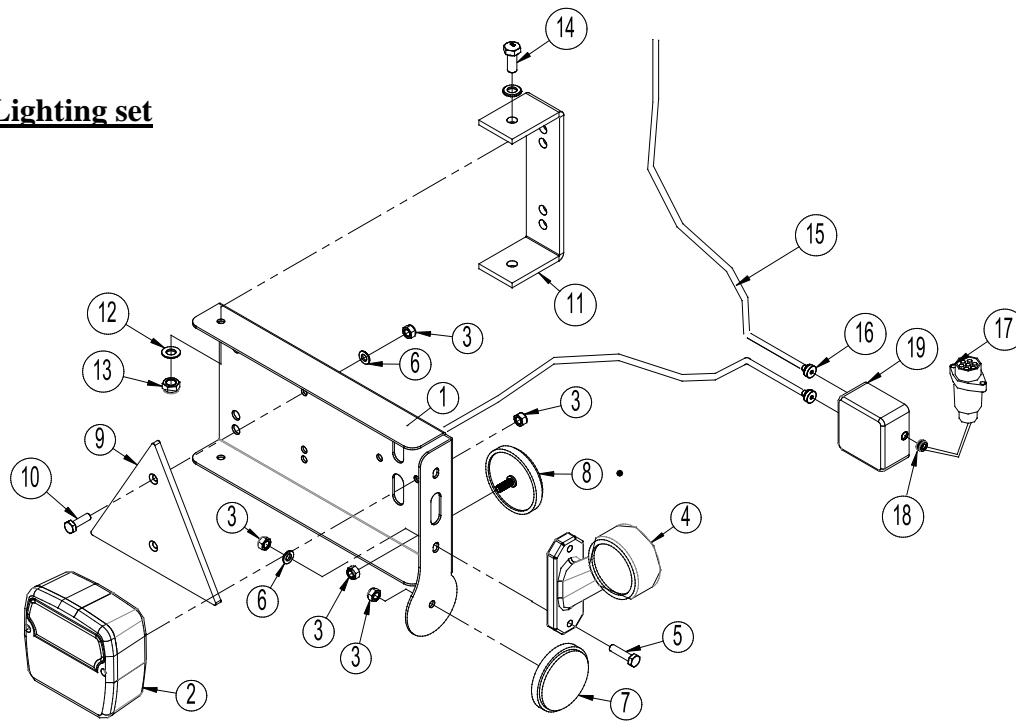


**Support wheel (only on previous models)**


Pos.	Part no.	Description	3m – 4m - 5m – 6m
1	676010430	Mounting bracket	1
2	676010410	Wheel suspension	1
3	690304105	Spindle for adjustment	1
4	0236180	Bolt M20x90 mm, 8.8 DIN931 fzb	2
5	0272310	Facet washer Ø20 DIN125B	8
6	0264110	Safety nut M20	5
7	690103209	Bolt M20x280 DIN912	2
8	676010424	Complete upper part	1
9	690110404	U-bolt M18x100x100x100	2
10	690103285	Bolt M20x280 8.8	1
11	0272300	Facet washer Ø18	4
12	0264100	Safety nut M18	4
13	0396460	Hub bolts M18x1,5 L=49	5
14	0396471	Hub nuts	5
15		Hub for wheel 5-M18/90-140	1
16	0395610	Rim 200/60 – 14,5 5/80/115 m/ventilbeslag	2
17	0395630	Tyre 200/60 – 14,5 10 ply	1
	690141320	Wheel w/hub complete	1



### LED - Lighting set

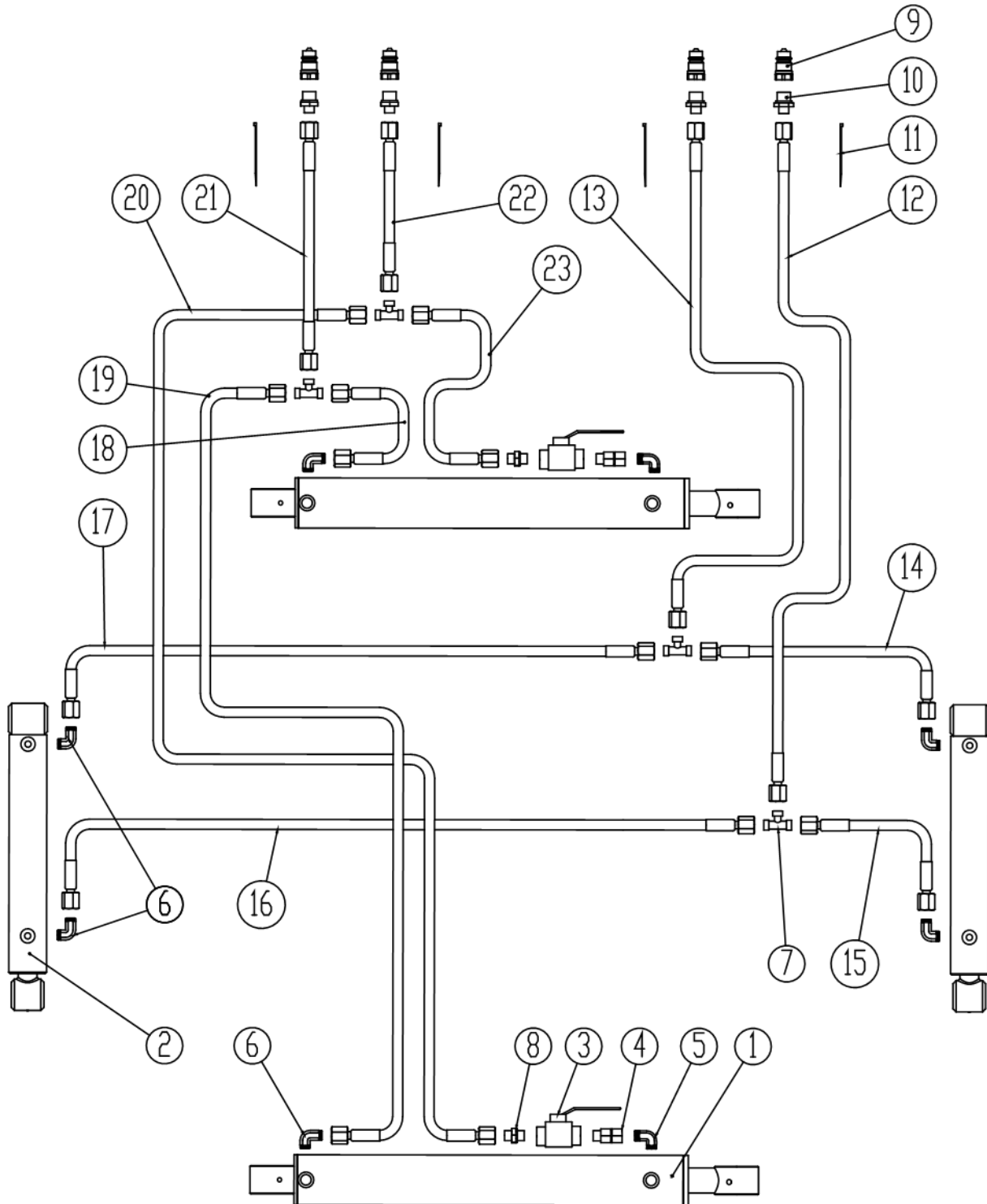


Pos.	Part no.	Description	Quantity
1	7357505	Lightbox (L)	1
	7357508	Lightbox (R)	1
2	7357504	Rear light	2
3	0264030	Locking nut M5	16
4	7357507	Marking lights (L)	1
	7357509	Marking lights (R)	1
5	0234340	Bolt M5x25	4
6	0272240	Facet plate Ø5	8
7	0656240	Reflex, yellow	2
8	0656250	Reflex, white	2
9	692160017	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 <sup>2</sup> (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

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



## Hydraulic





Pos.	Part no.	Description	All 2-sections
1	690200060	Cylinder 70/40 x 500	1
2	1275023	Cylinder 50/30 x 250	2
3	0442350	Ballvalve 3/8"	1
4	690203130	Fitting adjustable 12 mounted w/ O-ring	1
5	690203106	Fitting 90° 12-3/8" BSP	1
6	690203006	Fitting 90° 10-3/8" BSP	5
7	690203015	Connecter T10	2
8	0446751	Fitting straight Ø10 x 3/8"	1
9	0444020	Quick coupling 1/2", han	4
10	0446752	Fitting straight Ø10 x 1/2"	4
11	-	Straps, 2 pc. green, 2 pc. Green	2
12	-	Straps, 2 pc. green, 2 pc. Blue	2
13	690201033	Hydraulic hose 1/4" L = 2500 mm	1
14	690201033	Hydraulic hose 1/4" L = 2500 mm	1
15	0454250	Hydraulic hose 1/4" L = 1010 mm	1
16	0454250	Hydraulic hose 1/4" L = 1010 mm	1
17	0454250	Hydraulic hose 1/4" L = 1010 mm	1
18	0454250	Hydraulic hose 1/4" L = 1010 mm	1
19	0454211	Hydraulic hose 1/4" L = 710 mm	1
20	690201033	Hydraulic hose 1/4" L = 2500 mm	1
21	0454645	Hydraulic hose 1/4" L = 2300 mm	1
22	0454591	Hydraulic hose 1/4" L = 2000 mm	1
23	0454591	Hydraulic hose 1/4" L = 2000 mm	1
24	0454211	Hydraulic hose 1/4" L = 710 mm	1

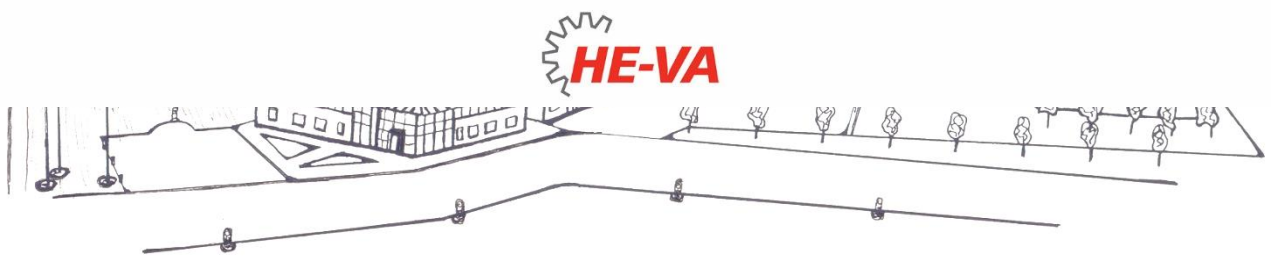
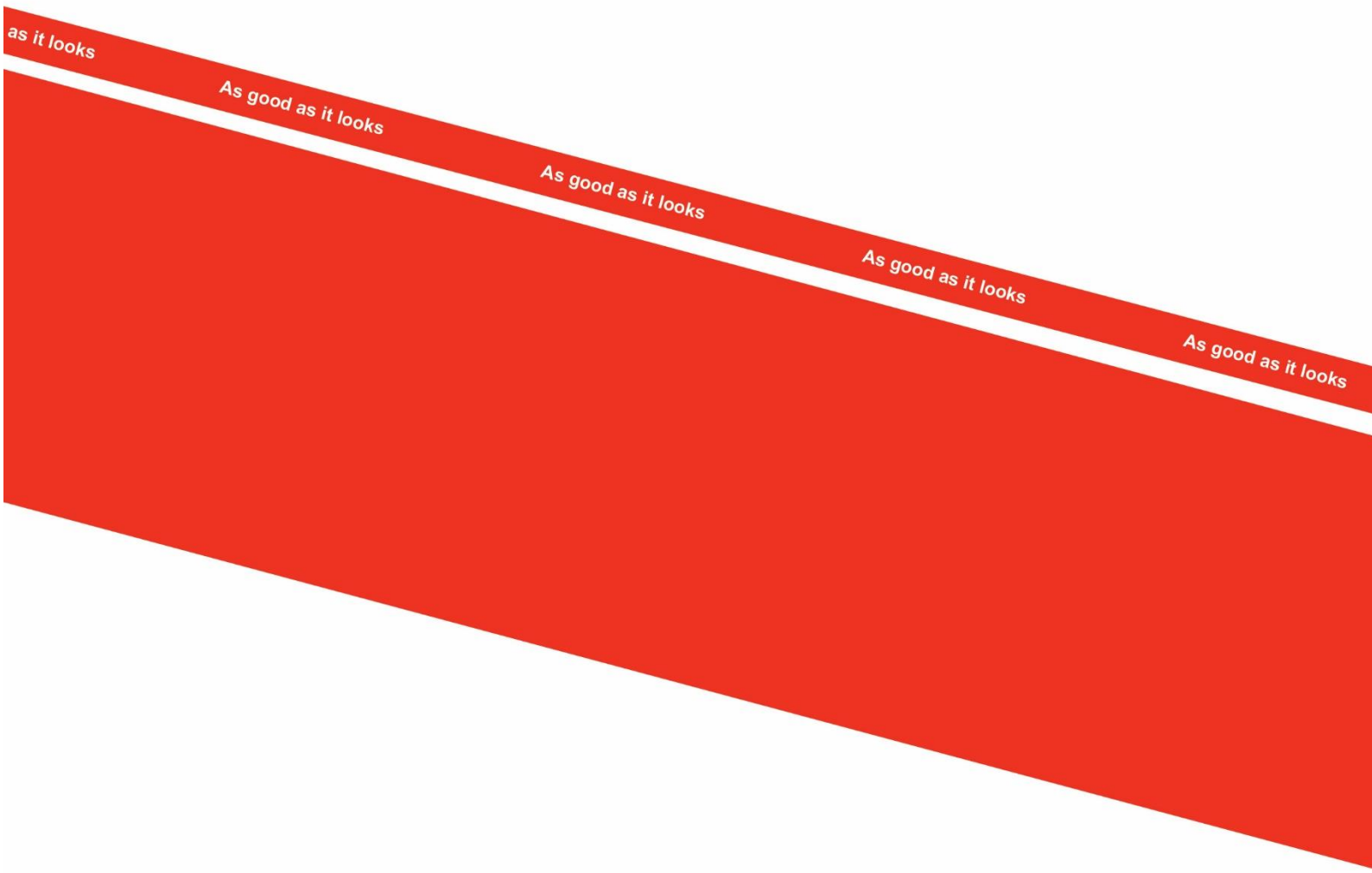












The design is subject to modification without notice.