



UK

Declaration of Conformity
Instruction Manual
Spare Parts List

Swing - Roller
10,2 m & 12,2 m



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



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Contents

EC-DECLARATION OF CONFORMITY	2
1. DELIVERY CHECK.....	3
1.1 FIELDS OF APPLICATION	3
1.2 DELIVERY CHECK.....	3
2. MACHINE DESCRIPTION	4
2.1 TECHNICAL SPECIFICATIONS.....	4
3. MOUNTING INSTRUCTION.....	5
3.1 MOUNTING OF POLE AND ROLLER BLOCKS.....	5
3.2 SUPPORTING BAR (FIRST ADJUSTMENT)	6
3.3 REVERSING VALVES	6
4. INSTRUCTION MANUAL	7
4.1 COUPLING AND UNCOUPLING	7
4.2 FOLDING OUT AND FOLDING.....	8
4.3 ROLLING	9
4.4 LUBRICATION.....	9
4.5 ADJUSTMENT	10
4.6. TIGHTENING UP	10
4.7. CLEANING	10
5. SAFETY INSTRUCTIONS	11
5.1 GENERAL INFORMATION	11
5.2 INSTRUCTIONS ON TRANSPORT ON PUBLIC ROADS	11
5.3 FRONT AXLE LOAD	11
5.4 SAFETY – AND OTHER MARKINGS ON THE MACHINE.....	12
6. SPARE PART LIST	13
6.1. POLE, CHASSIS, CENTRE LINK, WHEEL FRAME, ETC.....	13
6.2 INNER WING, INNER LINK, OUTER WING AND OUTER LINK	17
6.3 SHAFT AND BEARINGS	20
7. ROLLER RINGS.....	21
8. HYDRAULICS.....	22
8.1 HYDRAULIC DIAGRAM.....	24
9. BRAKES	25
9.1 HYDRAULIC BRAKE	25
9.2 TRYKLUFTSBREMSE	26
10. LED – LIGHT SET.....	28
10.2 LIGHTING SET: EL. DIAGRAM	29
NOTES.....	30



EC-DECLARATION OF CONFORMITY

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

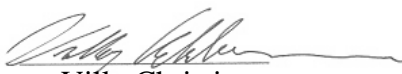
HE-VA ApS
N. A. Christensensvej 34,
DK-7900 Nykøbing Mors

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

The declaration comprises the following machine:

Swing – Roller 10,2 m – 12,2 m

Nykøbing the 1th June 2011



Villy Christiansen

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

1. Delivery Check

1.1 Fields of application

Swing-Roller is a 5-sectional hydraulic roller. Swing-Roller packs the ploughed soils while consolidating it to press stones into the ground. Swing-Roller is available in working widths of 10.2 m or 12.2 m and with 6 different ring types

The independent centre-suspended sections ensure a flexible roller which follows the contours of the field – the centre section has the same flexible independent abilities.

5-section rollers have SAT system independent flotation on all 5 sections thanks to the additional spring system built into the end section pivots and centre roll. This ensures a uniform soil pressure in the entire working width.

Although designed to cope easily with bigger farms, and larger hp based systems, the 5 sections rollers are still easy to handle – simple to fold and capable of devouring many acres of work in the day.

1.2 Delivery check

Both upon receipt by the dealer/supplier and by the purchaser the roller is to be checked for damages.

Check the hydraulic hoses for cuts or squeezing damages. Check further that the other hydraulic components have not been damaged during transport.

Check that the frame construction has not been damaged. Furthermore, you should check that the roller blocks have not been exposed to impacts which may have damaged the cast roller rings or the double sealed ball bearings.

Finally check the air pressure in the tyres (approx. 3.8 bar/55 psi).

2. Machine Description

5-link hydraulic wheel-mounted field roller with free movability in all links. Used for rolling of stones and packing of the top stratum of earth. The roller is available with working widths of 10.2 m or 12.2 m and with 5 different ring types: Cambridge rings, cam rings, Crosskill rings, plain and corrugated rings.

2.1 Technical Specifications

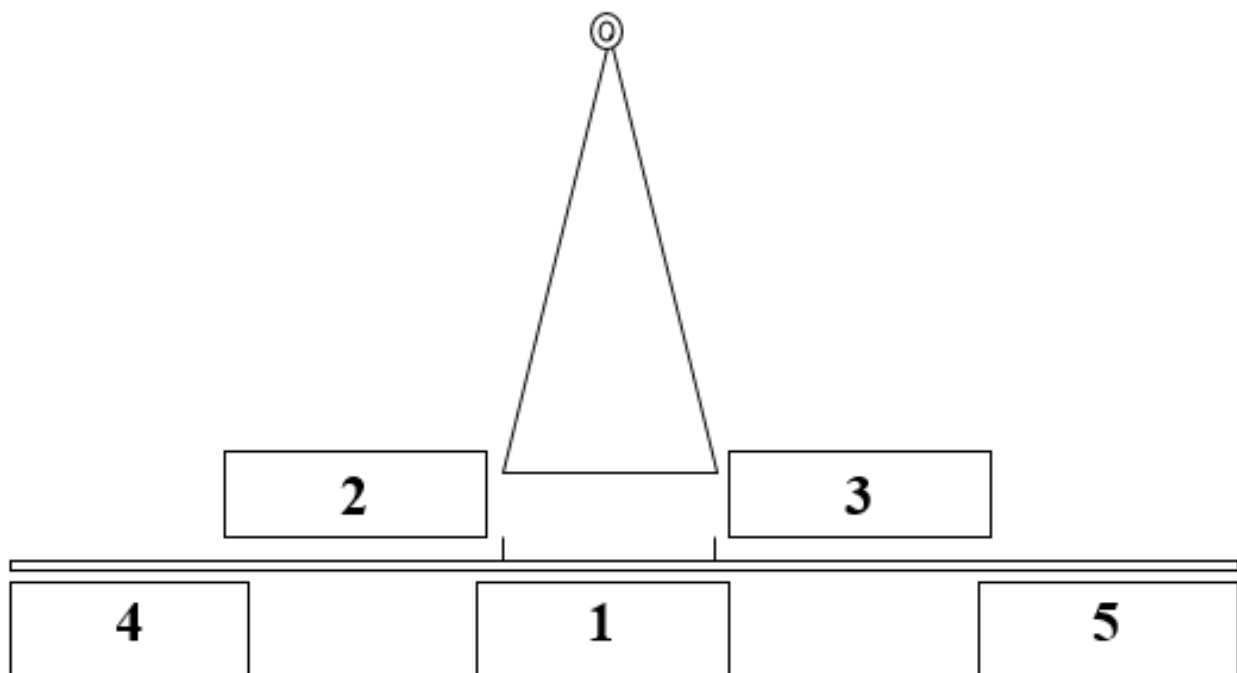
Technical Specifications	10,2 m		12,2 m	
Working width	10,2 m		12,2 m	
Total width (folded out)	10,5 m		12,5 m	
Length	5,8 m		5,8 m	
Transport width	2,7 m		2,7 m	
Transport height	2,0 m		2,0 m	
Pressure on towing eye in transport position (% of total weight)	Ca. 40%		Ca. 40%	
Wheel mounting, standard	400/60x15,5 – 14 PLY		400/60x15,5 – 14 PLY	
Tyre pressure	3,8 bar /55 psi		3,8 bar /55 psi	
Power requirements	Min 125 Hk/95 kW		Min 125 Hk/95 kW	
Requirements for the tractor hydraulics:				
Oil pressure	Min. 150 bar		Min. 150 bar	
Oil tap	2 double-acting		2 double-acting	
Quick couplings, standard	Sterlingtype E402		Sterling type E402	
Hydraulic oil: The system is filled with	Hydro Texaco HD32		Hydro Texaco HD32	
Ring type:	No of rings	Weight Kg	No of rings	Weight Kg
480 mm/18" Cambridge	199	4700	235	5230
510 mm/21" Cambridge	199	5400	235	6070
550 mm/22" Cam ringe	71	4090	85	4550
485-530 mm Crosskill	105	4670	125	5300
500 mm 2D-Corrugated	125	4890	150	5460
505 mm Planring	35	4280	40	4680

3. Mounting Instruction

To minimise the freight dimensions of the roller it will be supplied partly disassembled by the manufacturer. Therefore it must be assembled by the distributor before delivery to the purchaser.

3.1 Mounting of Pole and Roller Blocks

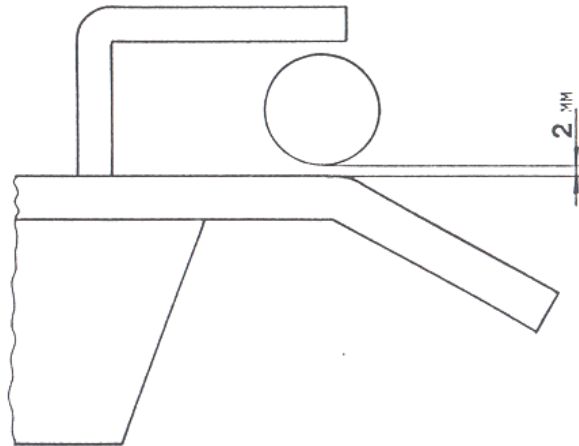
1. The pole is mounted (8 off M20 x 65 mm quality 8.8).
The bolts are tightened with a moment of 380 Nm (38 kgm).
2. After the mounting of the pole, the roller is coupled to the tractor. **As the back part of the roller will be heavy** when folded out, the tractor must be provided with fork-shaped drawbar or protection above the draw hook (ref. Section 4.1. / page 9).
3. The roller is folded out to working position (ref. Section 4.2. / page 10). However, do not lift the wheel frame. This must be pushed **totally** to back position against the stop.
4. The roller blocks are lifted up under the frame and mounted in the order shown below.



Adjustment

3.2 Supporting Bar (First Adjustment)

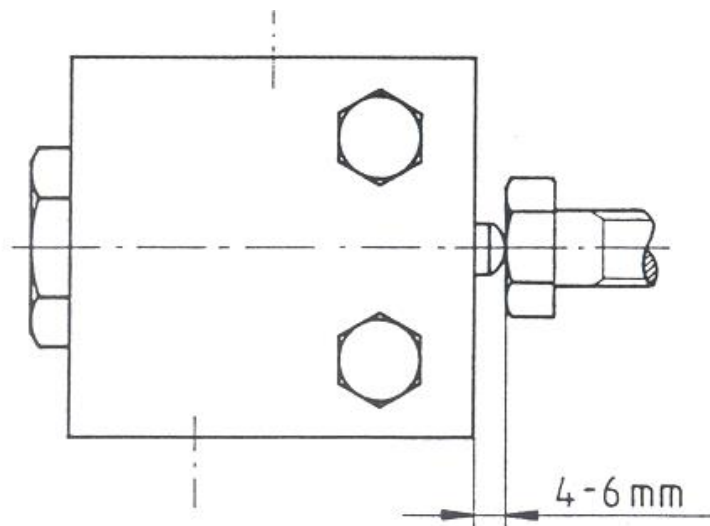
After having mounted the roller blocks the roller is folded into transport position (ref. Section 4.2.), and then the supporting bar is adjusted as shown on the sketch below. When the roller has been folded out and folded a few times, the pins will be arranged on the supporting bar and thus carry the side sections during transport.



3.3 Reversing Valves

The reversing valve at the wheel frame is adjusted with the roller in folded condition, and the reversing valve at the left inner wing is adjusted with the roller folded out.

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4. Instruction Manual

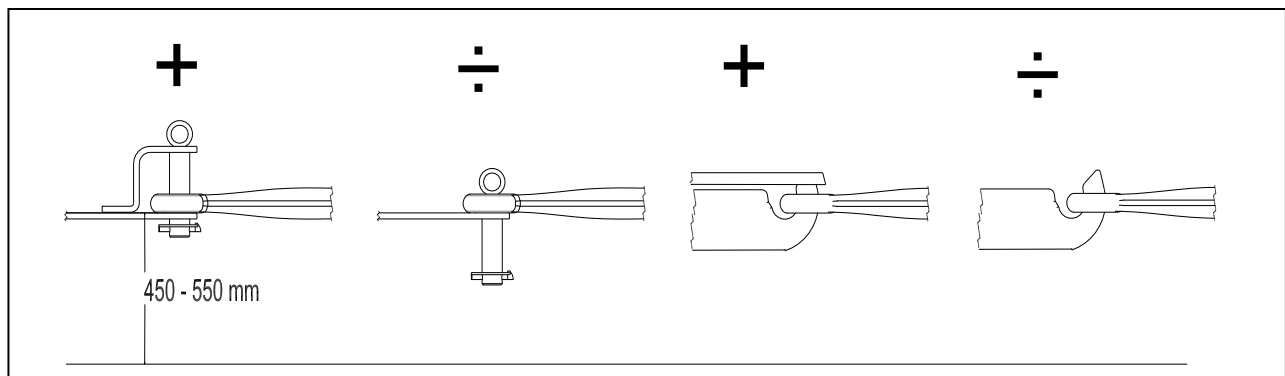
4.1 Coupling and Uncoupling

Coupling

The manufacturer delivers the roller in transport position. When coupling the roller it must be checked that the drawbar height is 450-550 mm. Back the tractor to the roller, put in the towing bolt and fasten.

WARNING !

As the back part of the roller will be heavy when folding and folding out the roller, the roller must be coupled in **fork-shaped drawbar** or with a **protection above the draw hook**.



The support leg is turned up and placed in the transport mountings on top of the pole. Now the 4 hydraulic hoses must be mounted. The roller requires 2 double-acting oil taps.

Red dust caps: Folding out/folding of the side sections and lifting/lowering of wheel frame.

Blue dust caps: Folding out/folding of outer links.

IMPORTANT !

Check that the quick couplings mounted by the manufacturer fit in the tractor quick couplings.

Uncoupling

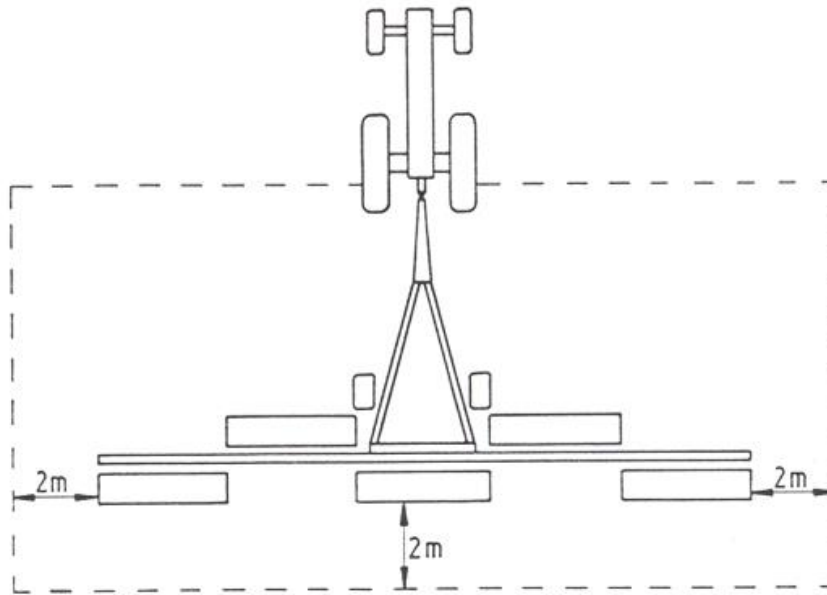
When uncoupling the roller, remove the hydraulic hoses at first. **REMEMBER** to mount the dust caps. The supporting leg is moved from the transport mountings to the mountings under the pole and turned down. Finally remove the towing bolt.

4.2 Folding Out and Folding

When folding out and folding the roller, the tractor must be stopped on a horizontal surface. When the wheel frame is lifted and lowered, the tractor must be capable of rolling freely.

IMPORTANT !

Before folding out/folding the roller make sure that no persons are standing within the safety zone shown.



Folding Out

First remove the safety pins from the supporting bar.

Then turn the side sections to the back against the stop (red dust caps). When the side sections are in position, the oil flow will automatically change to the wheel frame which is pulled forwards and upwards.

When the wheels have been pulled up, the other oil tap is activated (blue dust caps), and the outer links are lifted into working position. When the outer link cylinders have been pushed totally out, the roller is ready for use.

Folding

First lift the outer links from working position to transport position (blue dust caps). Then the wheel frame is activated (red dust caps) which will move downwards and backwards to the stop. The oil flow will now automatically change to the side sections which are turned forwards and in position in the supporting bar mountings.

REMEMBER to mount the safety pins.

4.3 Rolling

Speed: max. 10 km/h.

When turning, the driving should as far as possible be made in large curves. The turning should not be so sharp that all roller rings cannot still rotate forward.

The wheels may only be lowered in connection with folding into transport position.

Do not drive over large and earthfast stones.

4.4 Lubrication

After every approx. 10 hours of operation the following must be lubricated:

- the suspension of the individual roller links (2 places per link except for the centre link. Totally 8 places)
- the hinging of the outer wings on the inner wing (4 places)

After every approx. 30 hours of operation the following must be lubricated:

- the bottom of the spring link (2 places)
- the swing arm between the inner wings and the outer wings (2 places)
- the vertical hinge of the inner wings (4 places)
- the ball bearings (10 places)
- the cylinders (10 places)
- the hinging of the wheel frame on the chassis (2 places)

Once a year the following must be lubricated:

- the supporting leg (2 places)

IMPORTANT !

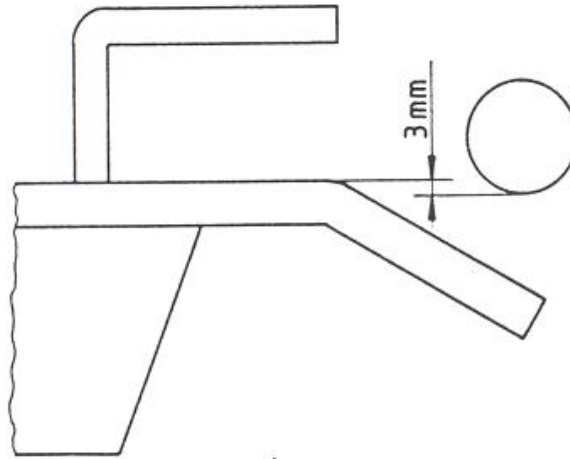
The ball bearings should only be lubricated with 1-2 strokes as the sealing rings could otherwise be pressed out.

The adjusting screws and supporting bar surfaces must be greased.

4.5 Adjustment

Supporting Bar

When the roller is delivered, the supporting bar is adjusted as described in Section 3.2. After a few hours of use the pins will be arranged on the supporting bar and thus carry the side sections during transport. After every 100 hours of operation or as a minimum once a year, the supporting bar must be adjusted as shown below:



Reversing Valve

After every 100 hours of operation or as a minimum once a year the reversing valves must be adjusted as described in Section 3.2.

4.6. Tightening up

After the first approx. 10 hours of operation and then after every 100 hours of operation, all bolts, wheels, ball bearings and stop rings must be tightened up. Hoses, fittings and cylinders must be checked for possible leaks and further tightened.

4.7. Cleaning

After the season the roller should be cleaned. This is easily done with a high-pressure cleaner. Make sure that all earth and dirt particles are removed. Do not use high-pressure water directly on ball bearings, cylinders, lubricating nipples and link connections as this may cause water to penetrate these items. After the washing all lubricating points must be lubricated and the wheel frame cylinder greased. When the roller is dry it can be sprayed with oil.

REMEMBER !

Correct use, lubrication, adjustment, cleaning and storage will contribute to extending the life of the roller and will result in a higher resale price.

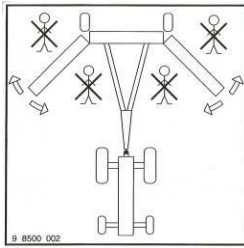
5. Safety instructions

5.1 General information

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

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

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



***Persons in exposed positions: Any person who is wholly or partly within a hazardous area.**

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

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

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

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

5.2 Instructions on transport on public roads

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

The transport wheels and construction of the Swing-Rollers were designed for maximum speeds of 30 km/h.

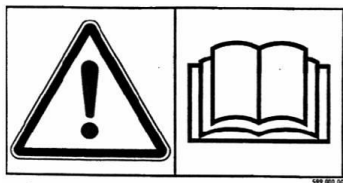
If this speed is exceeded, all warranty claims are repealed.

5.3 Front axle load

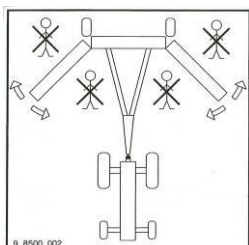
After the attachment of the machine and at maximum load, the driving properties of the tractor must be checked. Check that the front axle is sufficiently loaded. As a minimum, the front axle load must be 20% of the tractor weight. Permitted axle load and permitted total weight for the tractor must always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

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

5.4 Safety – and other markings on the machine



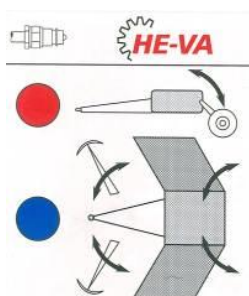
Study the Operating Instructions thoroughly before any operation of the machine and observe all safety instructions



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



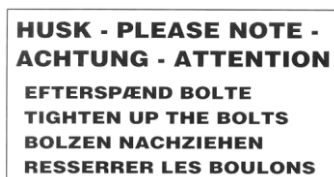
Plate with number and year of manufacture



Indication label for the machine's hydraulic systems

Red: folding the side sections and raising / lowering of the wheelset

Blue: Out / folding the outer sections

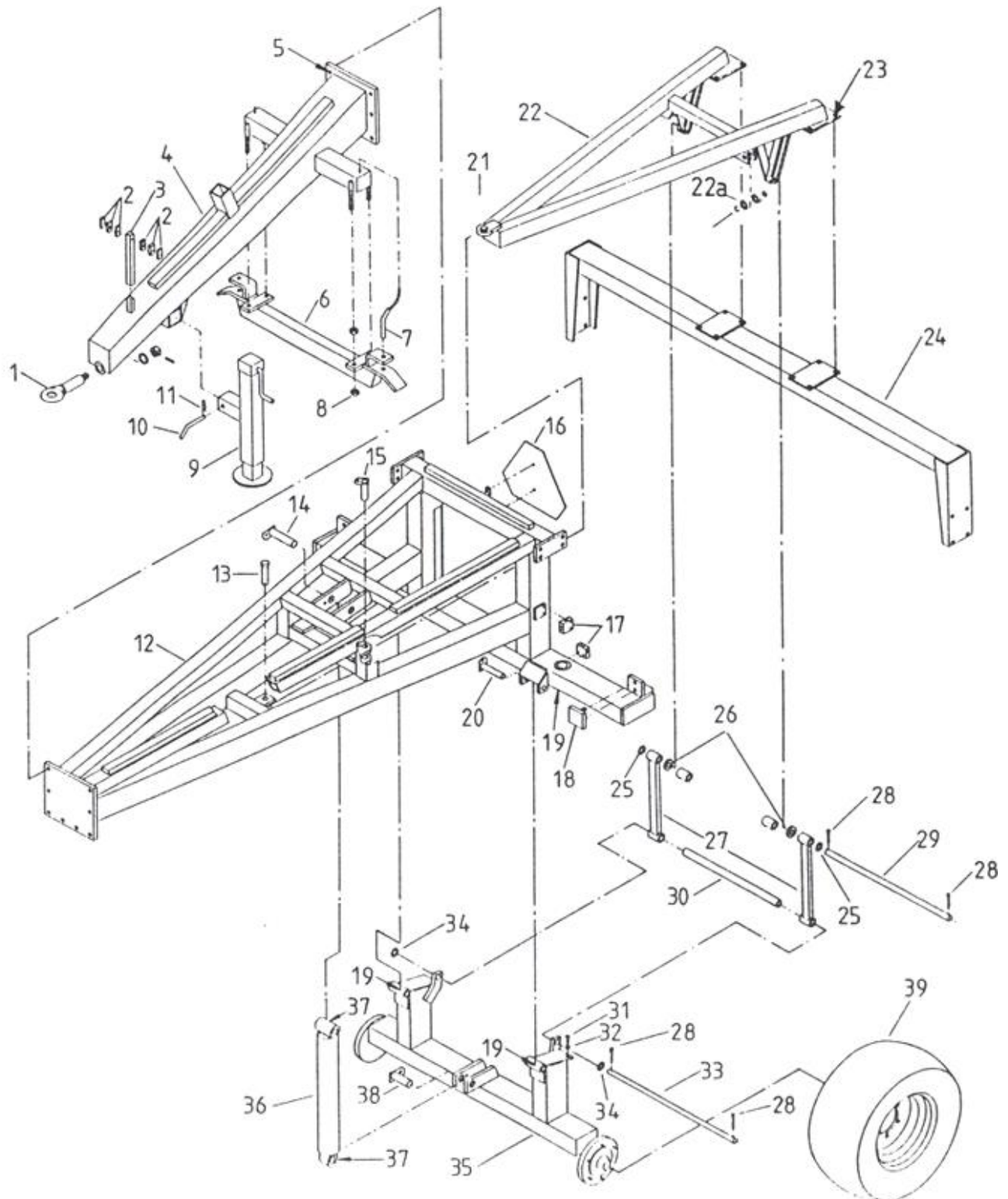


Tighten up the bolts regularly. If this is not performed, our warranty obligations will no longer apply.

Maximum torque in Nm. w/lubricated thread			
Metric thread	Quality 8.8	Quality 10.9	Quality 12.9
M12	81	114	136
M14	128	181	217
M16	197	277	333
M18	275	386	463
M20	385	541	649
M22	518	728	874
M24	665	935	1120

6. Spare Part List

6.1. Pole, Chassis, Centre Link, Wheel Frame, etc.

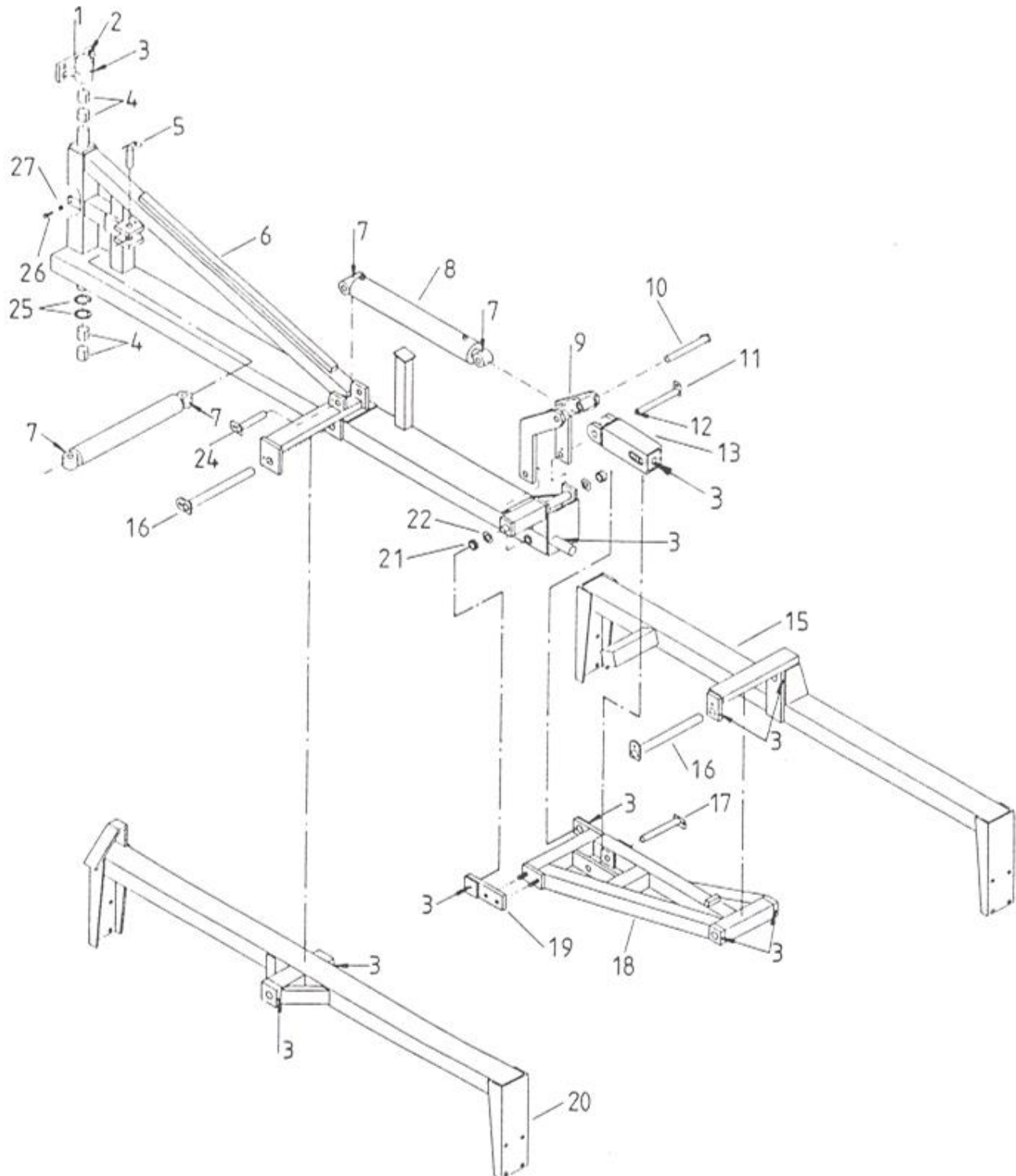


Pos.	Varenr.	Betegnelse	10,2m	12,2m
1	690141211	Towing eye with plate, nut and pin	1	1
2	690210210	Double hose holder, ø14	4	4
2	690210211	Top plate	2	2
2a	690103061	Bolt, M8 x 110	1	1
2b	690113004	Self-locking nut, M8	1	1
3	630531500	Column for hose holder	1	1
4	630980100	Pole (shown)	1	1
4	630980200	Pole for high drawing, German	1	1
5	690103147	Bolt, M20 x 65, qual.. 8.8	8	8
5	690113008	Self-locking nut, M20	8	8
6	630980300	Supporting bar	1	1
7	630980400	Safety pins with chain	2	2
7a	690117003	Faceted plate, ø6	2	2
7b	690113003	Self-locking nut, M6	2	2
8	690112009	Nut, M20	8	8
9	690141102	Supporting leg	1	1
10	630552100	Supporting leg pin	1	1
11	690133005	Split-pin, ø4	1	1
12	630980500	Chassis	1	1
13	690303001	Pin, ø25, l=92 mm	1	1
13	69525097J	Pin, ø25, l=102 mm	1	1
13a	690134003	Ring cotter pin, ø8	1	1
14	630983300	Pin, ø40, l=160 mm	1	1
14a	690101101	Set screw, M12 x 25	1	1
14b	690117006	Faceted plate, ø12	1	1
14c	630532500	Bushing, ø17/ø13, l=6,5 mm	1	1
15	630983600	Pin, ø30, l=92 mm	1	1
15a	690101101	Set screw, M12 x 25	1	1
15b	690117006	Faceted plate, ø12	1	1
15c	630532500	Bushing, ø17/ø13, l=6,5 mm	1	1
16	690142001	Warning triangle	1	1
16a	690103014	Bolt, M5x20	2	2
16b	690117002	Faceted plate, ø5	2	2

Pos.	Varenr.	Betegnelse	10,2m	12,2m
16c	690113002	Self-locking nut, M5	2	2
17	690207101	End stop valve, FC 10	2	2
17a	690103051	Bolt, M8 x 45	4	4
17b	690119004	Spring washer, ø8	4	4
18	630981600	Stop block	2	2
18a	690113009	Self-locking nut, M20	4	4
19	690136029	Lubricating nipple, M8 x 1,25	4	4
20	630983500	Pin, ø30, l=160 mm	2	2
20a	690101101	Set screw, M12 x 25	2	2
20b	690117006	Faceted plate, ø12	2	2
20c	630532500	Bushing, ø17/ø13, l=6,5 mm	2	2
21	690302104	Ball joint for welding , ø25	1	1
22	630984500	Triangle for centre link	1	1
22a	690103151	Bolt, M20 x 90 qual. 8.8	2	2
22a	690113009	Self-locking nut, M20	2	2
22b	690117009	Faceted plate, ø21 / ø37	4	4
22c	9 0140 404	Ballbearing, 6304 2RS END	4	4
22c	630984502	Side guide roller Ø56/Ø20,5 L=30	2	2
23	690103126	Bolt, M16 x 45	8	8
23	690113008	Self-locking nut, M16	8	8
24	3 0981 300	Centre link for roller with ø50 shaft END	1	1
24	630981400	Centre link for roller with ø60 shaft	1	1
25	690115012	Plate, ø30 / ø56	2	2
26	630981000	Platee, ø31 / ø55, t=10 mm	2	2
26a	630984503	Track guide roller Ø54/Ø30,5 L=40	2	2
27	630980800	Connecting rod	2	2
28	690132046	Iron cotter pin, ø6 x 40	4	4
29	630981100	Pin, ø30, l=890 mm	1	1
30	630980700	Tube, ø34 / ø , l=695	1	1
31	690101103	Set screw, M12 x 35	1	1
32	690112006	Nut, M12	1	1
33	630980900	Pin, ø25, l=915	1	1
34	690115011	Plate, ø25 / ø44	2	2

Pos.	Varenr.	Betegnelse	10,2m	12,2m
35	630980600	Wheel frame (before serie No: 333800)	1	1
35.1	630980610	Wheel frame (from serie No: 333800)	1	1
35.1	630980700	Wheel frame with brake	1	1
35a	690141110	Wheel hub, 6 / 160 / 205	2	2
35a	690141032	Wheel hub, w/brake TVZ (3750 kg)	2	2
35f	690141114	Wheel bolts, M18 x 1,5, l=49mm	12	12
35g	690141115	Wheel nuts, M18	12	12
35h	690141034	Hub cap Ø90	2	2
36	690200100	Cylinder, 100 / 50 x 600	1	1
37	690136001	Lubricating nipple, ø6	2	2
38	630983400	Pin, ø40, l=105 mm	1	1
38a	690101101	Set screw, M12 x 25	1	1
38b	690117014	Faceted plate, ø12	1	1
38c	630532500	Bushing, ø17/ø13, l=6,5 mm	1	1
39	690141330	Wheel, complete, 14.0/65 x 16 14 pr.	2	2
39.1	690141335	Wheel, compl., 400/60 x 15.5 14 pr. (serie No. 333800)	2	2

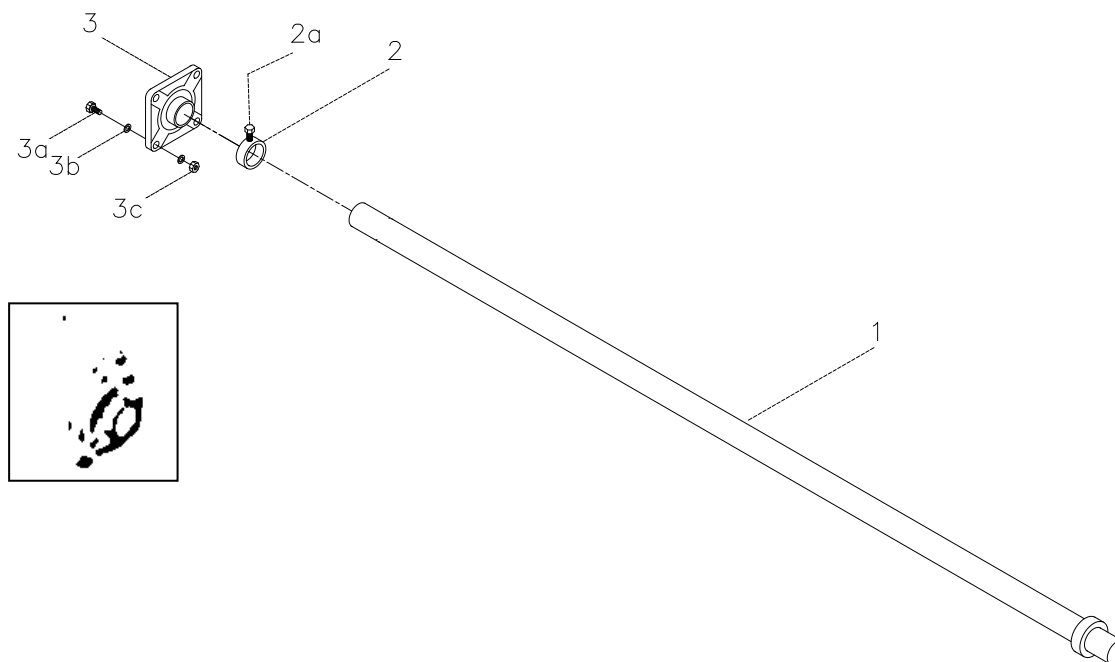
6.2 Inner Wing, Inner Link, Outer Wing and Outer Link



Pos.	Varenr.	Betegnelse	10,2m	12,2m
1	630981500	End bracket for inner wing	2	2
2	690103147	Bolt, M20 x 65 qual. 8.8	8	8
2	690113009	Self-locking nut, M20	8	8
3	690136029	Lubricating nipple, M8 x 1,25	18	18
4	690140710	Bearing bushing, $\phi 50/\phi 55$, l=50 mm	8	8
5	630983600	Pin, $\phi 30$, l=92 mm	2	2
5a	690101101	Set screw, M12 x 25	2	2
5b	690117014	Faceted plate, $\phi 12$	2	2
5c	630532500	Bushing, $\phi 17/\phi 13$, l=6,5 mm	2	2
6	630984800	Inner wing, left for 12.2 m (shown)	0	1
6	630984700	Inner wing, right for 12.2 m	0	1
6	630971200	Inner wing, left for 10.2 m	1	0
6	630971100	Inner wing, right for 10.2 m	1	0
7	690136001	Lubricating nipple, $\phi 6$	8	8
8	690200110	Cylinder, 100 / 50 x 600, $\phi 30$ / $\phi 30$	2	2
9	630982300	Swing arm for outer wing, left (shown)	1	1
9	630982400	Swing arm for outer wing, right	1	1
10	630983900	Pin, $\phi 30$, l=252 mm	2	2
11	630983800	Pin, $\phi 30$, l=252 mm, thread at the end	2	2
12	690101101	Set screw, M12 x 25	2	2
12	690119006	Spring washer, $\phi 12$	2	2
12	690120007	Plate, $\phi 13$ / $\phi 37$, t=3 mm	2	2
13	630984600	Spring link	2	2
15	630982900	Outer link, left f.12.2 m, $\phi 50$ shaft (shown) END	0	1
15	630983000	Outer link, left for 12.2 m, $\phi 60$ shaft	0	1
15	630983100	Outer link, right for 12.2 m, $\phi 50$ shaft END	0	1
15	630983200	Outer link, right for 12.2 m, $\phi 60$ shaft	0	1
15	630970500	Outer linke, left for 10.2 m, $\phi 50$ shaft END	1	0
15	630970600	Outer link, left for 10.2 m, $\phi 60$ shaft	1	0
15	630970700	Outer link, right for 10.2 m, $\phi 50$ shaft END	1	0
15	630970800	Outer link, right for 10.2 m, $\phi 60$ shaft	1	0
16	69440425G	Pin, $\phi 40$, l=425 mm	4	4
16a	690101101	Set screw, M12 x 25	4	4

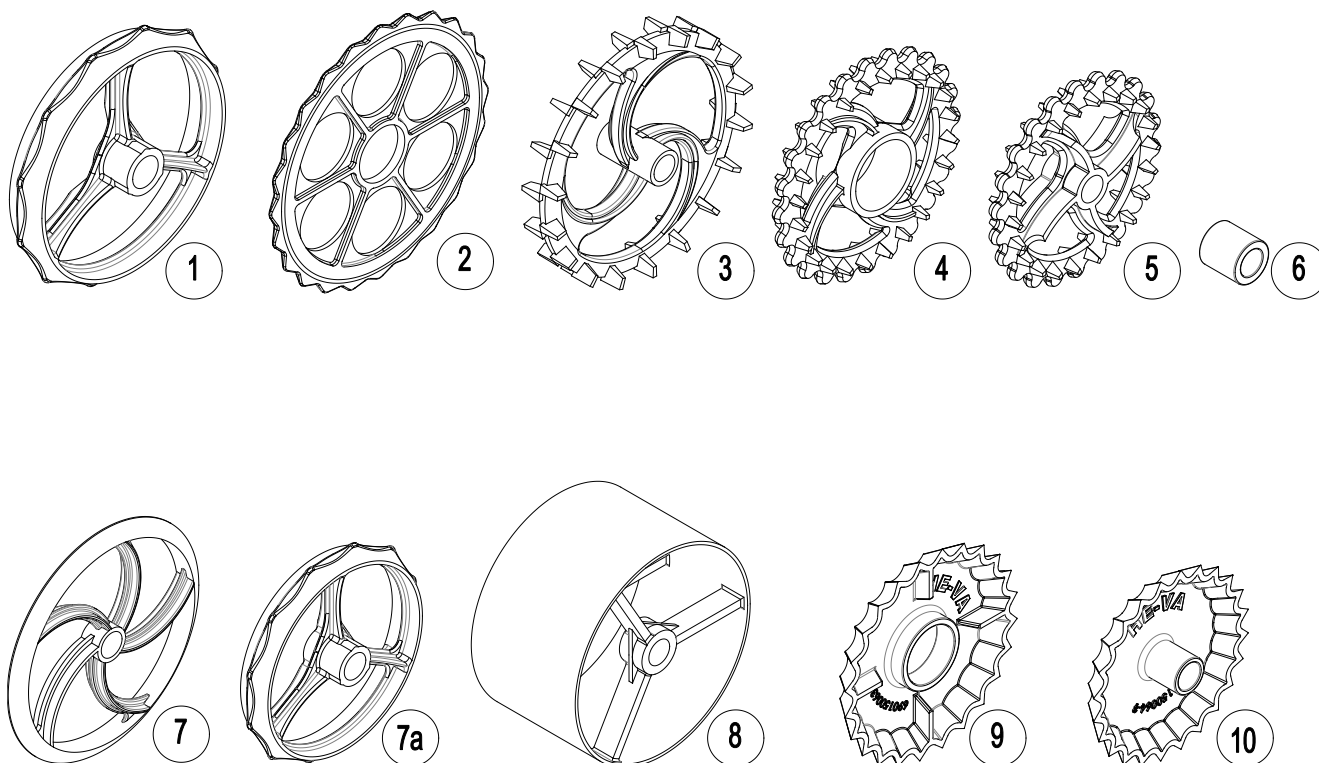
Pos.	Varenr.	Betegnelse	10,2m	12,2m
16b	690117014	Faceted plate, $\varnothing 12$	4	4
16c	630532500	Bushing, $\varnothing 17/\varnothing 13$, l=6,5 mm	4	4
17	630984000	Pin, $\varnothing 30$, l=235 mm	2	2
17a	690101101	Set screw, M12 x 25	2	2
17b	690117014	Faceted plate, $\varnothing 12$	2	2
17c	630532500	Bushing, $\varnothing 17/\varnothing 13$, l=6,5 mm	2	2
18	630982600	Outer wing, left for 12.2 m (shown)	0	1
18	630982700	Outer wing, right for 12.2 m	0	1
18	630970300	Outer wing, left for 10.2 m	1	0
18	630970400	Outer wing, right for 10.2 m	1	0
19	630982800	Bearing fittings for outer wing	2	2
19a	690113009	Self-locking nut, M20	4	4
20	630981900	Inner linke, left, $\varnothing 50$ shaft (shown) END	1	1
20	630982000	Inner linke, left, $\varnothing 60$ shaft	1	1
20	630982100	Inner link, right, $\varnothing 50$ shaft END	1	1
20	630982200	Inner link, right, $\varnothing 60$ shaft	1	1
21	690140761	Link bearing, GE 30 ES	4	4
22	690140713	Sliding plate, $\varnothing 38 / \varnothing 62$	4	4
23	690200050	Cylinder, 80 / 40 x 500, $\varnothing 30 / \varnothing 30$	2	2
24	630983500	Pin, $\varnothing 30$, l=160 mm	2	2
24a	690101101	Set screw, M12 x 25	2	2
24b	690117014	Faceted plate, $\varnothing 12$	2	2
24c	630632500	Bushing, $\varnothing 17/\varnothing 13$, l=6,5 mm	2	2
25	690140712	Sliding plate, $\varnothing 52 / \varnothing 78$	4	4
26	690101103	Set screw, M12 x35	1	1
27	690112006	Nut, M12	1	1

6.3 Shaft and Bearings



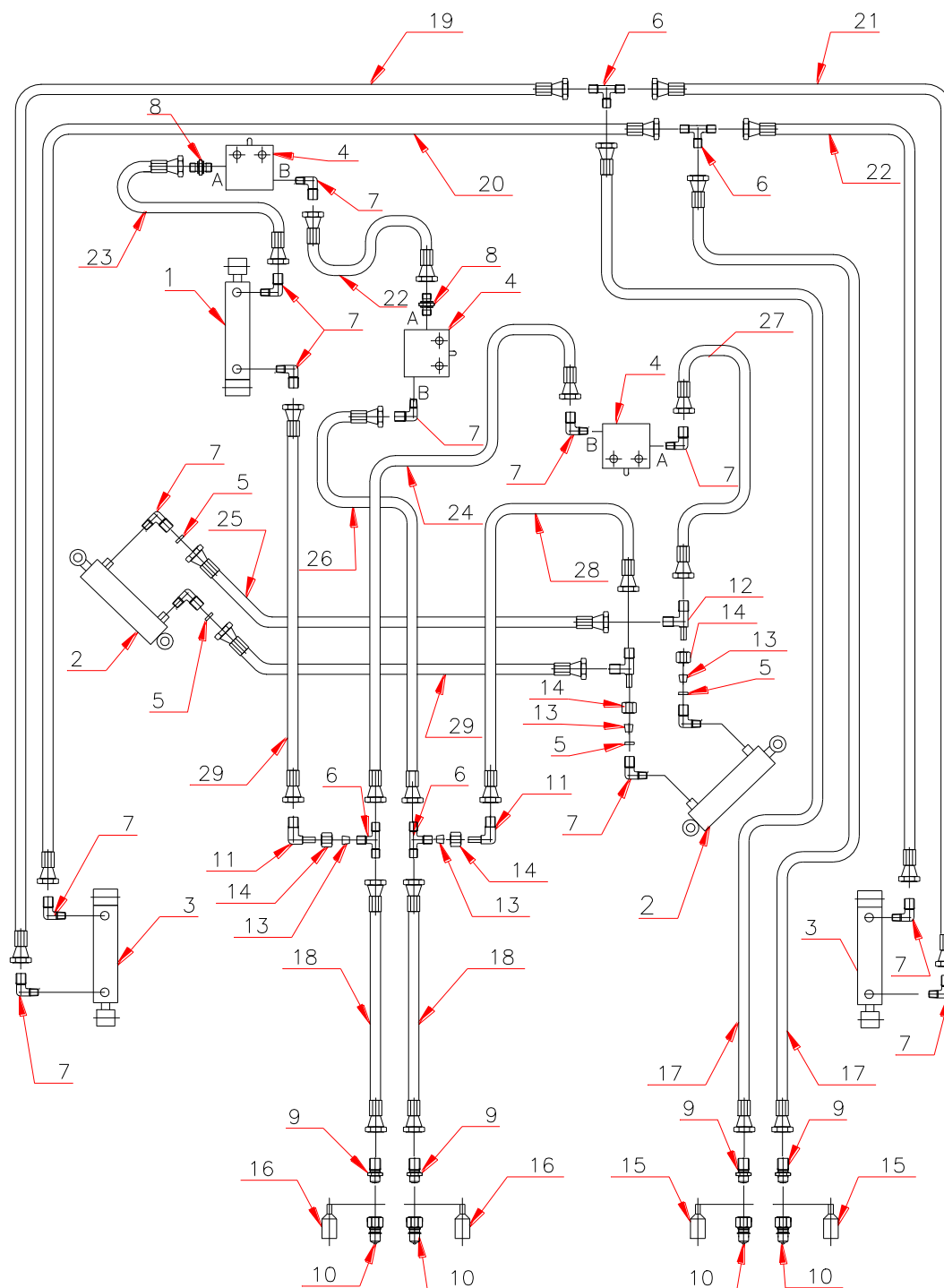
Pos.	Varenr.	Betegnelse	10,2m Stk.	12,2m Stk.
1	630984100	Shaft $\varnothing 50$ with stop ring, l=2721 mm END	3	5
1	630984200	Shaft $\varnothing 60$ with stop ring, l=2721 mm	3	5
1	630970900	Shaft $\varnothing 50$ with stop ring, l=1785 mm END	2	0
1	630971000	Shaft $\varnothing 60$ with stop ring, l=1785 mm	2	0
2	630552300	Stop ring, $\varnothing 50$ END	10	10
2	-	Stop ring, $\varnothing 60$, unadapted	10	10
2a	690101080	Set screw, M10x25	20	20
3	690140801	Bearing for $\varnothing 50$ shaft, SFT 45 END	10	10
3	690140804	Bearing UCLF 212 ($\varnothing 60$) Bearing w/ 2 holes	10	10
3	690140808	Bearing UCF 312 ($\varnothing 60$) Bearing w/4 holes	10	10
3a	690103128	Bolt M16x55	20	20
3b	690117008	Faceted plate $\varnothing 16$	20	20
3c	690113008	Self-locking nut, M16	20	20

7. Roller Rings



Pos.	Varenr.	Betegnelse	10,2m Stk.	12,2m Stk.
1	690150002	Cambridge smooth ring , 18"/450 mm END	102	120
1	690150039	Cambridge smooth ring , 18"/450 mm	102	120
1	690150024	Cambridge smooth ring ,21"/510 mm, ø60 aksel	102	120
2	690150005	Cambridge cleaner ring, 18"/450 mm END	97	115
2	690150040	Cambridge cleaner ring , 18"/450 mm	97	115
2	690150009	Cambridge cleaner ring , 21"/510 mm, ø 60 aksel	97	115
3	690150007	Cam ring , 550 mm	71	85
4	690150011	Crosskill-ring, loose, 530 mm	50	60
5	690150035	Hub, ø90	50	60
6	690150034	Crosskill-ring, fixed 485 mm	55	65
7	690150013	Corrugated ring , ø500 END april 2011	204	240
7a	690150042	2D Corrugated ring , ø500 NEW from april 2011	125	150
8	6901500028	Plainring, ø505	35	40
9	690150063	Star ring Ø500, center Ø135	102	120
10	690150064	Star ring Ø450 w/ neck Ø60	102	120
9a	690150065	Star ring Ø600, center Ø135	102	120
10a	690150066	Star ring Ø550 w/neck Ø60	102	120

8. Hydraulics



Attention:

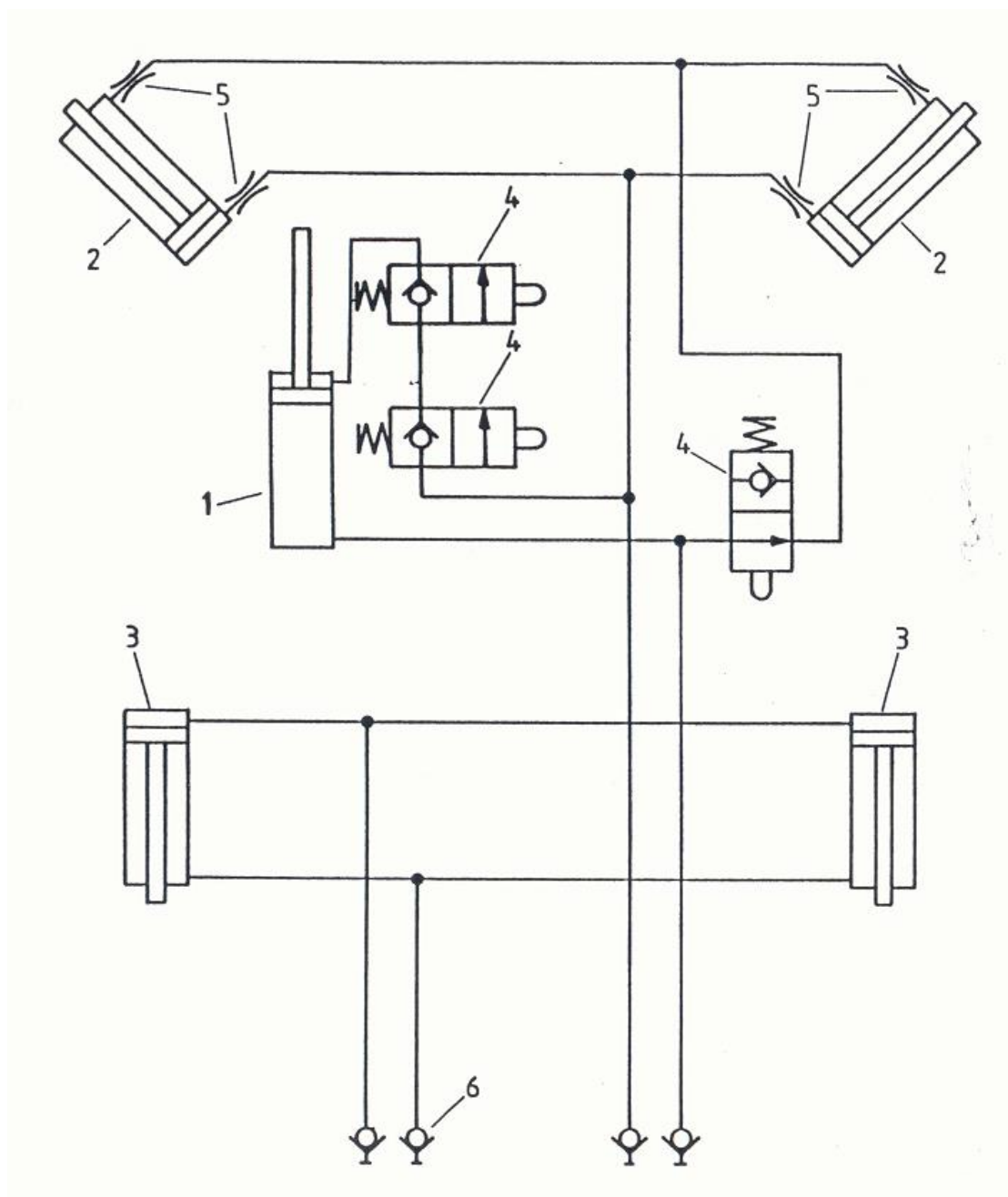
The number of hoses and hose lengths can vary – dependent on the machine type, therefore check measurements and number before ordering the spare parts.

Pos.	Varenr.	Betegnelse	Stk.
1	690200100	Cylinder for wheel frame, 100/50 x 600, $\phi 40/\phi 40$	2
2	690200050	Cylinder for inner wing, 80/40 x 500, $\phi 30/\phi 30$	2
3	690200110	Cylinder for outer wing, 100/50 x 600, $\phi 30/\phi 30$	2
4	690207101	End stop valve, FC 10	3
5	690207901	Throttle valve, 1 mm	4
6	690203015	T-header, T10L without DM	4
7	690203006	Angle screwing in, VA10 LK 3/8 without DM	14
8	690203002	Straight screwing in, GA10 LK 3/8 without DM	2
9	690203003	Straight screwing in; GA10 LR 2 without DM	4
10	690203001	Quick coupling, male, Sterling type E402	4
11	690203009	Adjustable angle, SV10L without DM	2
12	690203016	Adjustable L-screwed conn., SL10L, without DM	2
13	690203010	Cutting ring, $\phi 10$	4
14	690203011	Screwed cap, $\phi 10$	4
15	690210001	Dust cap, C51, blue	2
16	690210002	Dust cap, C51, red	2
17	690201028	Hydraulic hose 1/4", l=6700 mm	2
18	690201026	Hydraulic hose 1/4", l=5670 mm	2
19	690201023	Hydraulic hose 1/4", l=3750 mm	1
20	690201022	Hydraulic hose 1/4", l=3140 mm	1
21	690201060	Hydraulic hose 1/4", l=3000 mm	1
22	690201021	Hydraulic hose 1/4", l=2300 mm	2
23	690201013	Hydraulic hose 1/4", l=1770 mm	1
24	690201016	Hydraulic hose 1/4", l=1830 mm	1
25	690201019	Hydraulic hose 1/4", l=1500 mm	1
26	690201018	Hydraulic hose 1/4", l=1460 mm	1
27	690201032	Hydraulic hose 1/4", l=1130 mm	1
28	690201014	Hydraulic hose 1/4", l=400 mm	1
29	690201009	Hydraulic hose 1/4", l=370 mm	2

Attention:

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

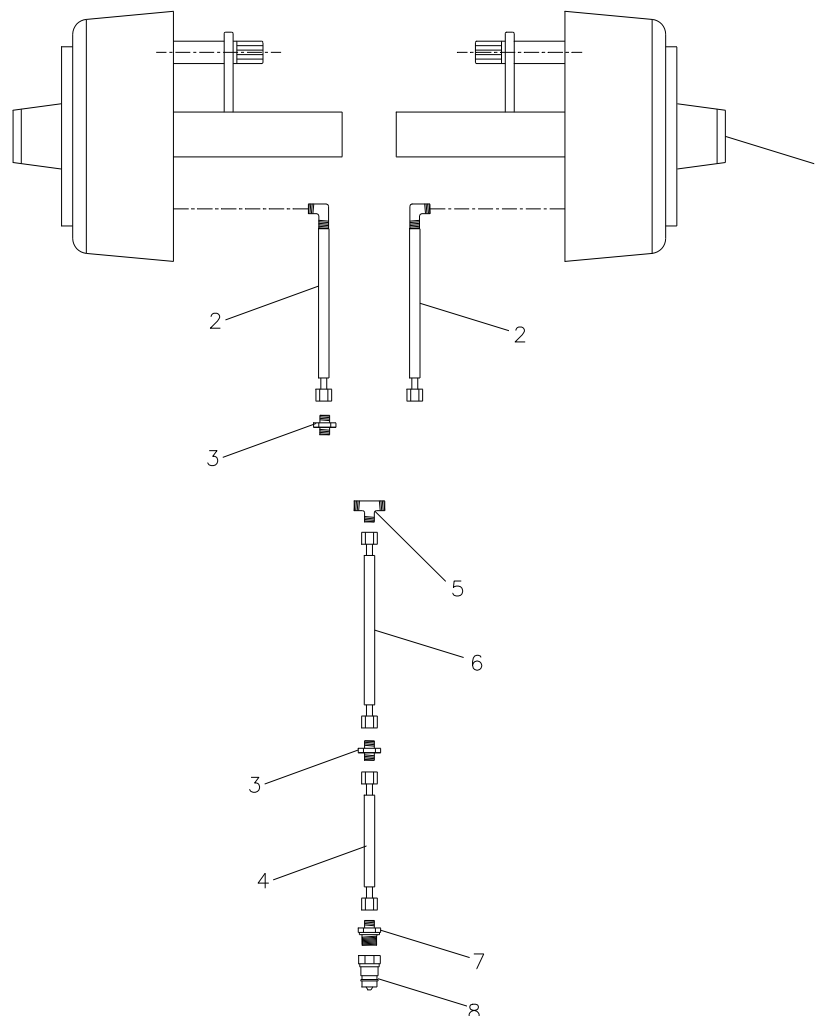
8.1 Hydraulic Diagram



Pos.	Part No.	Description	Qty.
1	690200100	Cylinder for wheel frame, 100/50 x 600, $\phi 40/\phi 40$	2
2	690200050	Cylinder for inner wing, 80/40 x 500, $\phi 30/\phi 30$	2
3	690200110	Cylinder for outer wing, 100/50 x 600, $\phi 30/\phi 30$	2
4	690207101	End stop valve, FC 10	3
5	690207901	Throttle valve, 1 mm	4
6	690203001	Quick coupling, male, Sterling type E402	4

9. Brakes

9.1 Hydraulic Brake

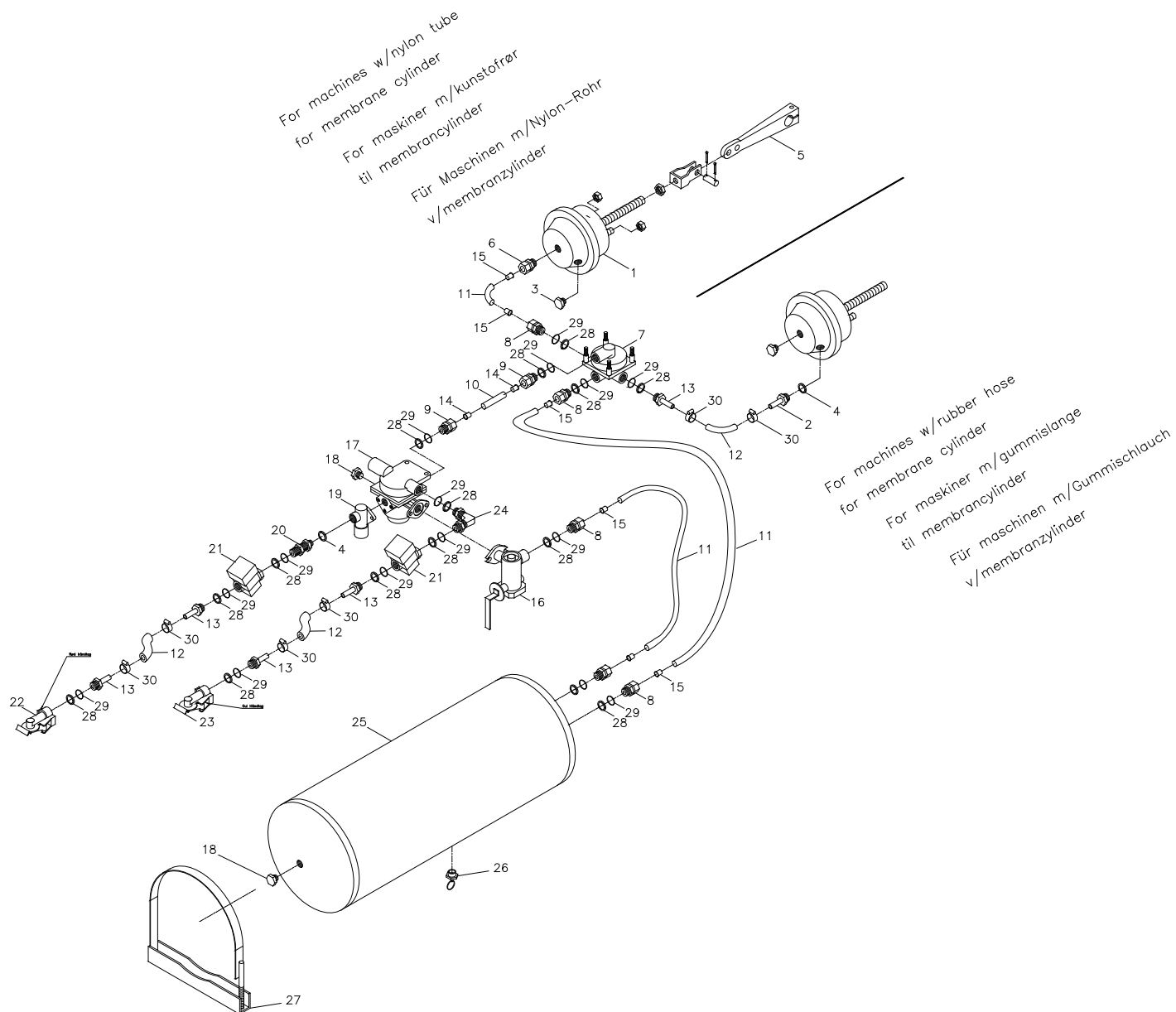


Pos.	Vare nr.	Betegnelse	10.2 m	12.2 m
1	690141032	Hub with brake (inner cylinder)	2	2
2	690201071	Hydraulic hose 500mm ¼" st/90	2	2
3	690203018	Fitting 10mm	1	2
4	690201015	Hydraulic hose 710mm ¼" st/st	1	2
5	690203015	Fitting T10	1	1
6	690201043	Hydraulic hose 6340mm ¼" st/st	1	1
7	690203003	Fitting, straight 10-1/2" BSP	1	1
8	690203001	Quick coupling, male E402 ½"	1	1

Attention:

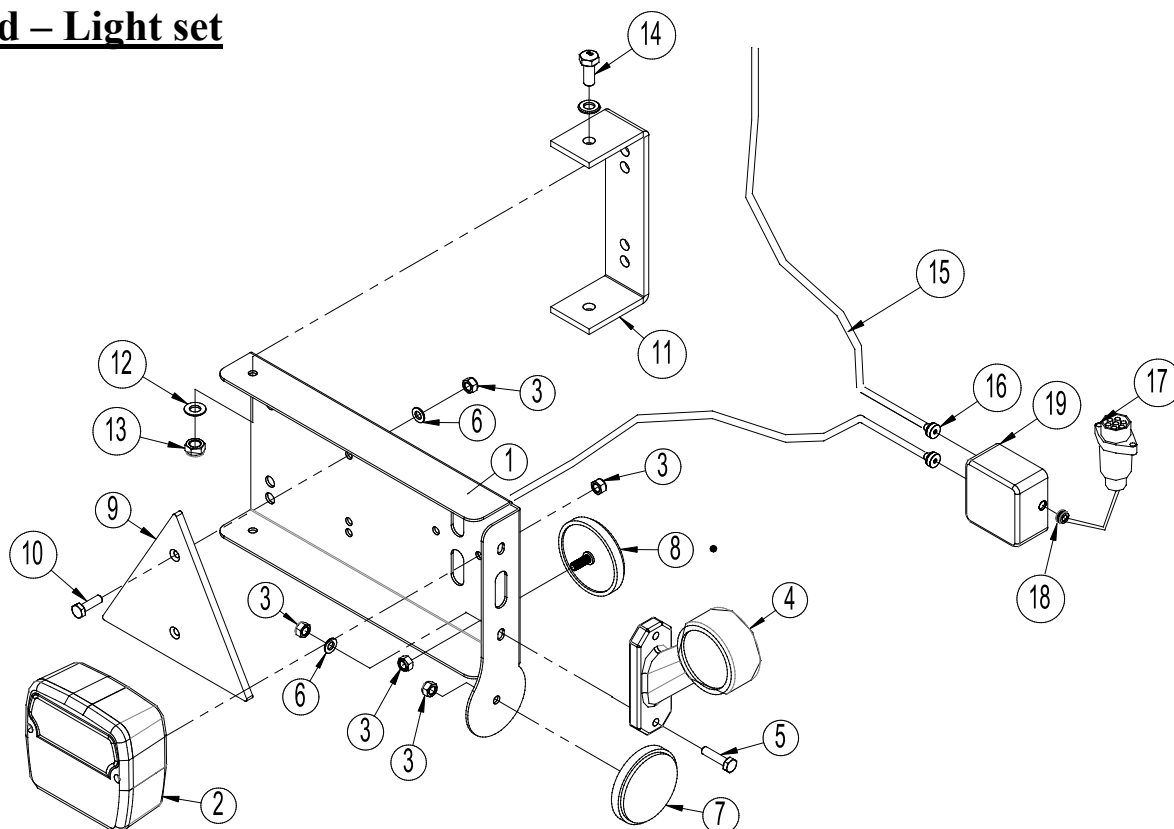
The number of hoses and hose lengths can vary – dependent on the machine type, therefore check measurements and number before ordering the spare parts.

9.2 Trykluftsbremse



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

10. Led – Light set

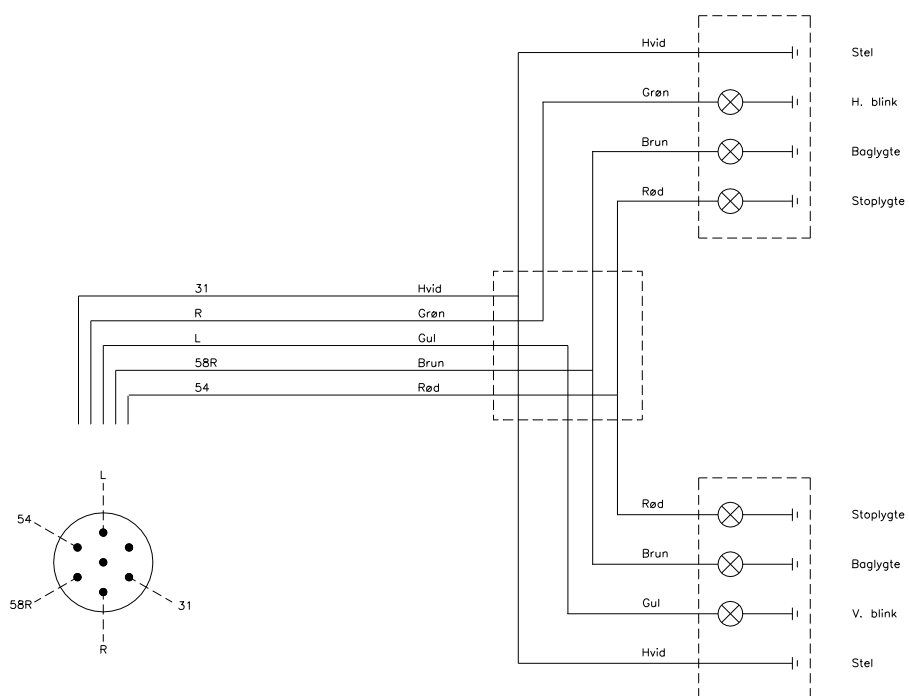


Pos.	Vare nr.	Betegnelse	Antal
1	7357505	Lightbox (L)	1
	7357508	Lightbox (R)	1
2	7357504	Rear light	2
3	0264030	Locking nut M5	16
4	7357507	Marking lights (L)	1
	7357509	Marking lights (R)	1
5	0234340	Bolt M5x25	4
6	0272240	Facet plate Ø5	8
7	0656240	Reflex, yellow	2
8	0656250	Reflex, white	2
9	692160017	Reflex, red	2
10	0234330	Bolt M6x20	4
11	7357516	Bracket	2
12	0272250	Facetskive Ø8	16
13	0264050	Locking nut M8	8
14	0234750	Bolt M8x20	4
15	690160080	Cable 5 x 1mm ² (Inform about lenght by ordering sparepart)	
16	7357545	Rutaseal nipple M20 8-12mm Grey RAL7001	2
17	690160070	Plug 7 poles DIN 72 577 – ISO 1724	1
18	7357546	Rubberbushing Nr. 38A Ø10/3 black	1
19	0520492	Junction box 105x105x60	1

Note:

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

10.2 Lighting set: El. Diagram



Notes



Subject to design modifications without prior notice.