

UK



Operating Instructions
Spare parts list
Declaration of Conformity

looks

As good as it looks

As good as it looks

As good as it looks

As good as it looks



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

Triple-Tiller

4 – 5 m hydraulic



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Contents

EC DECLARATION OF CONFORMITY	4
Machine description	5
Range of application.....	5
Delivery check	6
Start-up of the machine	6
Safety instructions.....	7
General information	7
Transport on public roads.....	8
Front axle load.....	8
Safety and instructions on hydraulics.....	8
Labels on the machine	9
Technical specifications / data	10
Folding - Unfolding	11
1. Attachment, lift-mounted	11
2. Unfolding, lift-mounted.....	11
1. Attachment, trailed	11
2. . Unfolding, trailed	11
Transport	12
Uncoupling, lift-mounted	12
Uncoupling, trailed.....	12
Settings and adjustment	13
Roller depth adjustment.....	13
Scraper.....	14
Maintenance	15
Lubrication.....	15
Spare parts list.....	16
Drawbar (befor Feb. 2016).....	16
Drawbar (after Feb. 2016).....	16
Pivoting drawbar (630757034).....	18
Middle frame	20
Side section – transport locking system	22
Wheel support.....	24
Roller bar.....	26
Roller.....	27
Scraper.....	28
Levelling bar.....	30
Tine / Tin points	32
Levelling disc	36
Support wheels	38
Edge equipment.....	40
Hydraulics	42
Wheel support.....	42
Side section.....	43
Roller bar.....	44
Brakes.....	45
Hydraulic brakes.....	45
Air brake.....	46
Light.....	48
Led-Light.....	48

Wiring diagram LED-light	50
Notes	51



EC DECLARATION OF CONFORMITY

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

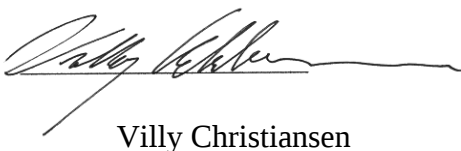
HE-VA ApS
N. A. Christensensvej 34,
DK-7900 Nykøbing Mors

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

The declaration comprises the following machine:

Triple Tiller 4.0m – 5.0m

Nykøbing, June 1st 2011

A handwritten signature in black ink, appearing to read "Villy Christiansen".

Villy Christiansen

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

Machine description

Range of application

Effective stubble cultivation for a wide range of applications

Triple-Tiller is the ideal stubble equipment for small to medium-sized farms in need of a comprehensive tool for both stubble cultivation as well as deeper cultivation (0-30 cm) e.g. in a non-ploughed system.

All Triple-Tiller models have 3 rows of tines and a solid frame of 100x100x8mm sectional tubes with a frame height of 85 cm.

A unique quality of the Triple-Tiller is the 25 cm row spacing, ensuring perfect cultivation and soil loosening in all conditions. Available as trailed and three-point mounted with working widths from 3.0 to 5.0 m, the Triple-Tiller is suitable for tractors from 100 HP.

- **Unique tine:**
The unique double-spring tine, preloaded for 455 kg, ensures an effective 0 – 30 cm cultivation of even the heaviest soil types. The standard wearing point has a unique concave design, ensuring a fantastic "mixing" of soil and plant residues. The 75 x 12 mm reversible and height adjustable wearing point allows cultivation of many hectares, before it needs replacing.
- **V-Profile roller:**
Ø600 mm roller with an optimal cutting action that leaves an ideal consolidation and – more importantly – a weatherproof surface. The V-profile is a pressed steel, castellated ring with shoulder profile giving aggressive clod crushing in heavy soils and even consolidation in lighter soils. The adjustable scrapers between each ring ensure an effective consolidation of the soil in all conditions.
- **T-Profile roller:**
Ø600 mm roller leaves a well consolidated and mixed soil, optimizing decomposition. The T-profile performs a perfect consolidation while carrying up the Triple-Tiller on loose and sandy soil, making it very depth accurate. The scrapers mounted between each ring keep the roller clean.
- **Square tube roller:**
Ø550 mm – made of strong sectional tubes – is ideal for loose soil (not sticky soil). An excellent depth control is achieved via this square tube roller, and the lifting requirement is reduced on three-point mounted Triple-Tiller models.
- **Levelling equipment:**
The bracket for the levelling equipment is mounted on the roller, making the levelling tool independent of the harrow depth.

Delivery check

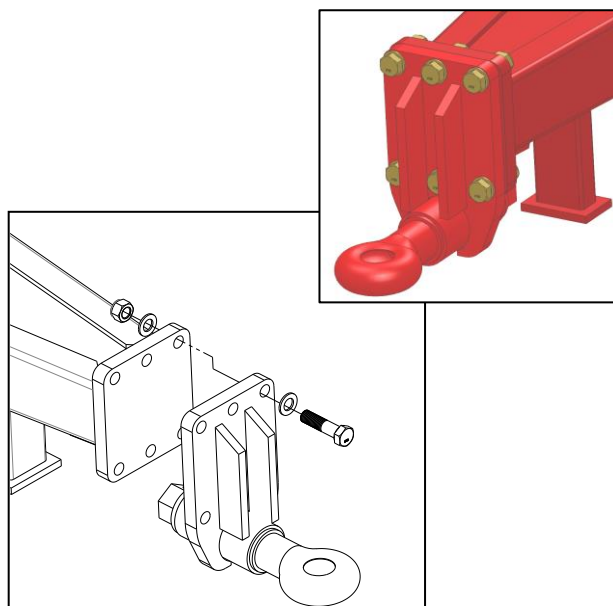
Start-up of the machine

Check :

- the machine for any damages.
- for transport damage to the paint.
- hydraulic hoses for cuts and other damage. Check that none of the other hydraulics components were damaged during transport.
- that the frame has not been damaged.
- that the transport wheels are secure and in good condition.
- air pressure level according to technical specifications.
- that all wearing points are intact.
- that all distance clips for depth adjustment are included.
- that all light systems are in working order (if any such system is mounted).

Check the torque:

- wheel bolts: 386 Nm
- mounting plate for towing eye
6 pcs. bolts 541 Nm



Check machine functioning (tractor needed):

- raising – lowering – hydraulic unfolding
- spindle adjustable levelling discs / levelling tines
- spindle adjustable support wheels
- rollers / scrapers

Safety instructions

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 staying in exposed positions during the operation.

* Hazardous area: On and under the machine within a distance of 10 m from the machine.

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

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.

ATTENTION !! Rotary parts and loose clothes are a dangerous combination.

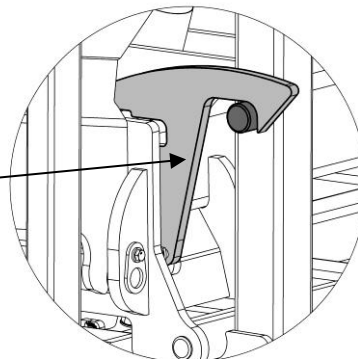
IMPORTANT !! In connection with the risk of parts falling down, it may endanger the lives of persons staying on the base frame of the machine, when it is operated attached to a tractor.

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.).

IMPORTANT:

Check that the transport locking system is down and in place to secure the side sections.



Front axle load

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

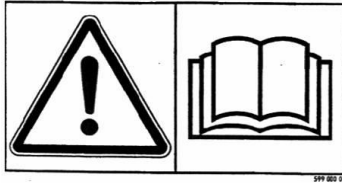
NB! The driving, controlling and braking properties are affected by the attached machine combination.

Safety and instructions on hydraulics

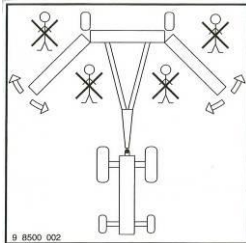
1. The maximum working pressure is 225 bar.
2. It is advisable to label the attachment parts at hydraulic connections between the tractor and the tool in order to eliminate incorrect operation!
3. When checking for hydraulic leaks, use suitable safety wear (eye protectors, gloves, etc.)
High-pressure hydraulic oil may penetrate the skin and cause dangerous injuries.
In case of injury, consult a doctor immediately. **RISK OF INFECTION!**
5. After operating the hydraulics, lower the machine to firm ground.
Relieve the hydraulics, stop the motor and remove the ignition key.
6. 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.

The life of hydraulic hoses is maximum 5 years.
New hydraulic hoses must meet the manufacturer's requirements.

Labels on the machine



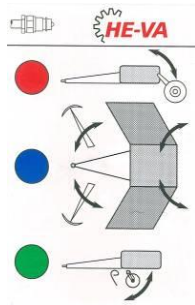
Study the safety instructions carefully before operating the machine, and observe all safety precautions.



Take care that no persons are in exposed positions during folding and unfolding.



Plate with number and year of manufacture.



Indication label for hydraulics:

Red: Transport wheels up/down

Blue: Folding to/from transport/working positions

Green: Hydraulic depth adjustment

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

Tighten up all bolts regularly. If this is not done, our guarantee obligations will no longer apply.

Maximal torque in Nm. with 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

Technical specifications / data

	<u>4,0m</u>	<u>5,0m</u>
Working width:	4,0m	5,0m
Transport width:	2,48m	2,48m
Machine length:	6,9m	6,9m
Wheels:	400/60 x 15,5 PLY	400/60 x 15,5 PLY
Tyre pressure:	4 bar / 60 p.s.i.	4 bar / 60 p.s.i.
No. of hydraulic outlets:	3 double-acting	
Hydraulic pressure (minimum):	190 bar	
Oil type:	Hydro Texaco HD32	
Voltage:	12 Volt	
Working speed (recommended):	6 - 12 Km/h	

Working width	Model	No. of tines	Transport width	Power requirement HP	Weight kg		
					Square tube roller	T-profile roller	V-profile roller
4,00 m	Lift-mounted	16	2,48 m	140-250	3240	3710	4070
5,00 m		20	2,48 m	160-280	3900	4490	4890
4,00 m	Trailed	16	2,48 m	140-250	3890	4360	4720
5,00 m		20	2,48 m	160-280	4550	5140	5540

Folding - Unfolding

Check that the male quick couplings mounted from the factory fit the tractor's female quick couplings.

When (un)folding, the Triple-Tiller should be **stationary** on level, firm ground.

1. Attachment, lift-mounted

1. Reverse the tractor to the machine and attach it.
2. Fasten all hydraulic hoses on the tractor outlets.
3. Lift the machine to maximum transport height.
4. Lift up the support leg.

2. Unfolding, lift-mounted

1. Fold the side sections (blue) all the way up to the stop on the middle frame, until the check pawls are relieved.
2. When the check pawls are opened, the side sections can be unfolded.
3. When the side sections are completely unfolded, release the hydraulic handle, and the machine is ready for use

1. Attachment, trailed

1. Reverse the tractor to the machine.
2. Fasten all hydraulic hoses on the tractor outlets.
3. Apply pressure to the drawbar-wheel cylinder (red) until the drawbar reaches the right height.
4. Reverse the tractor and attach the machine.
5. Lift the machine to maximum height and lift the support leg.

2. . Unfolding, trailed

1. Fold the side sections (blue) all the way up to the stop on the middle frame, until the check pawls are relieved.
2. When the locking pawls are opened, the side sections can be unfolded.
3. When the side sections are completely unfolded, release the hydraulic handle, and the machine is ready for use.

Transport

1. Lift the machine up to maximum transport height.
2. Apply pressure to the folding cylinders and the side sections are folded all the way up.
3. The side sections **MUST** be secured by the locking pawls.
4. The machine is now secured and ready for transport.

Uncoupling, lift-mounted

1. Lower the machine onto level, firm ground, and release all hydraulic hoses.
2. Lower the support leg.
3. The machine may now be uncoupled.

Uncoupling, trailed

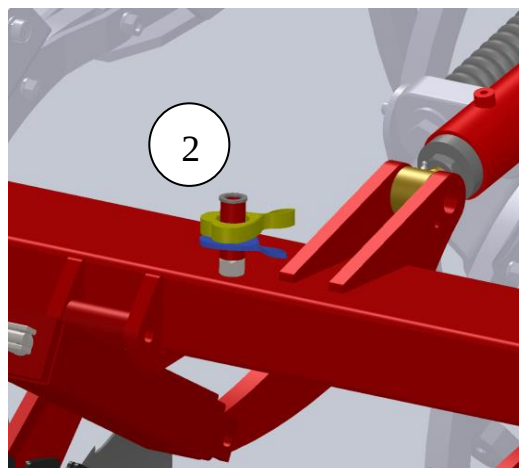
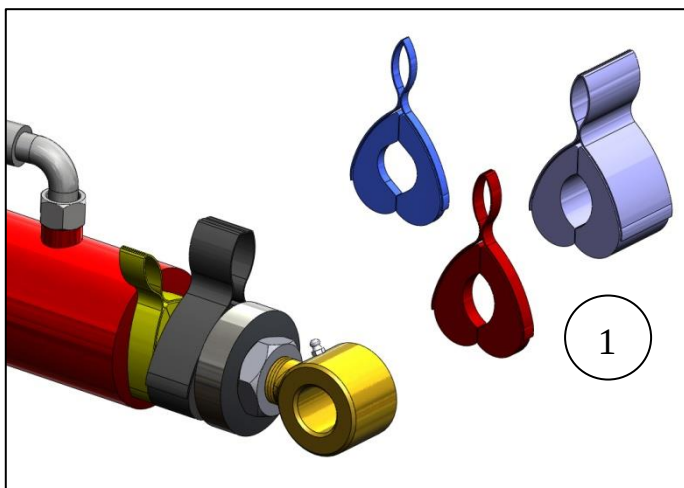
1. Lower the machine onto level, firm ground.
2. Lower the support leg.
3. Adjust the drawbar-wheel cylinder (red), so that the drawbar pin is loosened
4. The machine may now be uncoupled.
5. Move the tractor slightly forward to release all hydraulic hoses.

IMPORTANT:

**Lower onto level, firm ground and
release the hydraulic pressure
before leaving the machine.**

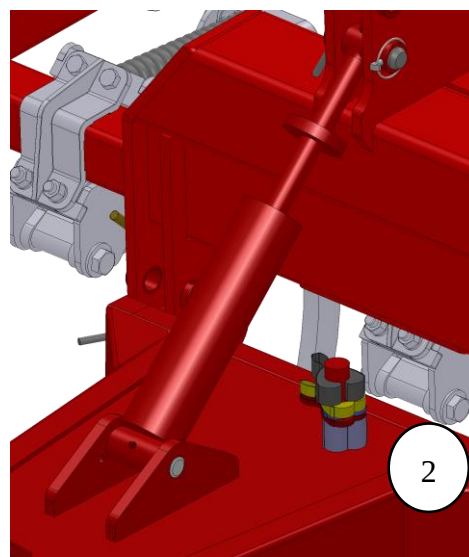


Settings and adjustment

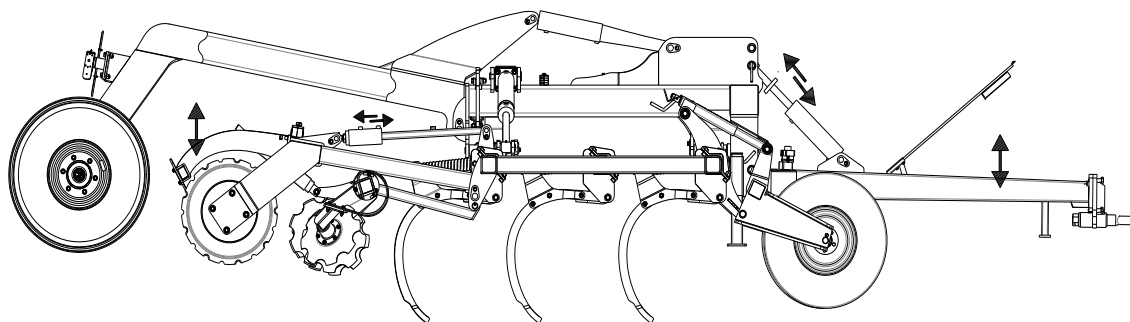


Roller depth adjustment

1. The machine is delivered including coloured distance clips (pos. 1).
2. These clips are easily removed by hand to adjust the working depth of the roller.
3. When not in use, excess clips may be put on the tube (pos. 2).



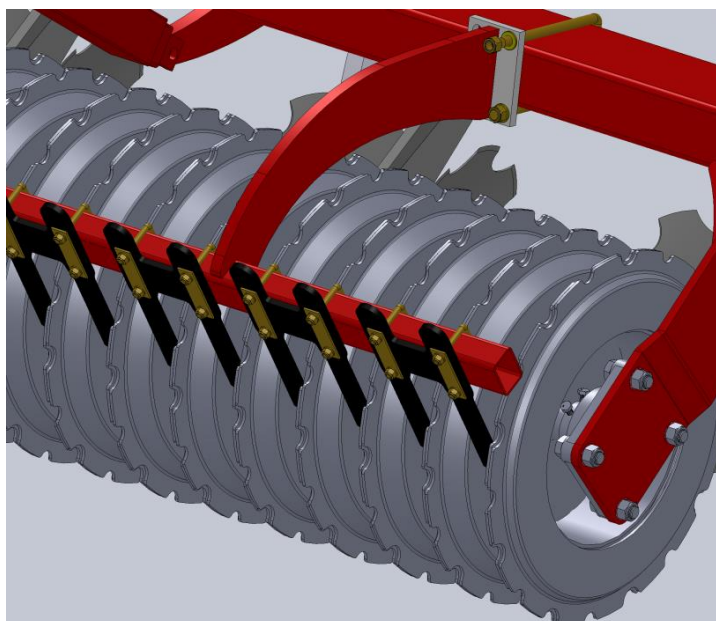
On the drawbar cylinder, the distance clips are used to adjust the horizontal position, in combination with the roller cylinders.



Scraper

Triple-Tiller is fitted with scrapers of special steel in between the rings of the V-profile roller.

Check their centering daily, so they do not wear unnecessarily, and to ensure optimal effect. The correct height adjustment is 1-2 mm from the bottom of the roller.



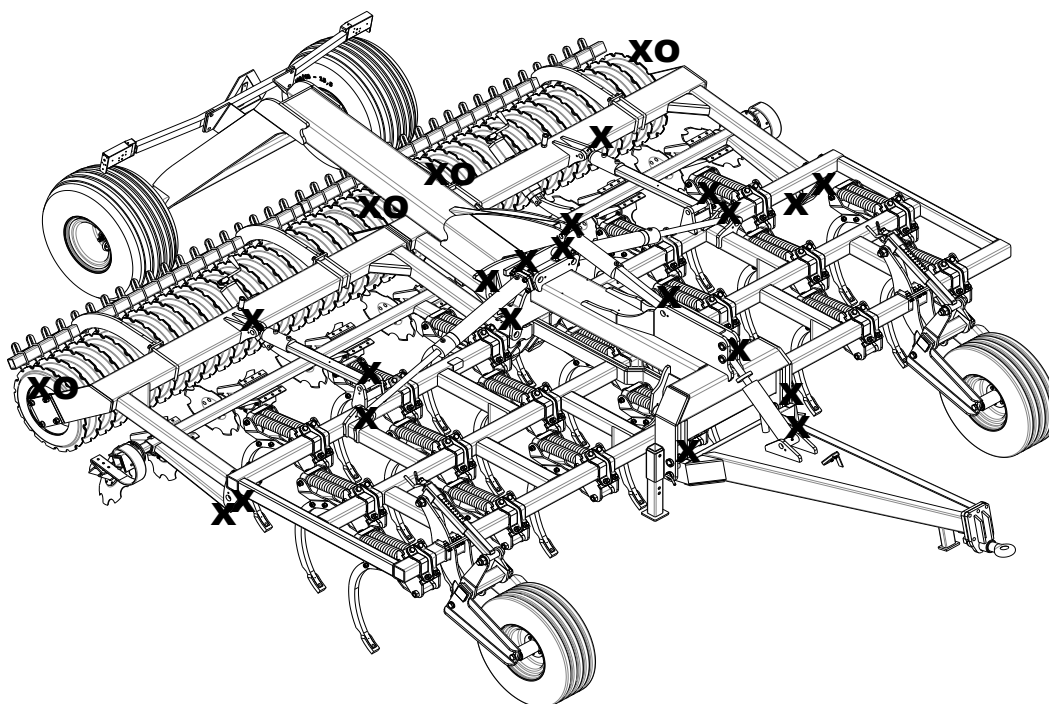
Maintenance

- After the first 10 hours of operation, all bolts must be tightened, (see torque diagram, page 9). Hoses, fittings and cylinders must be checked for possible leaks and further tightened.
- Check regularly that all bolts are tightened.
- After the season all lubricating points must be lubricated, then wash and lubricate the machine. Do not use high-pressure water directly on ball bearings. After washing it, you may spray the machine with a rust preventive oil.

Lubrifcation

When lubricating, maintaining and repairing the Triple-Tiller, always lower the machine, brake the tractor and stop the engine.

The typical lubricating points are: by the roller, spindle, side section and the arms of the roller bar. The lubricating points must be lubricated after 10 hours of operation, and before/after cleaning in order to drive out any water or dirt. The lubricating points are placed by movable parts, as well as by the ball bearings and cylinders.



Note! XO

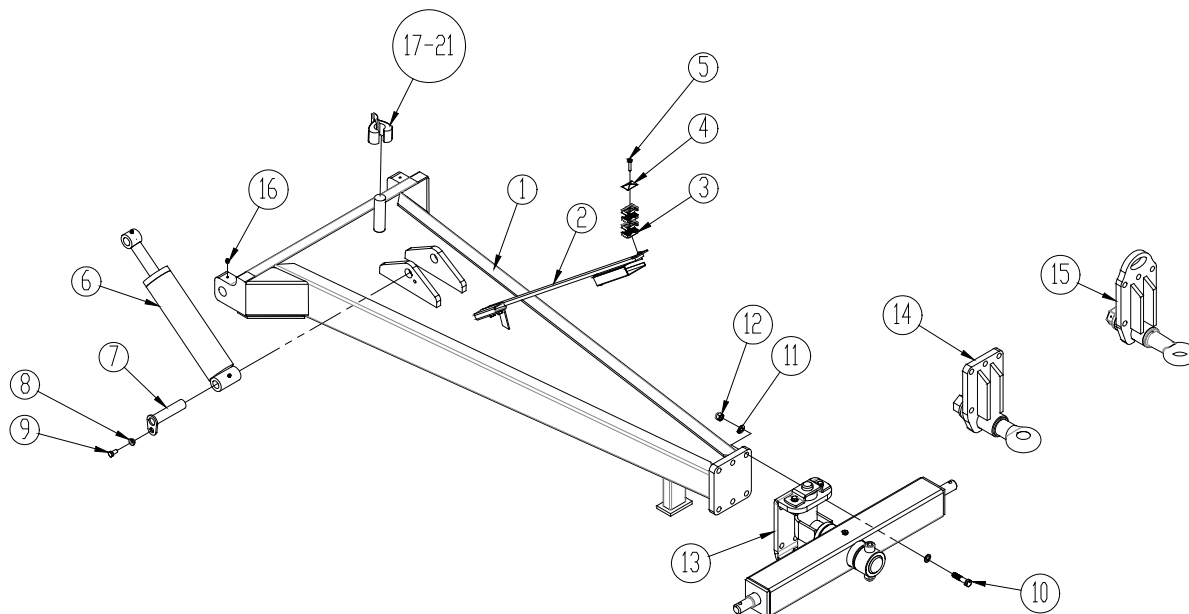
The double density ball bearings in the roller should only be lubricated every 20 hours, and with 1-2 strokes so as not to press out the sealing rings.

IMPORTANT!

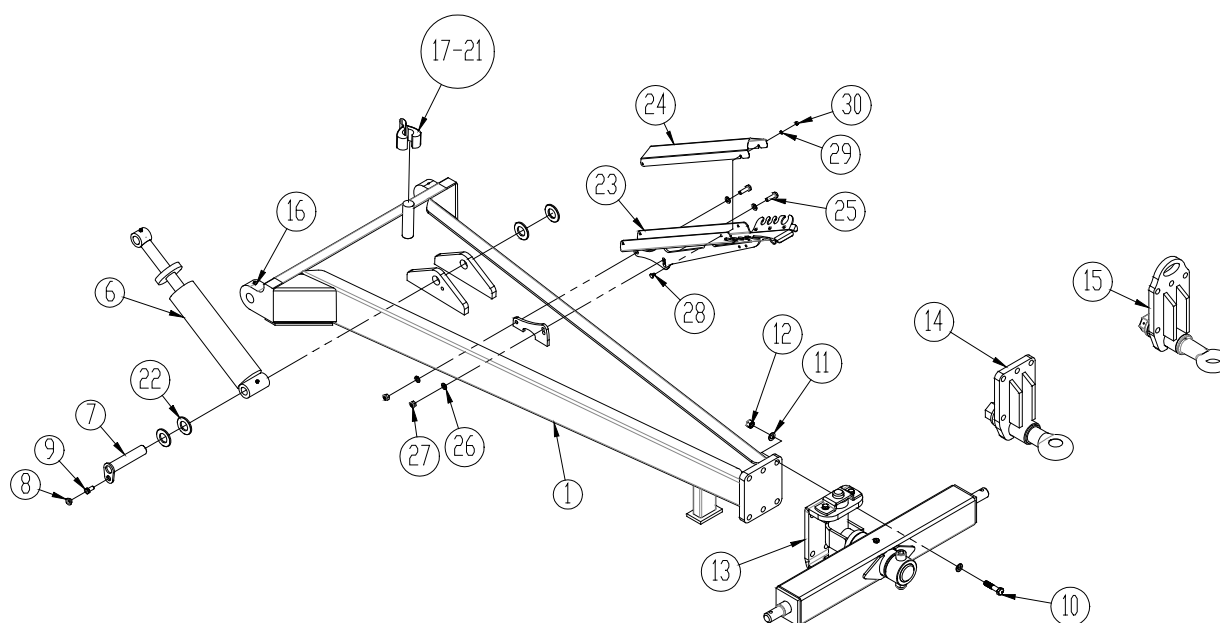
The hydraulic system is filled with oil type Hydro Texaco HD32

Spare parts list

Drawbar (befor Feb. 2016)

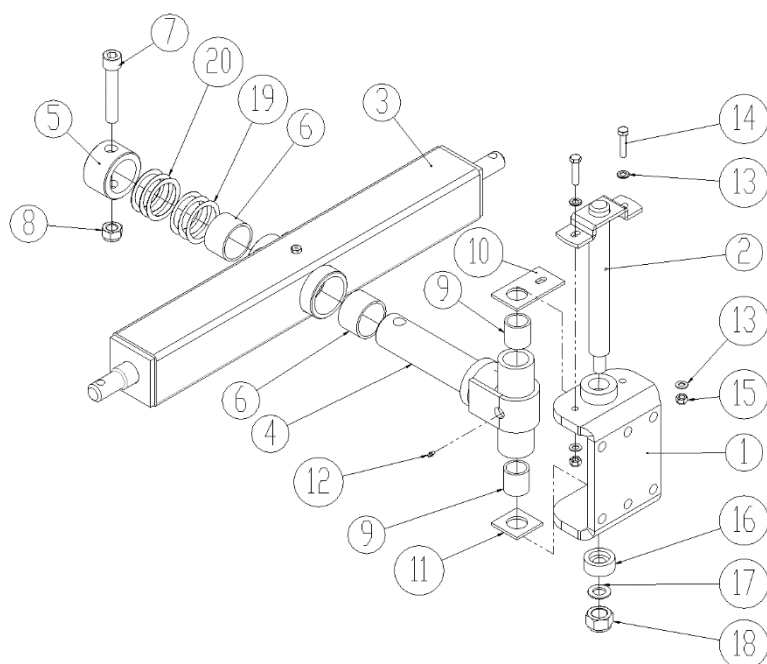


Drawbar (after Feb. 2016)



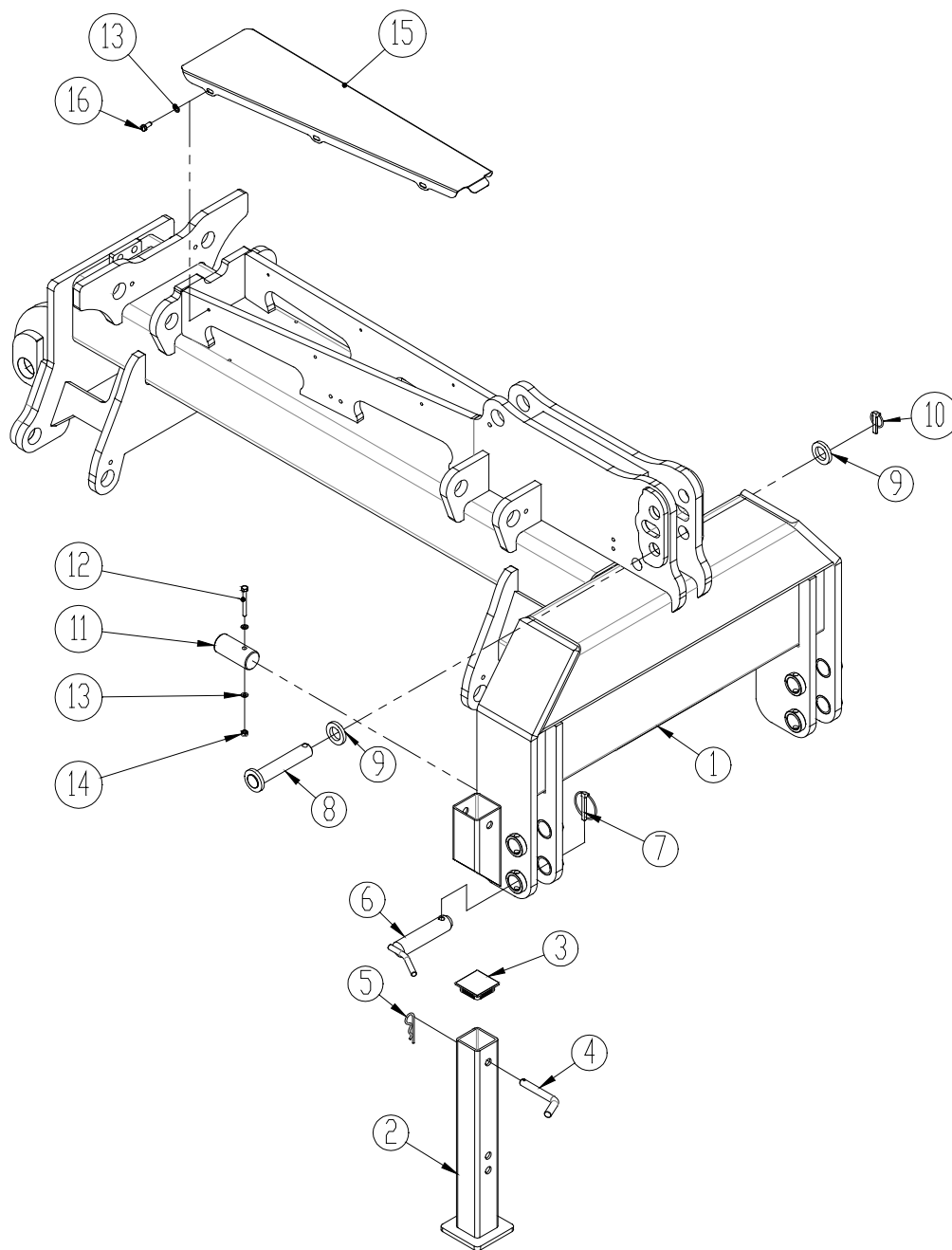
Pos.	Item no.	Designation	4 m	5 m
1	630931052	Drawbar strengthened (until feb. 2016)	1	1
	630931057	Drawbar strengthened (from feb. 2016)	1	1
2	630771200	Parking device for hydraulic hoses (until feb. 2016)	1	1
3	0449430	Tube support, double Ø14/Ø14 (until feb. 2016)	4	4
4	690210211	Top plate f/double tube support (until feb. 2016)	1	1
5	0234790	Bolt M8x40 (until feb. 2016)	1	1
6	0462750	Cylinder 90/40x280 Ø35/Ø32,5	1	1
6a	690200274	Gasket kit	-	-
7	69435155G	Pin Ø35 L=155mm (until feb. 2016)	1	1
	69435170G	Pin Ø35 L=170mm (from feb. 2016)	1	1
8	630532600	Lock bush f/pin head	1	1
9	0235330	Bolt M12x25 8.8	1	1
10	690103173	Bolt M20x70 10.9	6	6
11	0272310	Facet plate Ø20	12	12
12	0264110	Self-locking nut M20	6	6
13	630757034	Pivoting crossbar	1	1
14	630757017	Pivoting towing eye (strong)	1	1
15	630757043	Pivoting towing eye (strong)	1	1
16	0432510	Lubricating nipple M8	2	2
17	690200664	Distance clip, 6.2mm, blue	1	1
18	690200665	Distance clip, 9.4mm, red	1	1
19	690200666	Distance clip, 18.8mm, yellow	1	1
20	690200667	Distance clip, 31.6mm, black	1	1
21	690200668	Distance clip, 50.8mm, silver	1	1
22	0272380	Facet plate ø36 (from feb. 2016)	4	4
23	7345004	Parking device (from feb. 2016)	1	1
24	7345003	Screen for parking device (from feb. 2016)	1	1
25	0246060	Carriage bolt M6x16 (from feb. 2016)	4	4
26	0272240	Facet plate Ø6 (from feb. 2016)	4	4
27	0264040	Self-locking nut M6 (from feb. 2016)	4	4
28	0235360	Bolt M12x40 (from feb. 2016)	2	2
29	0272270	Facet plate Ø12 (from feb. 2016)	4	4
30	0264070	Self-locking nut M12 (from feb. 2016)	2	2

Pivoting drawbar (630757034)



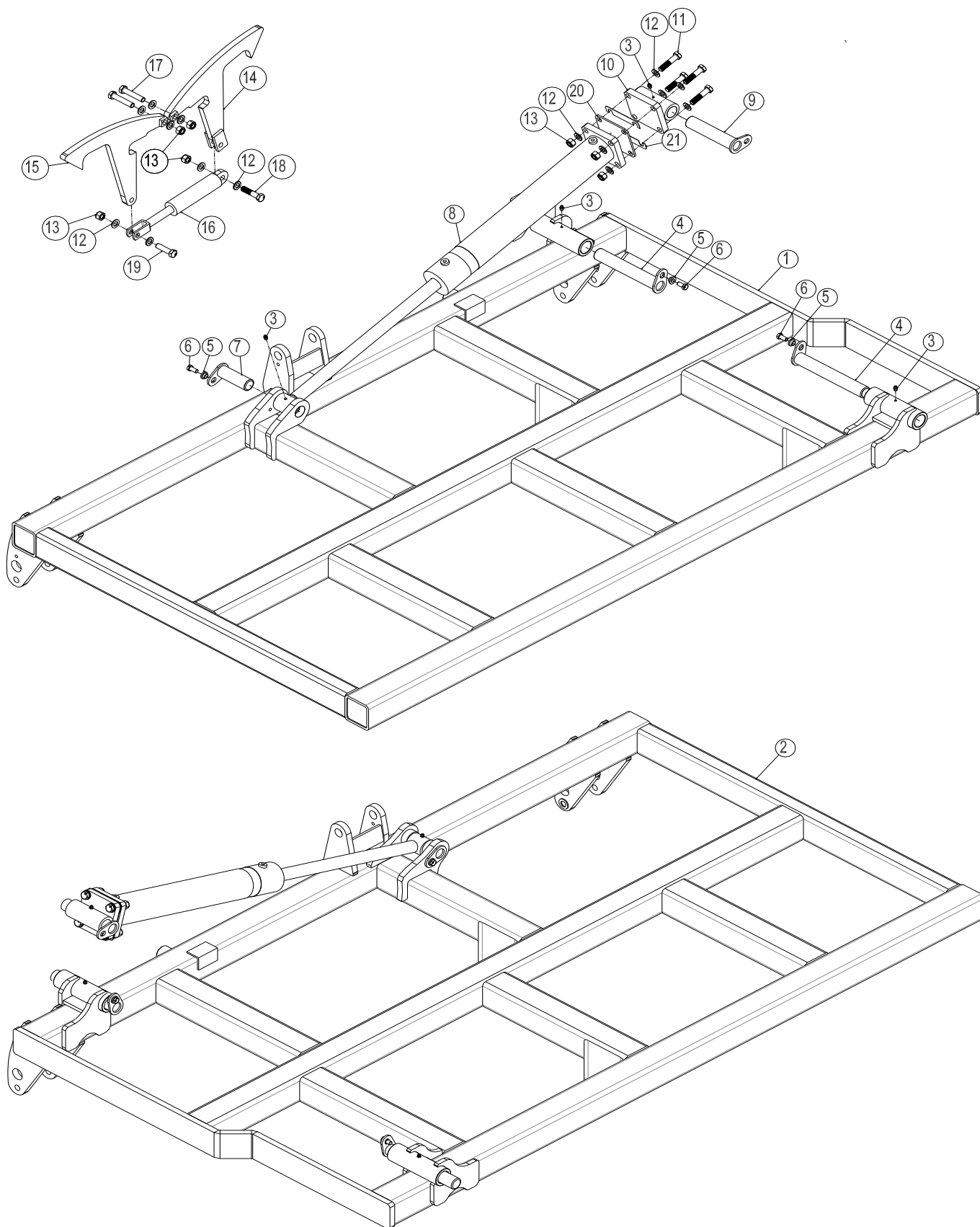
Pos.	Item no.	Designation	No
1	1145335	U-bracket	1
2	1127870	Draw pin	1
3	1127911	Drawbar	1
4	1128001	Draw shaft	1
5	1128041	Bushing	1
6	0475450	Inner tension bush EG ø80/70x50mm	1
7	0227935	Unbraco bolt M24x130	1
8	0264130	Locking nut M24	1
9	0475350	Inner tension bush EG ø50/40x50mm	1
10	1128390	Wear plate	1
11	1127990	Wear plate	1
12	0432100	Lubricating nipple M6	1
13	0272270	Facet plate Ø12	2
14	0235390	Bolt M12x55	1
15	0264070	Locking nut M12	1
16	1127900	Washer	1
17	0272330	Facet plate Ø24	1
18	0264130	Locking nut M24	1
19	690140656	Shim ring ø70/ø90x0,5 mm (DIN 988)	
20	690140654	Shim ring Ø70/Ø90x1,0 mm (DIN 988)	

Middle frame



Pos	Item no.	Designation	4 m	5 m
1	1160246	Middle frame (to machine no 32432)	1	1
	1300114	Middle frame (from machine no 32433)	1	1
2	1160274	Support leg	2	2
3	690109202	Plug	2	2
4	1030280	Pin Ø16	2	2
5	0377400	R-clip Ø4	2	2
6	69537129B	Pin for lift arm Ø37 L=129	2	2
7	690134008	Ring split (Ø11,5 m/Ø60)	2	2
8	1140361	Pin Ø32 L= 149	1	1
9	1069950	Washer Ø33	2	2
10	0378600	Ring split (Ø11 w/Ø40 ring)	1	1
11	1140951	Pin f/wing	1	1
12	0234833	Bolt M8x70	1	1
13	0272250	Facet plate Ø8 (from machine no 32433)	8	8
14	0264050	Self-locking nut M8 (from machine no 32433)	1	1
15	1300120	Screen (from machine no 32433)	1	1
16	0234750	Bolt M8x20 (from machine no 32433)	6	6

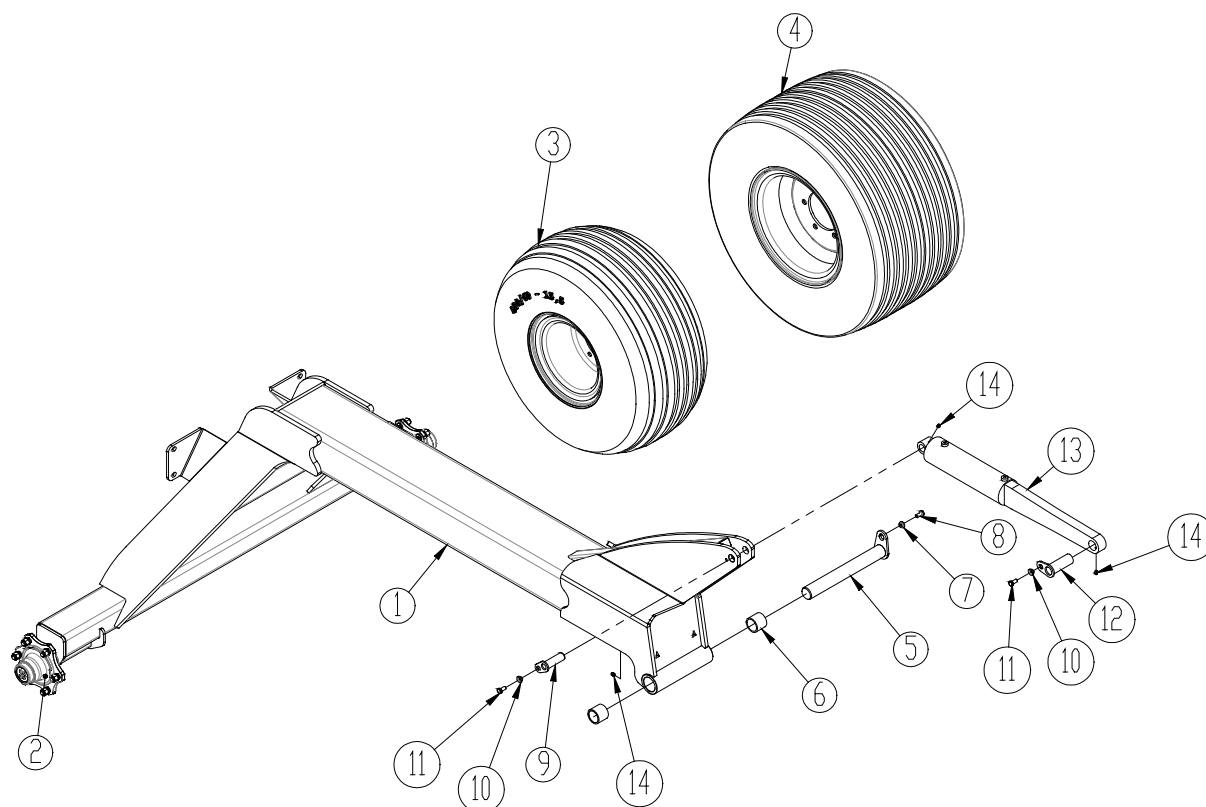
Side section – transport locking system



Pos	Item no.	Designation	4 m	5 m
1	1160345	Side section, right	1	
2	1160346	Side section, left	1	
1	1160302	Side section, right		1
2	1160284	Side section, left		1
3	0432510	Lubricating nipple M8	8	8
4	69440255G	Pin Ø40 L=255 (to machine no 32432)	4	4
	69440280G	Pin Ø40 L=280 (from machine no 32433)	4	4
5	630532600	Lock bush for pin head	8	8
6	690101101	Bolt M12x25	8	8
7	69440115G	Pin Ø40 L=115 w/welded head (Right side section)	1	1
7	69440155G	Pin Ø40 L=155 w/welded head (Left side section)	1	1
8	690200252	Cylinder 90/40x600 w/bush – welded square flange	2	2
8a	690200268	Gasket set 90/40	-	-
9	69440195G	Pin Ø40 L=195mm	2	2
10	690200253	Square flange w/bush Ø40,25	2	2
11	690103200	Bolt M16x70	8	8
12	0272290	Facet plate Ø16	24	24
13	0264090	Self-locking nut M16	12	12
14	1160193	Mounted check pawl, left	1	1
15	1160276	Mounted check pawl, right	1	1
16	690200170	Cylinder 40/25x80	1	1
16a	690200175	Gasket set 40/25	-	-
17	690103135	Bolt M16x80	2	2
18	690103130	Bolt M16x70	1	1
19	690103133	Bolt M16x60	1	1
20	645200174	Shim 5 mm	-	-
	645200178	Shim 4 mm	-	-
	645200176	Shim 3 mm	-	-
	645000396	Shim 1 mm	-	-
	645000397	Shim 0,5mm	-	-

The number of adjusting shims varies according to machine model.

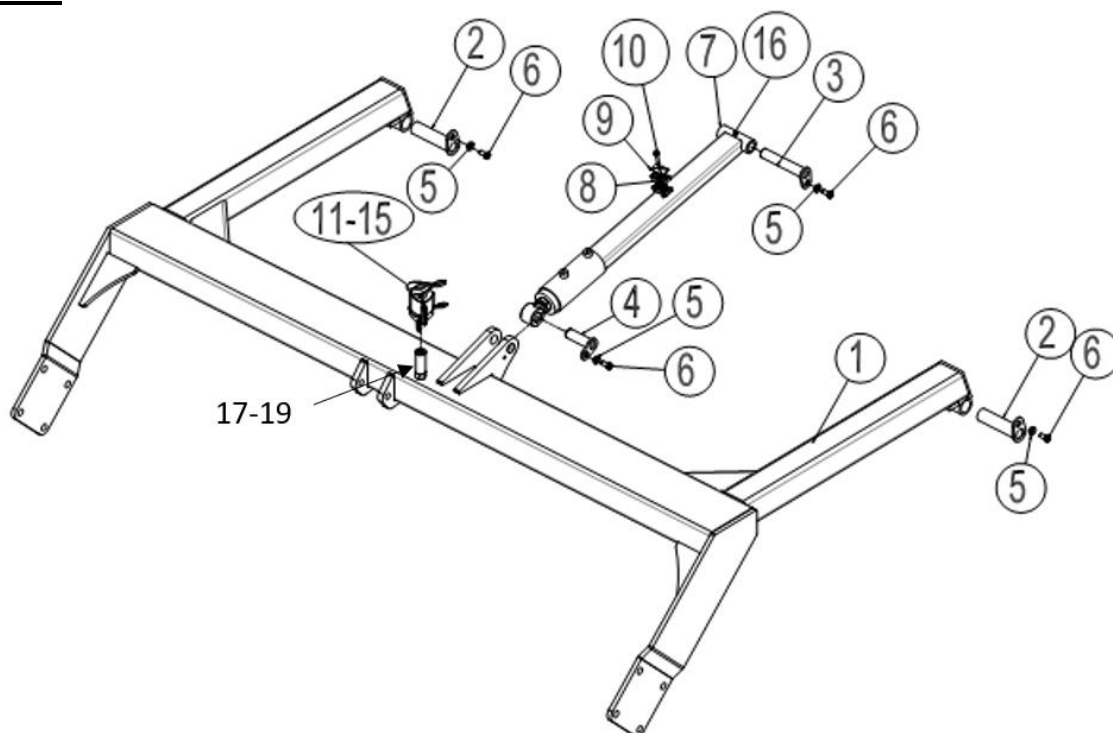
Wheel support



Pos	Item no.	Designation	4 m	5 m
1	1160224	Wheel support END	1	1
	1160565	Wheel support, 1700 kg hub (from machine no 28985-31283)	1	1
	1160565	Wheel support, 2500 kg hub (from machine no 31284-33644)	1	1
	1160939	Wheel support, 2500 kg hub (from machine no 33645)	1	1
	1160424	Wheel frame with brake hub END	1	1
	1160572	Wheel frame with brake hub (from machine no 28985-33644)	1	1
		Wheel frame with brake hub (from machine no 33645)	1	1
	690141025	Hub 1700 kg		
	0395230	Sealing ring		
	0395210	Bearing 30206		
	0479000	Bearing 30209		
	0396470	Hub nut		
	690141039	Hub bolt		

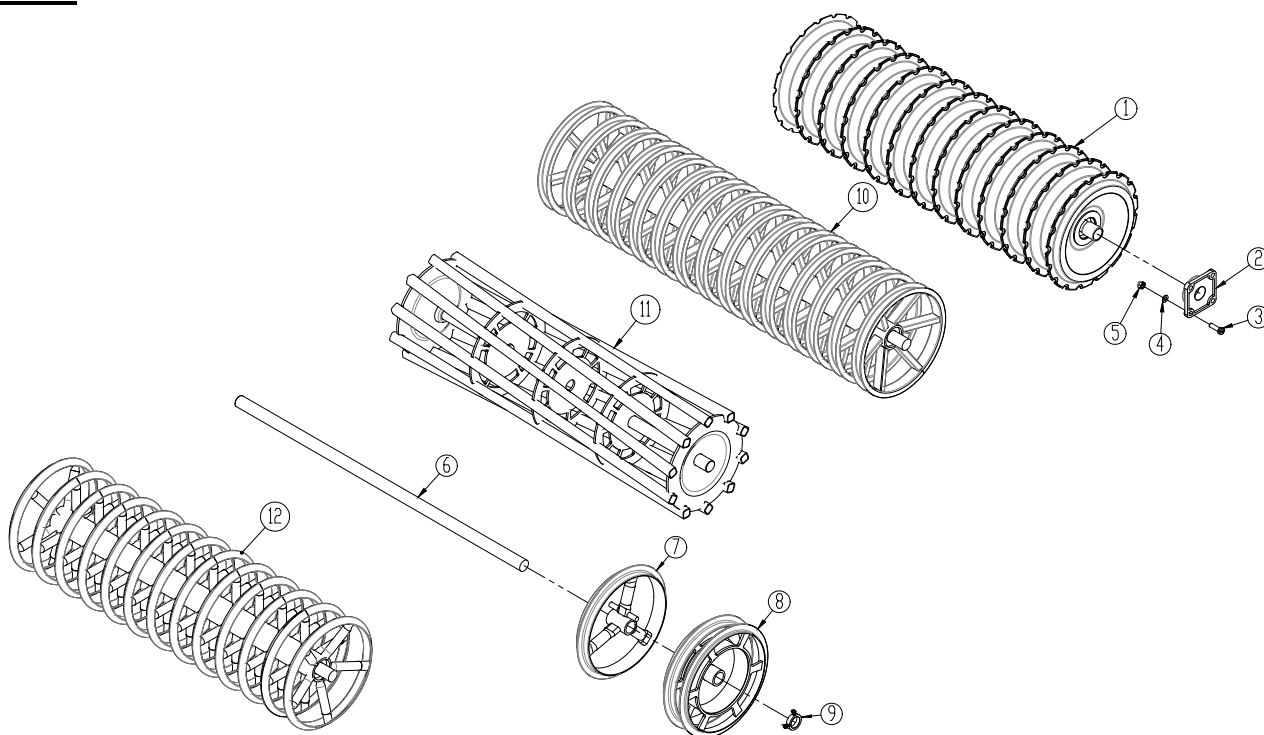
Pos	Item no.	Designation	4 m	5 m
	0395260	Hub cap		
	0395242	Castellated nut		
	690141030	Hub 2500 kg		
	0396420	Sealing ring		
	690140105	Bearing 30208		
	690140111	Bearing 30211		
	0396470	Hub nut		
	0396460	Hub bolt		
	0396490	Hub cap		
	0396480	Castellated nut		
	690141032	Hub with brake 3750 kg		
	0396490	Hub cap Ø80 (brakehub)		
3	0396300	Wheel (complete) 400/60 15,5 14 Ply	2	2
4	0396650	Wheel (complete) 500/50 17 14 Ply	2	2
5	69440363G	Pin Ø40 L=363 END	1	1
5	69450400G	Pin Ø50 L=400 (from machine no 28985)	1	1
6	0475100	Bush Ø40/44 L=40 END	2	2
	0475400	Inner tension bush Ø60/50 L=50mm (from machine no 28985)	2	2
7	630532600	Lock bush END	1	1
	630532700	Lock bush (from machine no 28985)	1	1
8	0235330	Set bolt M12x25mm END	1	1
	0235760	Set bolt M16x25mm (from machine no 28985)	1	1
9	69430095G	Pin Ø30 L=95 END	1	1
	69440090G	Pin Ø40 L=90 (from machine no 28985)	1	1
10	630532600	Lock bush	2	2
11	0235330	Set bolt M12x25mm	2	2
12	69440108G	Pin Ø40 L=108	1	1
13	690200270	Cylinder f/wheel support (from machine no 28985)	1	1
	690200274	Gasket kit (from machine no 28985)		
	7345079	Cylinder f/wheel support (from machine no 28985)	1	1
	0463372	Gasket kit (from machine no 28985)		
14	0432510	Lubricating nipple M8	3	3

Roller bar



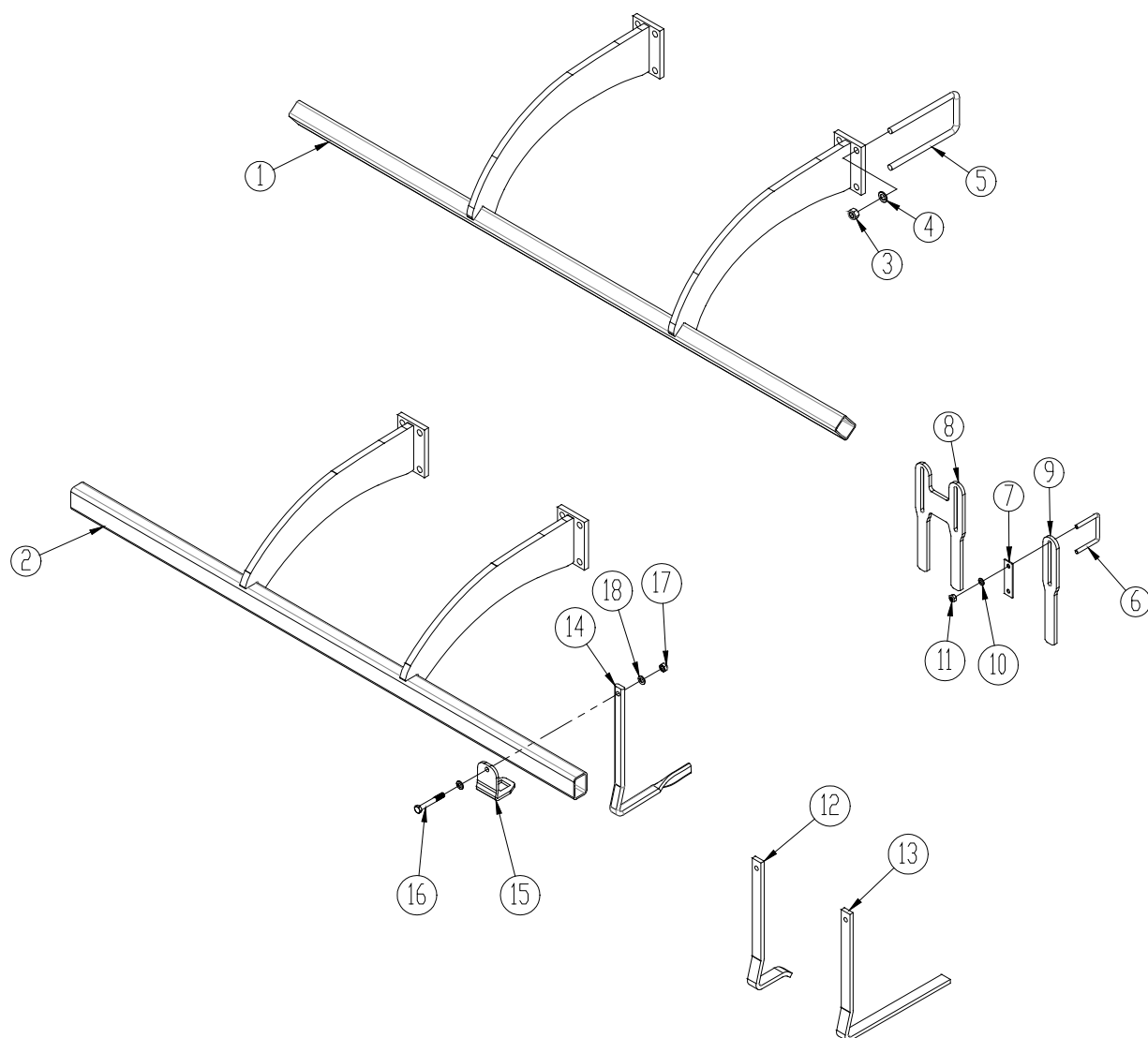
Pos	Item no.	Designation	4 m	5 m
1	1160356	Roller bar, right	1	
1	1160357	Roller bar, left	1	
1	1160310	Roller bar, right		1
1	1160320	Roller bar, left		1
2	69440155G	Pin Ø40 L=155	4	4
3	69430170G	Pin Ø30 L=170	2	2
4	69430095G	Pin Ø30 L=95	2	2
5	630532600	Lock bush	8	8
6	690101101	Bolt M12x25	8	8
7	1160494	Cylinder 80/40x80 Ø30	2	2
	690200143	Gasket set	2	2
8	0449430	Tube support Ø14/Ø14	2	2
9	690210211	Top plate for tube support	2	2
10	0234790	Bolt M8x40	2	2
11	690200664	Distance clip 6.2 mm , blue	2	2
12	690200665	Distance clip 9.4 mm, red	2	2
13	690200666	Distance clip 18.8 mm, yellow	2	2
14	690200667	Distance clip 31.6 mm, black	2	2
15	690200668	Distance clip 50.8 mm, silver	2	2
17	1160316	Distance sleeve	2	2
18	0272310	Facet plate Ø20	2	2
19	0236200	Bolt M20x110	2	2

Roller



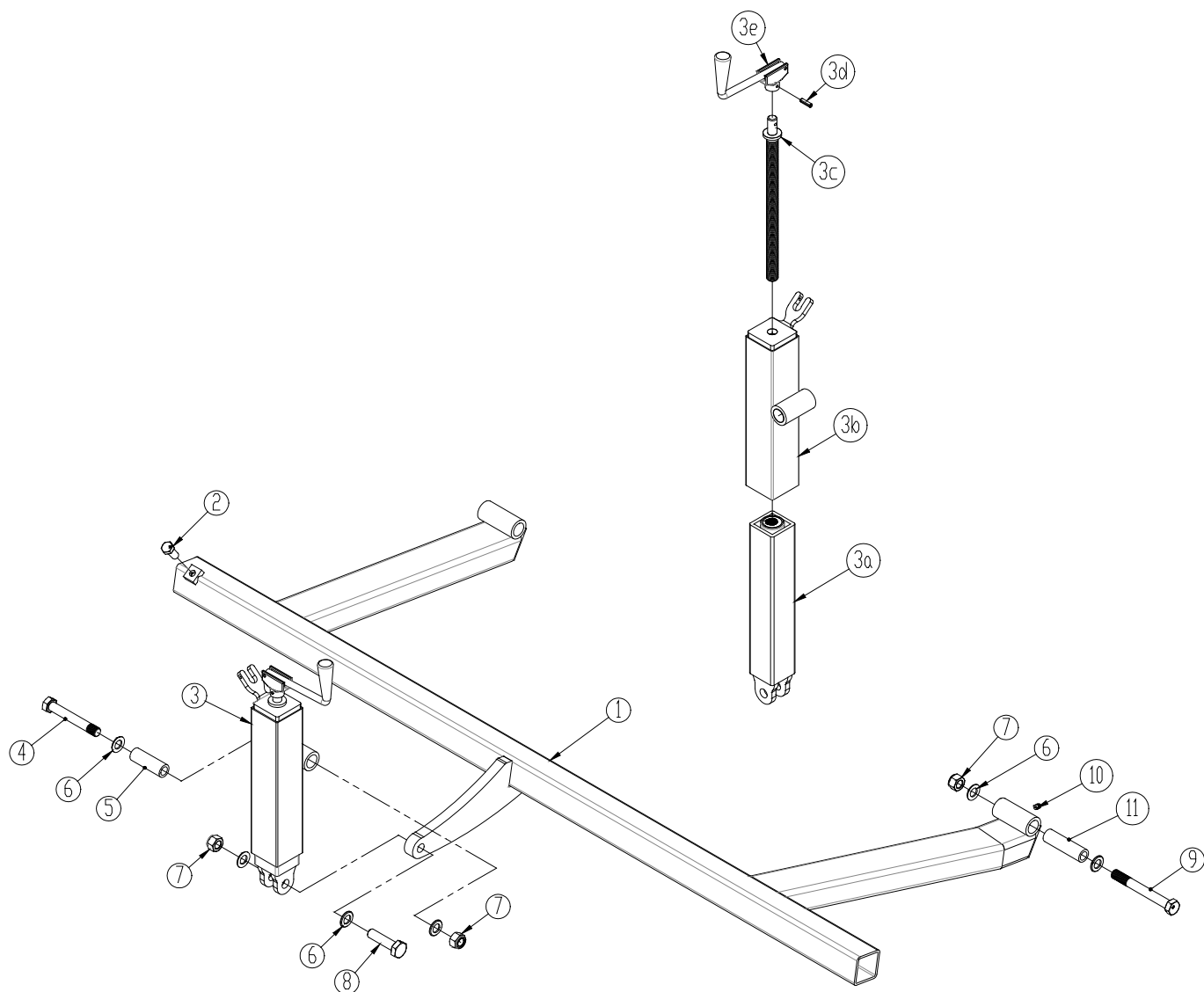
Pos	Item no.	Designation	4 m	5 m
1	630926301	V-profile roller 1935 mm (until machin.no. 29492)	2	
1	1160479	V-profile roller 1935 mm (from machin.no. 29493)	2	
1	630936300	V-profile roller 2435mm (until machin.no. 29492)		2
1	1160468	V-profile roller 2435 mm (from machin.no. 29493)		2
2	0478971	Bearing complete UCF 312 (Ø60)	4	4
3	0236140	Bolt M20 x 65 8.8	16	16
4	0272310	Facet plate Ø20	16	16
5	0264110	Self-locking nut M20	16	16
6	678611935	Axle 1935mm Ø60 CK45	2	
6	678612435	Axle 2435mm Ø60 CK45		2
7	1069111	T-profile ring single	24	32
8	1048100	T-profile ring narrow/wide	4	4
9	671040400	Stop ring w/bolts	4	4
10		U-profil roller	2	
10		U-profil roller		2
11	1048310	Square tube roller 1935 mm	2	
11	1048210	Square tube roller 2435 mm		2
12		Waveroller	2	

Scraper



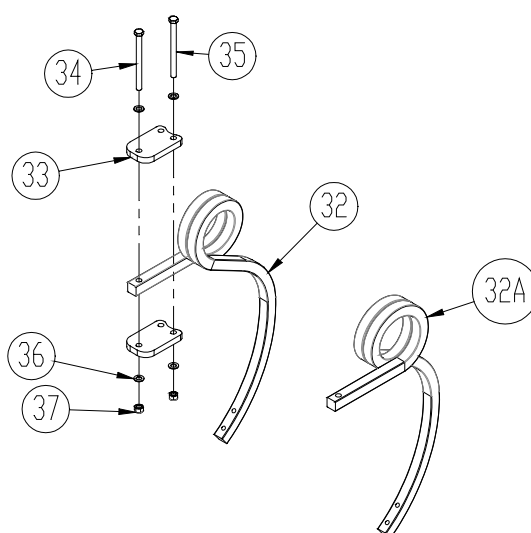
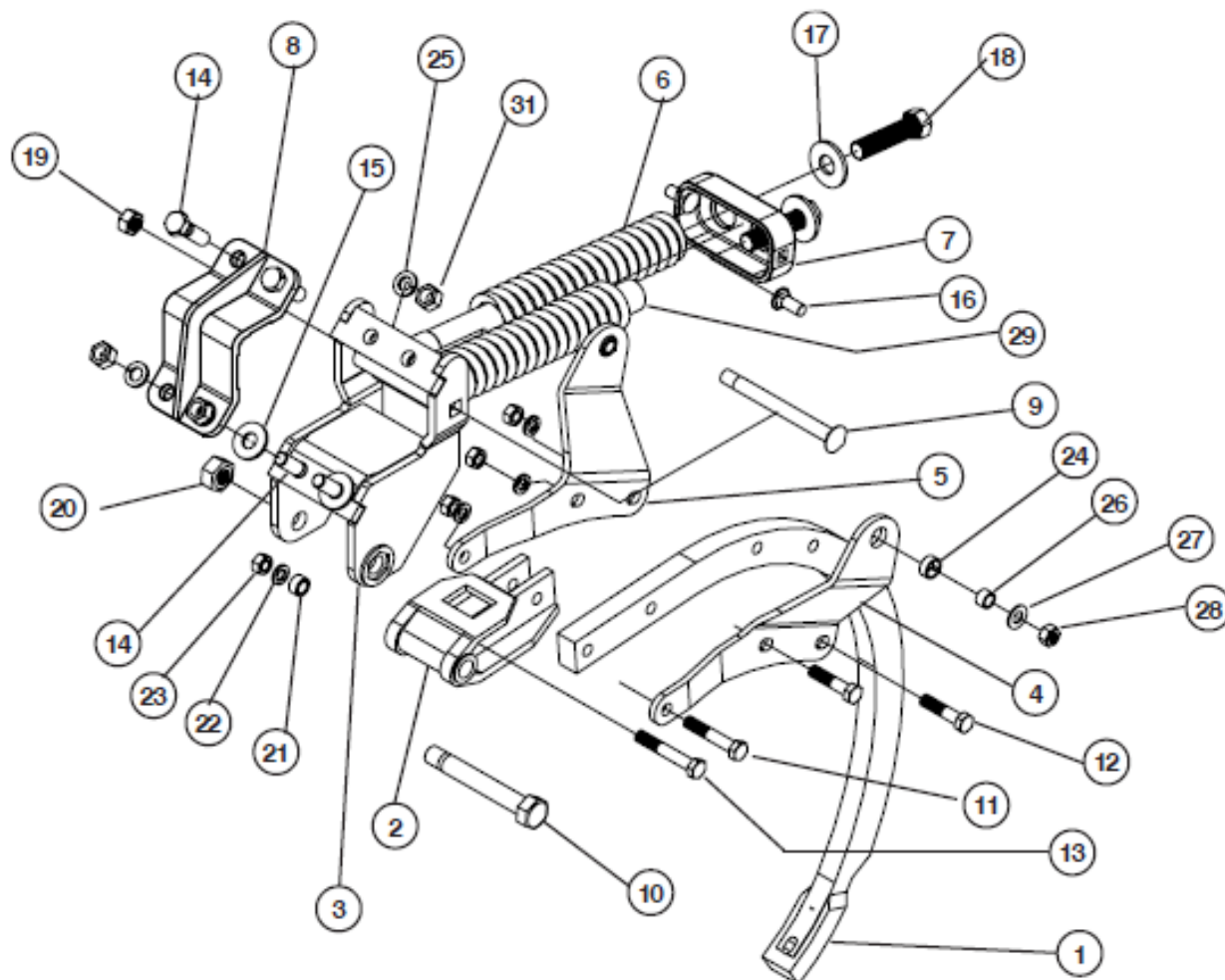
Pos	Item no.	Designation	4 m	5 m
1	1160360	Scraper bar, (f/V-profil-roller with centerpipe Ø355) L (until machin.no. 29492)	1	
1	1160363	Scraper bar, (f/V- profil-roller with centerpipe Ø355) R (until machin.no. 29492)	1	
1	1160327	Scraper bar, (f/V- profil-roller with centerpipe Ø355) L (until machin.no. 29492)		1
1	1160328	Scraper bar, (f/V- profil-roller with centerpipe Ø355) R (until machin.no. 29492)		1
2	1160576	Scraper bar, (f/V- profil-roller with centerpipe Ø127) (from machin.no. 29493)	2	
2	1160575	Scraper bar, (f/V- profil-roller with centerpipe Ø127) (from machin.no. 29493)		2
2	1160576	Scraper bar, (f/U- profil-roller)	2	
2	1160575	Scraper bar, (f/U- profil-roller)		2
2	1160576	Scraper bar, (f/ Waveroller)	2	
2	1160527	Scraper bar, (t/T-profil- roller) L	1	
2	1160528	Scraper bar, (t/T-profil-roller) R	1	
2	1160529	Scraper bar, (t/T-profil-roller) L		1
2	1160530	Scraper bar, (t/T-profil-roller) R		1
3	0264090	Self-locking nut M16	16	16
4	0272290	Facet plate Ø16	16	16
5	690110106	U-bolt M16x200x100x200	8	8
6	690110025	U-bolt M10x50x70x50	31	39
7	630938507	Clamp 30x3 L=110	31	39
8	630938506	Scraper double (f/V-profil-roller with centerpipe Ø355)	15	19
9	630938505	Short scraper (f/V-profil-roller with centerpipe Ø355)	1	1
10	0272260	Facet plate Ø10	62	78
11	0264060	Self-locking nut M10	62	78
12	0422452	Short scraper (for T-profile roller)	4	4
13	0422450	Long scraper (for T-profile roller)	25	33
14	630938520	Schraper (f/V-profil-roller w/centerpipe Ø127, Waveroller, U-profil-roller)	29	37
15	630938522	Clamp 50x70 – 32x21	29	37
16	0235450	Bolt M12x90	29	37
17	0264070	Self-locking nut M12	29	37
18	0272270	Facet plate M12	29	37

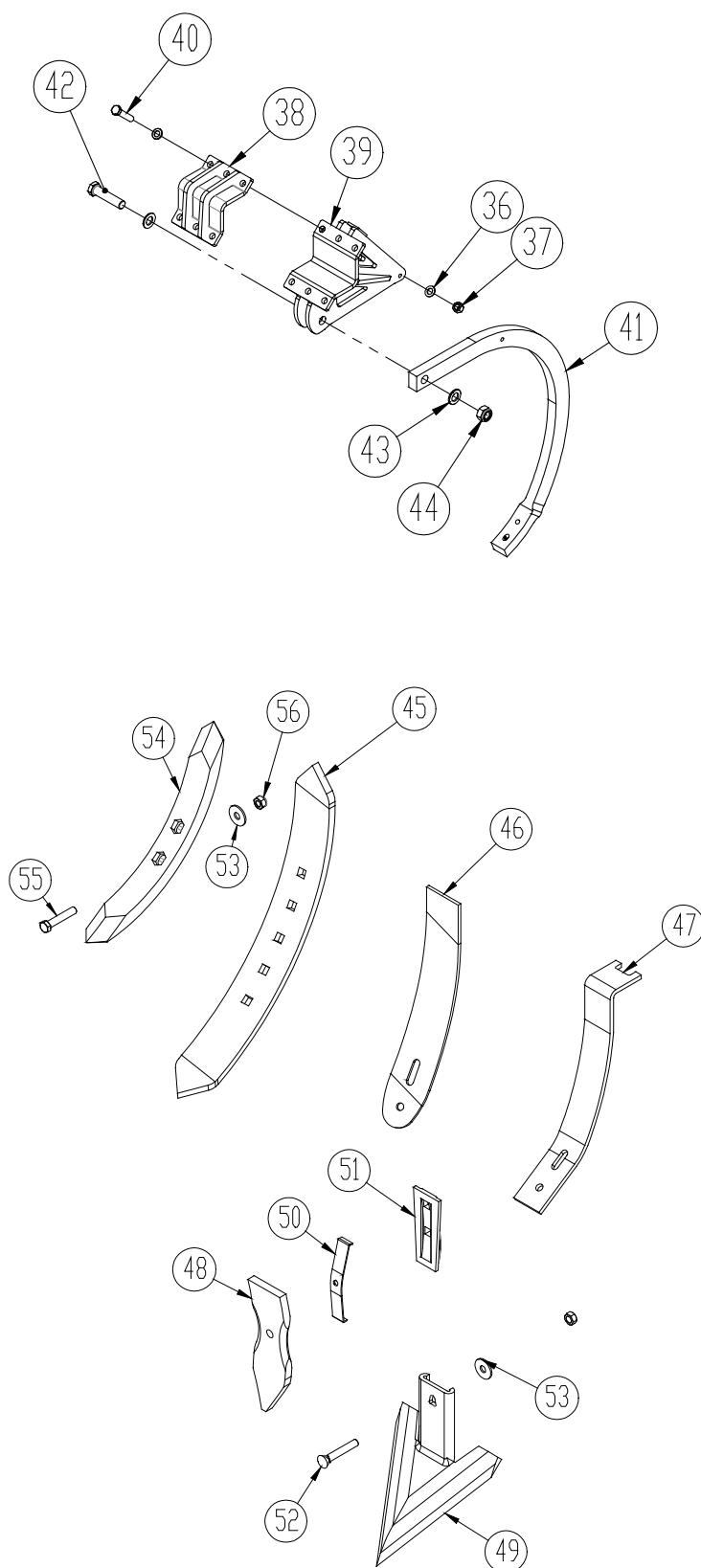
Levelling bar



Pos	Item no.	Designation	4 m	5 m
1	1160354	Levelling bar, left	1	
1	1160351	Levelling bar, right	1	
1	1160340	Levelling bar, left		1
1	1160330	Levelling bar, right		1
2	690103124	Bolt M16x35	2	2
3	1160325	Spindle (complete)	2	2
3a	7385001	Inner pipe	1	1
3b	7385000	Outer pipe	1	1
3c	690304101	Spindle Tr28x5 L=410	1	1
3d	0371660	Retaining pin Ø8x30mm	1	1
3e	690304102	Crank handle	1	1
4	0236250	Bolt M20x160	2	2
5	675101006	Bush BK 30x5 L=89mm	2	2
6	0272310	Facet plate Ø20	16	16
7	0264110	Self-locking nut M20	8	8
8	690103069	Bolt M20x80	2	2
9	690103179	Bolt M20x180	4	4
10	0432510	Lubricating nipple M8	4	4
11	1160560	Bush Ø30x5mm L=108mm	4	4

Tine / Tin points

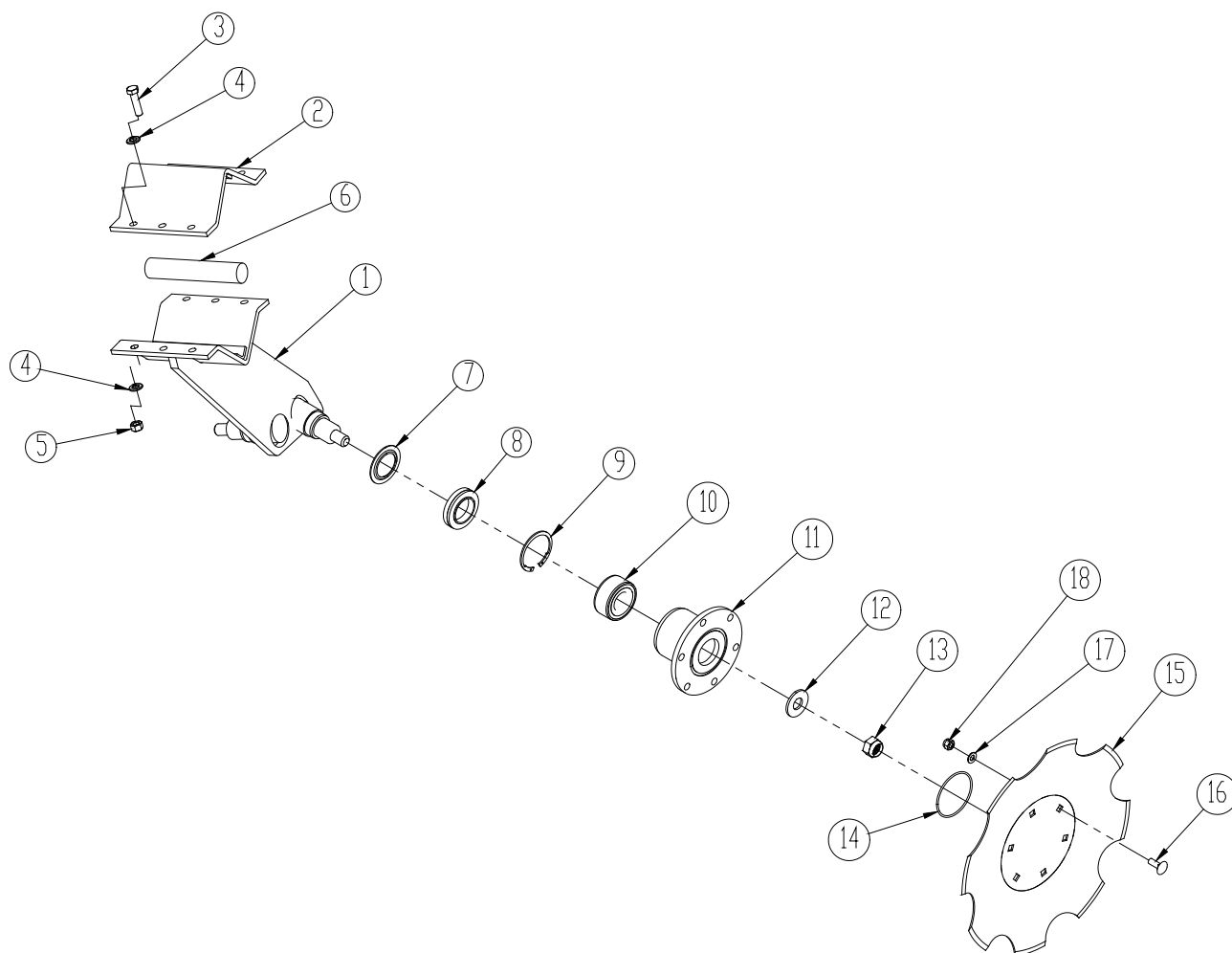




Pos.	Item no.	Designation	No. per tine 2,5-3,5m	No. per tine 4,0m
	0424300	Complete tine (no 1-31)		
1	0424601	Shank	1	1
2	0424602	Holder for shank	1	1
3	0424603	Tine attachment	1	1
	0424630	Tine attachment (from aug 2013)	1	1
4	0424604	Side plate for shank, Left (before aug 2013)	1	1
	0424631	Side plate for shank, Left (from aug 2013)	1	1
5	0424605	Side plate for shank, Right (before aug 2013)	1	1
	0424632	Side plate for shank, Right (from aug 2013)	1	1
6	0424606	Spring	2	2
7	0424607	Spring retainer	1	1
8	0424608	Clamping bracket	1	1
9	0424609	Carrier bolt 3/4NC-2A (before aug 2013)	1	1
	0424633	Bolt 3/4NC x 8,13IN (from aug 2013)	1	1
10	0424610	Pivot bolt (before aug 2013)	1	1
	0424634	Bolt 1 IN NC x 7,35IN (from aug 2013)	1	1
11	0424611	Bolt 5/8NCx4	1	1
12	0424612	Bolt 5/8NCx2-3/4	2	2
13	0424613	Bolt 5/8NCx3-1/2	1	1
14	0424614	Bolt 3/4NCx2-1/4	4	4
15	0424615	Facet plate 3/4	2	2
16	0424616	Carrier bolt 5/8NCx1-1/2	2	2
17	0424617	Facet plate 1/1	2	2
18	0424618	Steel bolt 1NCx4	2	2
19	0424619	Steel nut 3/4	1	1
20	0424620	Steel nut 1/1	1	1
21	0424621	Distance bush 9/16x1	2	2
22	0424622	Facet plate 5/8	4	4
23	0424623	Steel nut 5/8	4	4
24	0424624	Bush	2	2
25	0424625	Facet plate 3/4	4	4
26	0424626	Bush	2	2
27	0424627	Facet plate 3/8	2	2
28	0424628	Steel nut 5/8 (before aug 2013)	1	1
	0424635	Steel nut 5/8 (from aug 2013)	1	1
29	0424629	Spring bracket	2	2
31	0424619	Steel nut 3/4 (before aug 2013)	2	2
	0424636	Steel nut 3/4 (from aug 2013)	2	2
32	0424250	Spring tine, double-twisted 35x35 mm (R)	1	
32A	0424252	Spring tine, double-twisted 35x35 mm (L)	1	
32	0424250	Tine, double-twisted 35x35 mm (R) (for machine. No 37528)		1
32A	0424252	Tine, double-twisted 35x35 mm (L) (for machine No 37528)		1

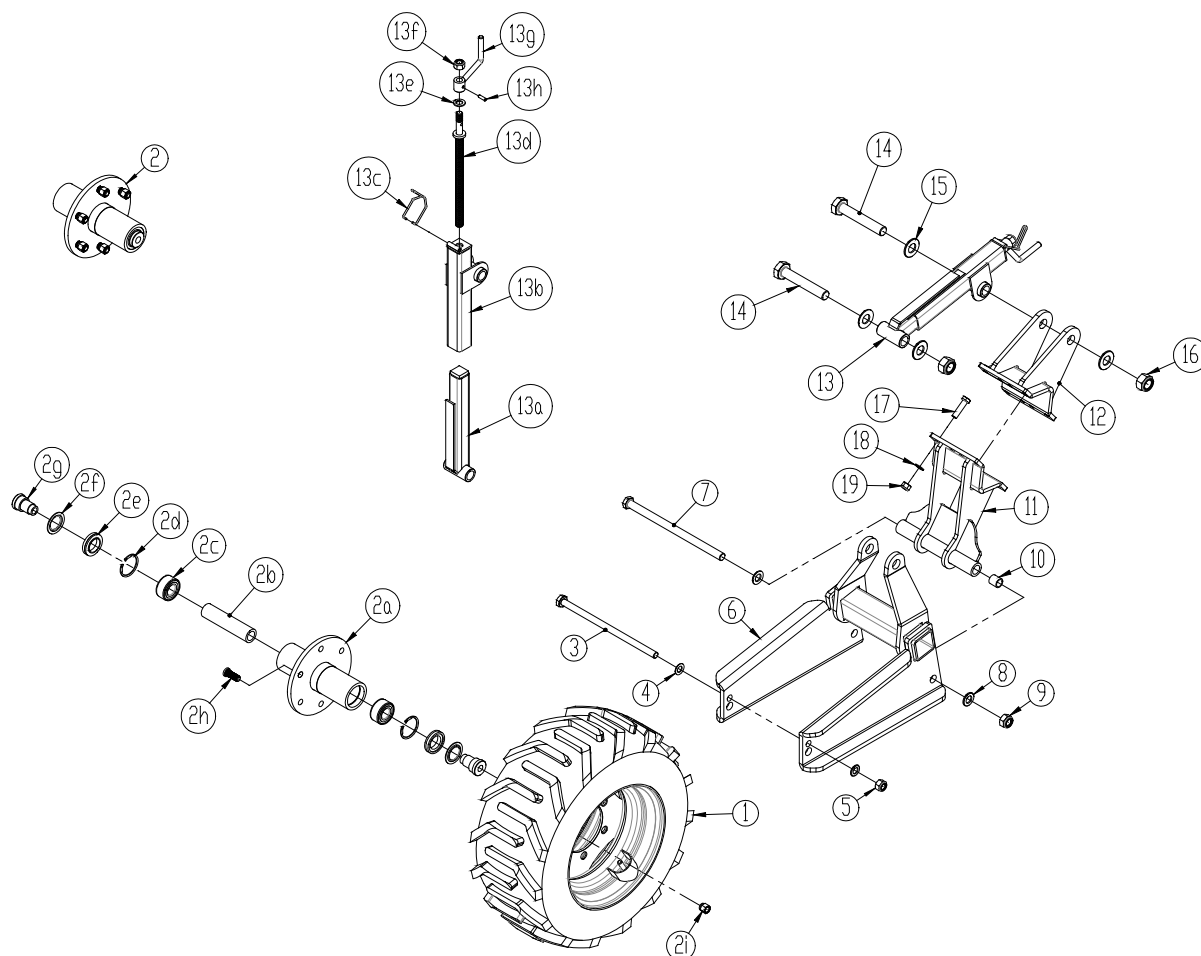
Pos.	Item no.	Designation	No. per tine 2,5-3,5m	No. per tine 4,0m
	0424260	Tine, double-twisted 40x40mm (R) (from machine No 37529)		1
33	1160745	Bracket for spring 35x35 tine	2	
	1160745	Bracket for spring 35x35 tine (for machine No 37528)		2
	1160942	Bracket for spring 40x40 tine (from machine No 37529)		2
34	0235991	Bolt M16x200 10.9	1	
	0235991	Bolt M16x200 10.9 (for machine No 37528)		1
	0236290	Bolt M20x220 10.9 (from machine No 37529)		1
35	0235991	Bolt M16x200 10.9	2	
	0235991	Bolt M16x200 10.9 (for machine No 37528)		2
	0236011	Bolt M16x220 10.9 (from machine No 37529)		2
36	0272290	Facet plate Ø16	6	
	0272290	Facetskive Ø16 (for machine No 37528)		6
	0272290	Facetskive Ø16 (from machine No 37529)		4
	0272310	Facetskive Ø20 (from machine No 37529)		2
37	690113017	Lock nut M16	3	
	690113017	Lock nut M16 (for machine No 37528)		3
	690113017	Lock nut M16 (from machine No 37529)		2
	0263000	Lock nut M20 (from machine No 37529)		1
38	1160501	Upper part for tine holder	1	1
39	1160455	Lower part for tine holder	1	1
40	0235870	Bolt M16x75	6	6
41	1160450	Tine	1	1
42	0236410	Bolt M24x100	1	1
43	0272330	Facet plate Ø24	2	2
44	0264130	Lock nut M24	1	1
45	0424330	Standard point, left	1	1
	0424340	Standard point, right	1	1
46	0424480	Twisted mould board, left	1	1
	0424490	Twisted mould plate, right	1	1
47	1139890	Straight mould plate (35x35 mm tine)	1	
	7435000	Straight mould plate (40x40 mm tine)		1
48	0424450	Chisel point, 75 mm	1	1
49	0424402	Wing share, 260 mm	1	1
50	0424360	Retaining spring	1	1
51	0424350	Adapter	1	1
52	0381300	PB-bolt M12x70 12.9 – w/nut	1	1
53	0272620	Disc Ø13/37x3	1	1
54	0424447	Point 50x25mm	1	1
55	0381290	Bolt M12x65 12.9	2	
	0381290	Bolt M12x65 12.9 (for machine No 37528)		2
	0381300	Bolt M12x70 12.9 (from machine No 37529)		2
56	0261071	Lock nut	2	2

Levelling disc



Pos	Item no.	Designation	4 m	5 m
1	1139870	Carrier arm, right/left	5	7
	1139871	Carrier arm, right	1	
	1139872	Carrier arm, left	1	
2	30949046	Clamping plate	7	7
3	690103091	Bolt M12x45 10.9	42	42
4	0272270	Facet plate M12	84	84
5	0264070	Self-locking nut M12	42	42
6	690210710	Rubber cord Ø35 L=190	14	14
7	630949019	Serrated disc Ø45/71,7	12	14
8	690140651	Seal Ø72	12	14
9	0379253	Seeger-circlip ring I Ø72	12	14
10	690140199	Bearing Ø35	12	14
11	30949030	Hub	12	14
	630949032	Repair outfit/conversion set incl. hub		
12	690117062	Washer Ø20	12	14
13	0263000	Lock nut M20	12	14
14	0483730	O-ring Ø80/3	12	14
15	0427791	Serrated disc Ø400 with 6 holes	12	14
16	0248421	Carrier bolt M10x30	72	84
17	0272260	Facet plate Ø10	144	168
18	0264060	Self-locking nut M10	72	84
	1139860	Complete carrier arm R/L		
	1139861	Complete carrier arm R		
	1139862	Complete carrier arm L		

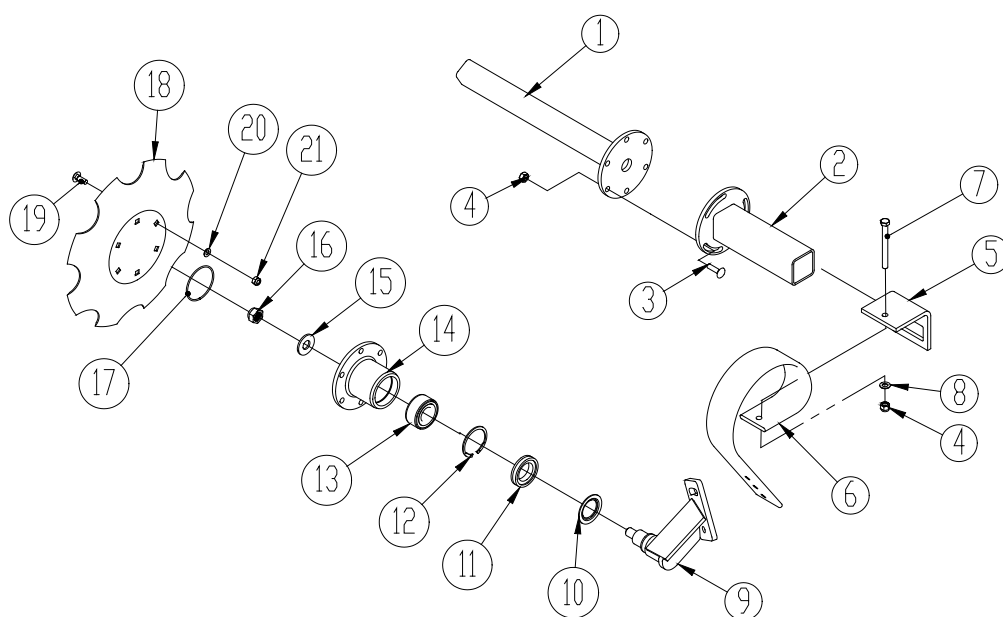
Support wheels



Pos	Item no.	Designation	4 m	5 m
1	0394700	Wheel AW 10.2/80 x 12/10 TL Silver 5/80/1 (until machin. no 32164)	2	2
	0395654	Wheel 300/55-14,5 SG Flotation (V) (from machin. no.32165)	1	1
	0395653	Wheel 300/55-14,5 SG Flotation (H) (from machin. no.32165)	1	1
2	0394850	Hub (complete) (until machin. no 32164)	2	2
	7365005	Hub (complete) (from machin. no.32165)	2	2
2a	1145390	Hub (until machin. no 32164)	2	2
	7365004	Hub (from machin. no.32165)	2	2
2b	1145393	Distance sleeve (until machin. no 32164)	2	2
	7365002	Distance sleeve (from machin. no.32165)	2	2
2c	0474100	Bearing 5206-2RS YC (until machin. no 32164)	4	4
	690140201	Bearing (konisk dobbelt rulleleje) (from machin. no.32165)	4	4

Pos	Item no.	Designation	4 m	5 m
2d	0483585	Oil sealing ring Ø45/62x7 (until machin. no 32164)	4	4
	0379250	Seeger-circlip ring I 72 DIN472 (from machin. no.32165)	4	4
2e	690140651	Seal 72-45-14/17 (from machin. no.32165)	4	4
2f	630949019	Disc Ø45/71,7	4	4
2g	1145391	Axle (until machin. no 32164)	4	4
	7365001	Axle (from machin. no.32165)	4	4
2h	0394860	Hub bolt M12 x 1,5 L=36 mm (until machin. no 32164)	10	10
	0396460	Hub bolt M 18 x 1.5 L=49mm (from machin. no.32165)	12	12
2i	0394861	Hub nut M12 x 1,5 NV22mm (until machin. no 32164)	10	10
	0396470	Hub nut M18 x 1.5 (from machin. no.32165)	12	12
3	0236332	Bolt M20x400	2	2
4	0272310	Facet plate Ø20mm,	4	4
5	0264110	Self-locking nut M20	2	2
6	1160255	Yoke for support wheel	2	2
7	0236570	Bolt M24x400	2	2
8	0272330	Facet plate Ø24mm	4	4
9	0264130	Self-locking nut M24	2	2
10	0475300	Inner tension bush EG ø30/24x30mm	4	4
11	1160425	Guide for support wheel	2	2
12	1160462	Holder for cylinder	2	2
13	1145502	Spindle (complete)		
13a	1145342	Inner pipe	2	2
13b	1145341	Outer pipe	2	2
13c	0431980	Spindle keeper Ø5	2	2
13d	1145346	Spindle	2	2
13e	0470500	Shaft bearing Ø20	2	2
13f	0264110	Self-locking nut M20	2	2
13g	1036260	Crank	2	2
13h	0371660	Roll pin Ø8x32	2	2
14	0237070	Bolt M30x180	4	4
15	0272350	Facet plate Ø30 mm	8	8
16	0264155	Self-locking nut M30	4	4
17	0235840	Bolt M16x60mm	16	16
18	0272290	Facet plate 16mm	32	32
19	0264090	Self-locking nut M16	16	16

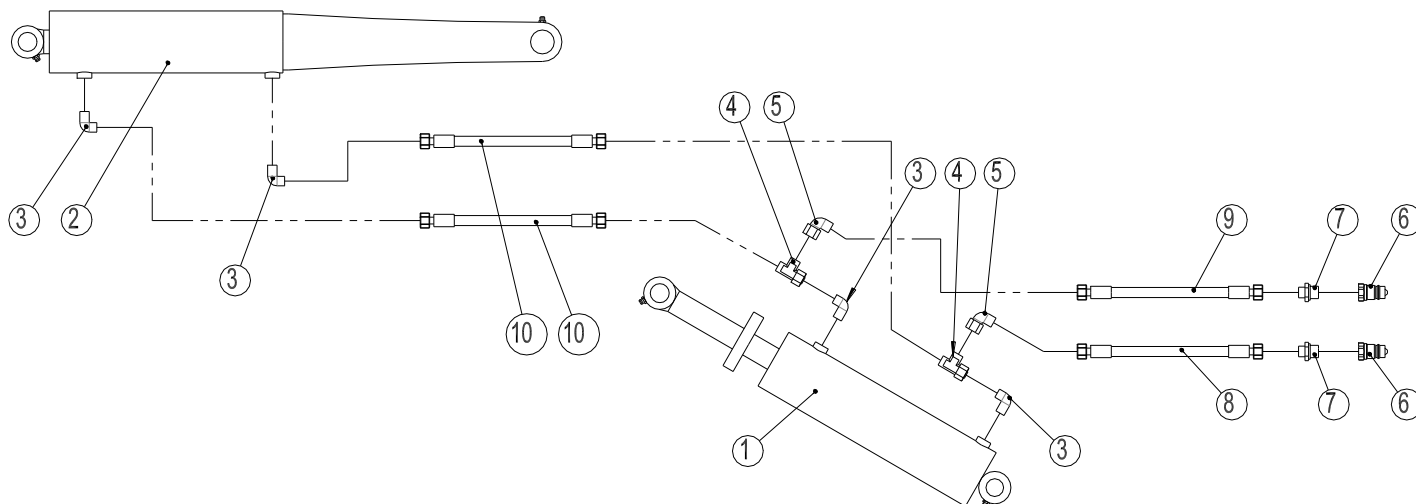
Edge equipment



Pos	Item no.	Designation	4 m	5 m
1	1139830	Inner tube f/edge equipment	2	2
2	1139800	Outer tube f/edge equipment	2	2
3	0248660	Carrier bolt M12x40mm	6	6
4	0264070	Nut M12	8	8
5	0422390	Tine holder f/ 80x10 mm tine	2	2
6	0422144	Tine 80x10mm	2	2
7	0235480	Bolt M12x120mm	2	2
8	0272270	Facet plate Ø12	8	8
9	1139850	Bracket w/axle (right)	1	1
	1139840	Bracket w/axle (left)	1	1
10	630949019	Disc Ø45/71,7	2	2
11	690140651	Seal Ø72	2	2
12	0379253	Seeger circlip ring I Ø72	2	2
13	690140199	Bearing Ø35	2	2
14	30949030	Hub	2	2
	630949032	Repair outfit/conversion set incl. hub		
15	690117062	Disc Ø20	2	2
16	0263000	Lock nut	2	2
17	0483730	O-ring Ø80/3	2	2
18	0427791	Serrated disc Ø400x5,0 mm	2	2
19	0248421	Carrier bolt M10x30mm	12	12
20	0272260	Facet plate Ø10	12	12
21	0264060	Self-locking nut M10	12	12

Hydraulics

Wheel support

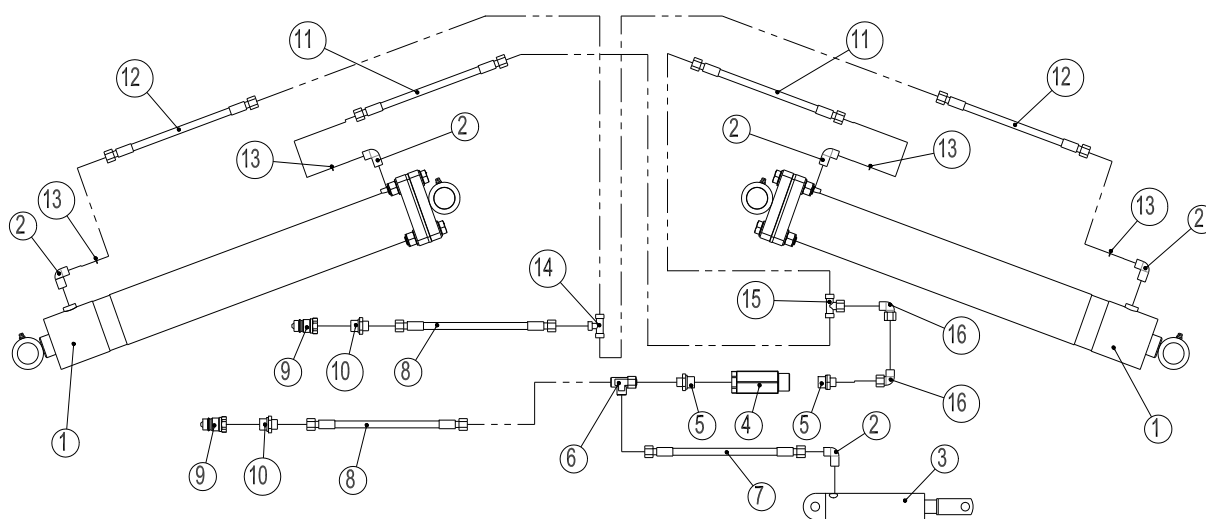


Pos	Item no.	Designation	4.0m	5.0m
1		See pos 6 page 16	1	1
		Gasket set	-	-
2		See pos. 13 page 24	1	1
		Gasket set	-	-
3	0446200	Fitting, 90angle 12-3/8" BSP	4	4
4	0446502	Fitting T12L premounted w O-ring	2	2
5	0446679	Fitting 90angle 12mm	2	2
6	690203001	Quick coupling 1/2", male	2	2
7	690203103	Fitting straight Ø12x1/2" BSP	2	2
8	690201231	Hydraulic hose 3320 mm 3/8" st/st	1	1
9	690201232	Hydraulic hose 3520 mm 3/8" st/st	1	1
10	690201202	Hydraulic hose 2025 mm st/st	2	2

Note:

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

Side section

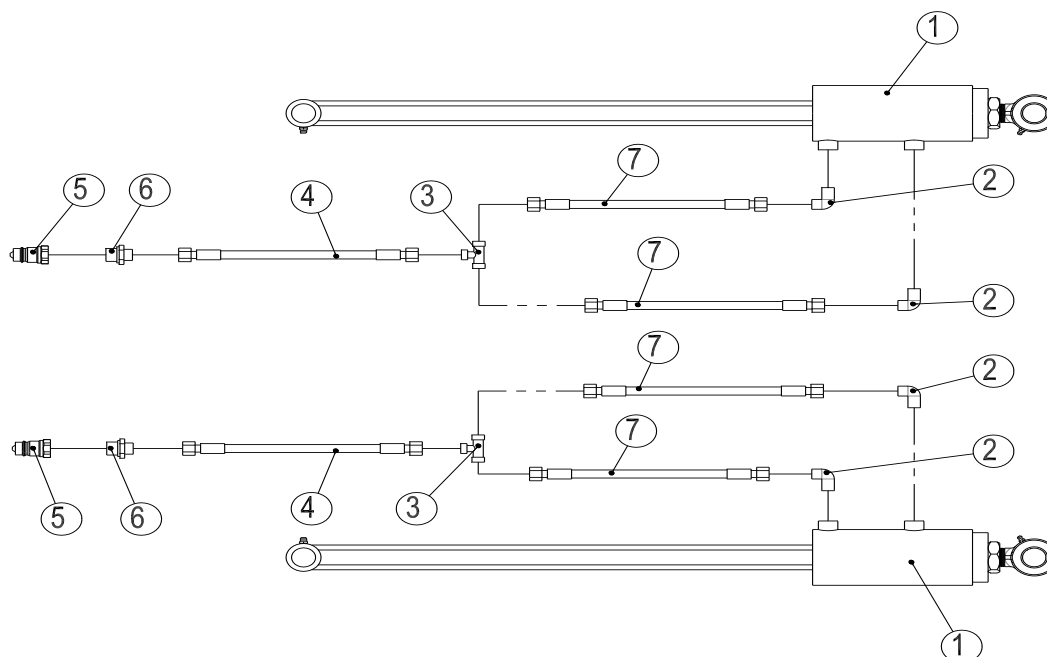


Pos	Item no.	Designation	4.0m	5.0m
1		See pos. 8 page 22	2	2
1a		Gasket set	-	-
2	690203006	Fitting, 90angle 10-3/8" BSP	5	5
3		See pos. 16 page 22	1	1
3a		Gasket set	-	-
4	0442450	Sequential valve, adjustable	1	1
5	690203003	Fitting, straight Ø10x1/2" BSP	2	2
6	690203120	Fitting T 10L premounted w/O-ring	1	1
7	0454250	Hydraulic hose 1010mm 1/4" st/st	1	1
8	690201025	Hydraulic hose 5640 mm 1/4" st/st	2	2
9	690203001	Quick coupling 1/2", male	2	2
10	690203003	Fitting straight Ø10x1/2" BSP	2	2
11	690201042	Hydraulic hose 500 mm st/st	2	2
12	0454313	Hydraulic hose 1130 mm st/st	2	2
13	690207901	Restrictor Ø1mm	4	4
14	690203015	Fitting T10	1	1
15	690203014	Fitting T10L	1	1
16	0446678	Fitting 90angle 10mm	2	2

Note:

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

Roller bar



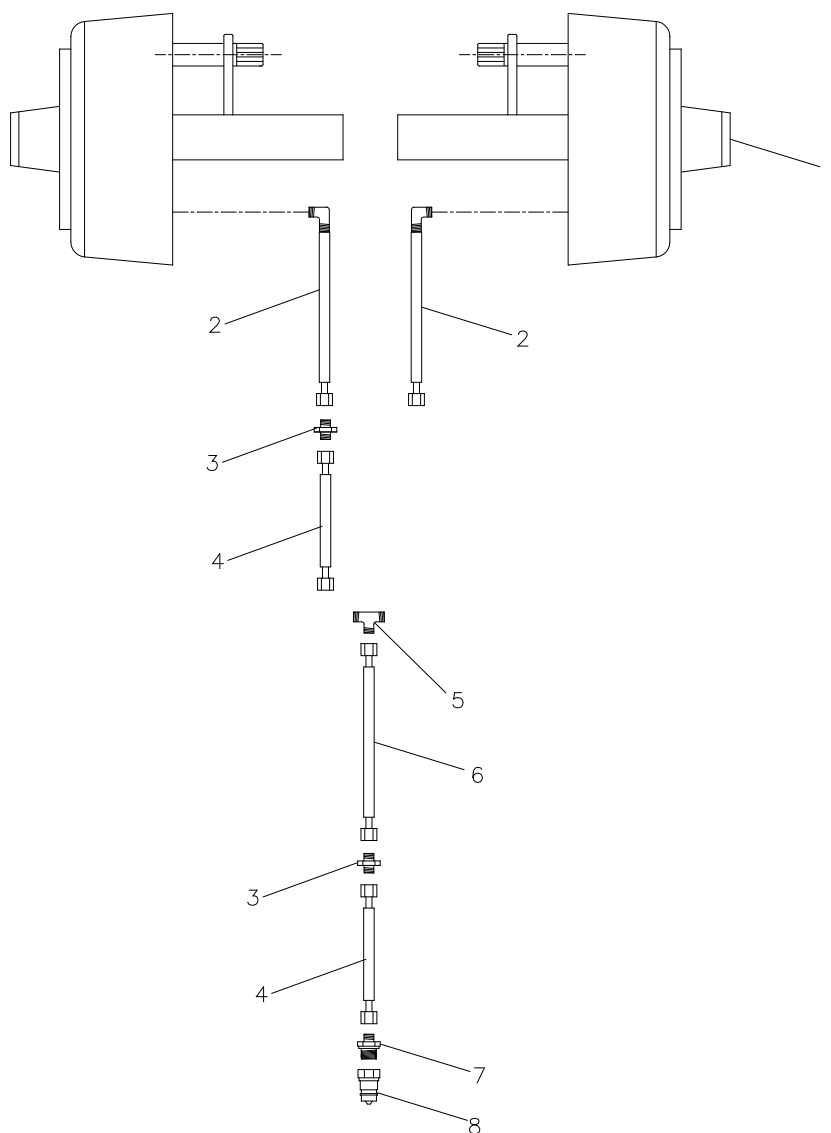
Pos	Item no.	Designation	4.0m	5.0m
1		See pos. 7 page 26	2	2
1a		Gasket set	-	-
2	690203006	Fitting 90angle 10-3/8" BSP	4	4
3	690203015	Fitting T10	2	2
4	690201025	Hydraulic hose 5640 mm 1/4" st/st	2	2
5	690203001	Quick coupling 1/2", male	2	2
6	690203003	Fitting straight Ø10x1/2" BSP	2	2
7	0454645	Hydraulic hose 2300 mm 1/4" st/st	4	0
7	690201033	Hydraulic hose 2500 mm 1/4" st/st	0	4

Note:

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

Brakes

Hydraulic brakes

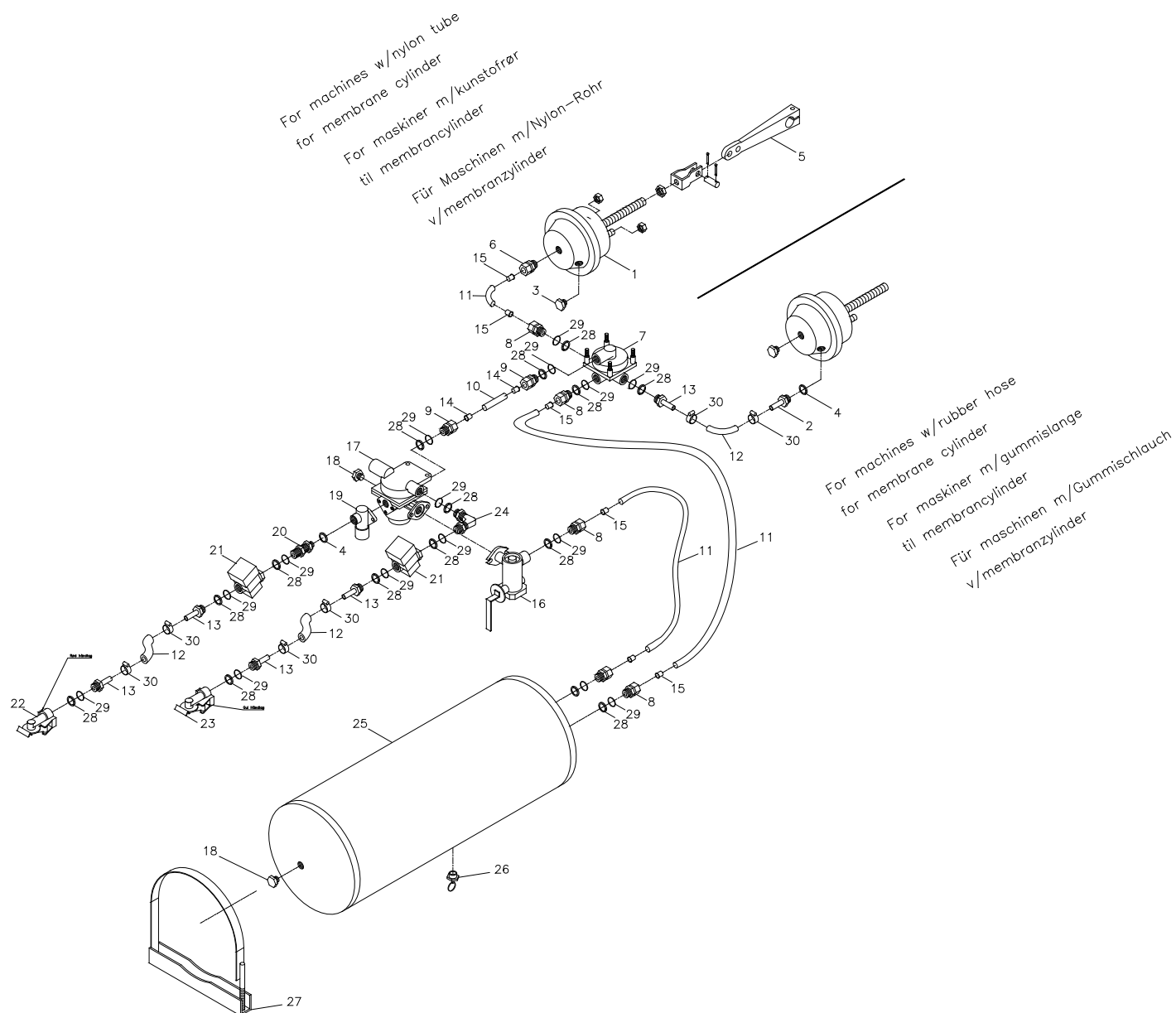


Pos.	Item no.	Designation	4.0 m	5.0 m
1	690141032	Hub with brake (inner cylinder)	2	2
2	690201071	Hydraulic hose 500mm 1/4" st/90	2	2
3	690203018	Fitting 10mm	1	2
4	0454211	Hydraulic hose 710mm 1/4" st/st	1	2
5	690203015	Fitting T10	1	1
6	690201024	Hydraulic hose 5000mm 1/4" st/st	1	1
7	690203003	Fitting straight 10-1/2" BSP	1	1
8	690203001	Quick coupling, male E402 1/2"	1	1

Note:

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

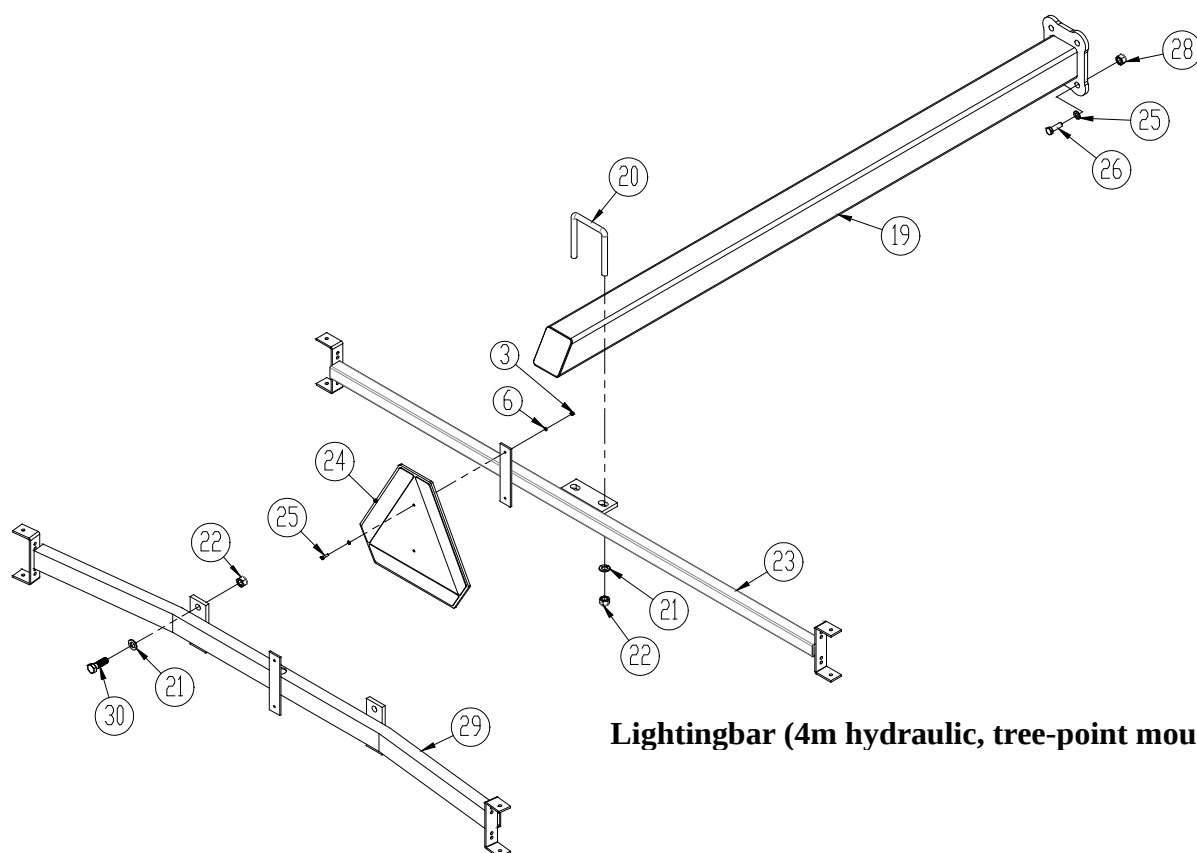
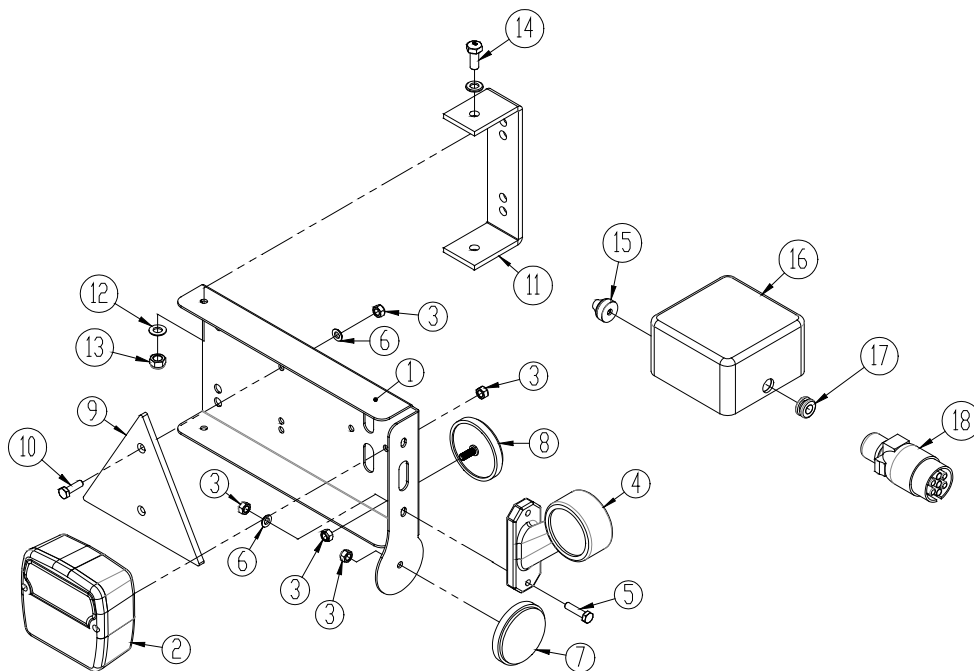
Air brake



Pos.	Item no.	Designation	w/nylon tube for membrane cylinder	w/rubber hose for membrane cylinder
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 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 f/tube Ø10x1,5mm	2	2
15	690190095	Support bushing f/tube Ø15x1,5mm	8	4
16	690190020	Brake power regulator M22x1,5	1	1
17	690190025	Trailer air brake valve M22x1,5	1	1
18	690190026	Plug	2	2
19	690190035	Relief valve	1	1
20	690203420	Fitting, straight M16x1,5+M22x1,5	1	1
21	690190040	Filter M22x1,5	2	2
22	690190045	Hose coupling M22x1,5 (red)	1	1
23	690190046	Hose coupling M22x1,5 (yellow)	1	1
24	690190030	V-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

Light

Led-Light

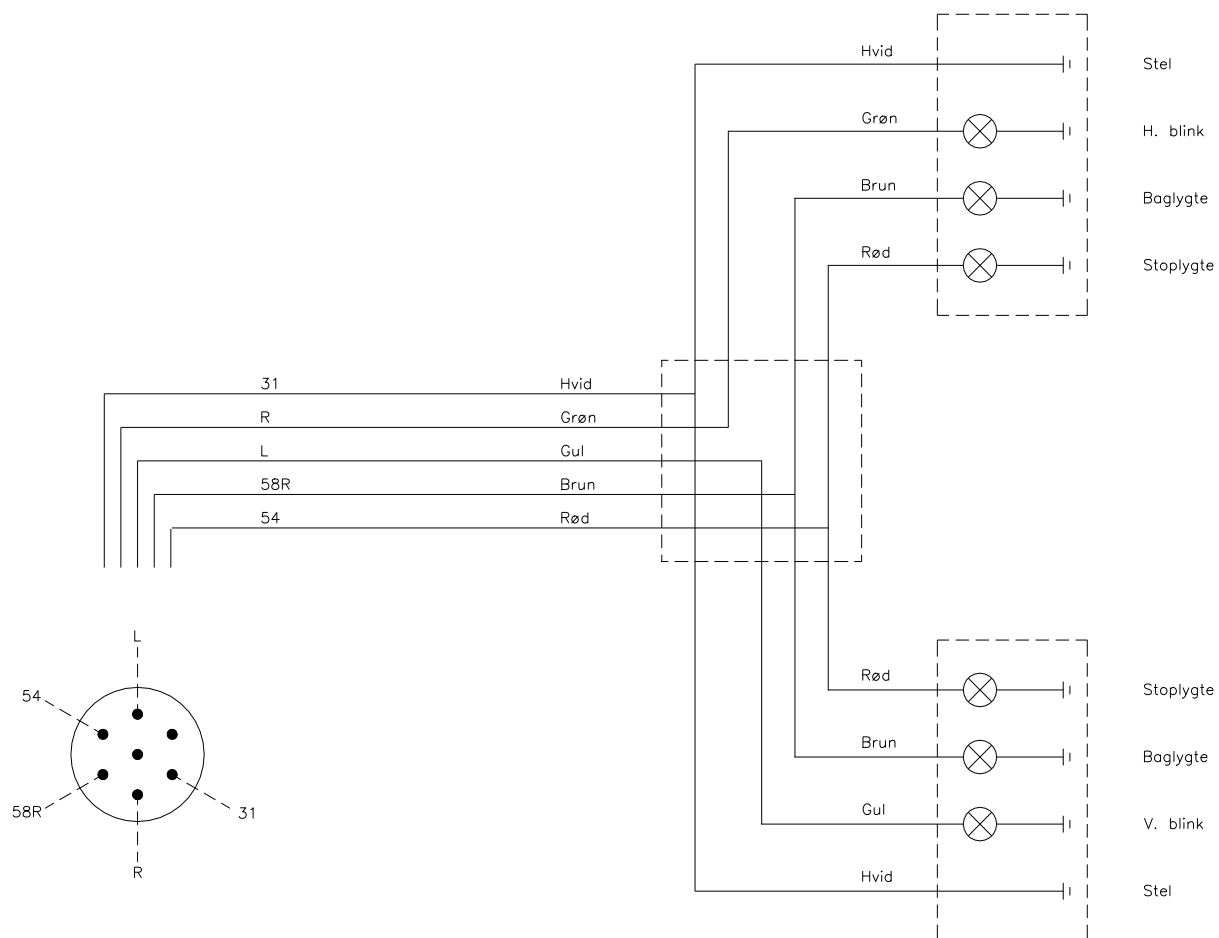


Lightingbar (4m hydraulic, tree-point mounted)

Lightingbar (4m + 5m hydraulic, trailed)

Pos.	Item no.	Designation	No.	Pos.
1	7357505	Light bracket, left	1	1
1	7357508	Light bracket, right	1	1
2	7357504	Rear light	2	2
3	0264030	Self-locking nut M5	16	16
4	7357507	Marking lights (left)	1	1
	7357509	Marking lights (right)	1	1
5	0233860	Bolt M5x20	4	4
6	0272230	Facet plate Ø5	10	10
7	0656240	Reflex, yellow	2	2
8	0656250	Reflex, white	2	2
9	0521030	Reflex, red	2	2
10	0233860	Bolt M5x20	2	2
11	7357516	Bracket	2	2
12	0272240	Facet plate Ø6	8	8
13	0264040	Self-locking nut M6	4	4
14	0234330	Bolt M6x20	4	4
15	7357545	Rutaseal nipple M20 8-12mm	2	2
16	0520492	Connecting box 105x105x60	1	1
17	7357546	Rubber bushing	1	1
18	690160070	Plug 7 poles DIN 72 577 – ISO 1724	1	1
	690160080	Cable 5 x 1 mm ² (specify length when ordering)		
19	1160370	Mounting bracket	1	1
20	0382160	U-bolt M16x100x100x100	1	1
21	0272290	Facet plate Ø16	10	10
22	0264090	Self-locking nut M16	6	6
23	630835020	Lightingbar (4m lift-mounted)	1	1
24	0521010	Warning triangle	1	1
25	0233860	Bolt M5 x 20	2	2
26	0235360	Bolt M12x40	4	4
27	0272270	Facet plate Ø12	8	8
28	0264090	Self-locking nut M12	4	4
29	630835015	Lightingbar (4m og 5m trailed)	1	1
30	0235810	Bolt M16x50	4	4

Wiring diagram LED-light



Notes

as it looks

As good as it looks

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2011
Denmark



The design is subject to modification without notice