

UK

HE-VA

Operating Instructions
Spare Parts List
Declaration of Conformity

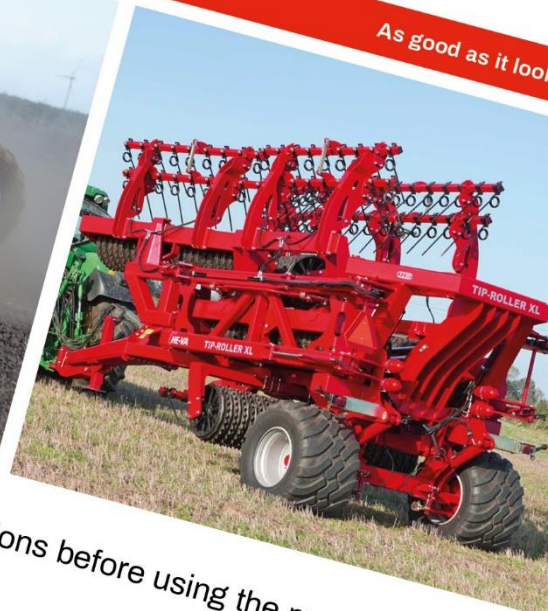
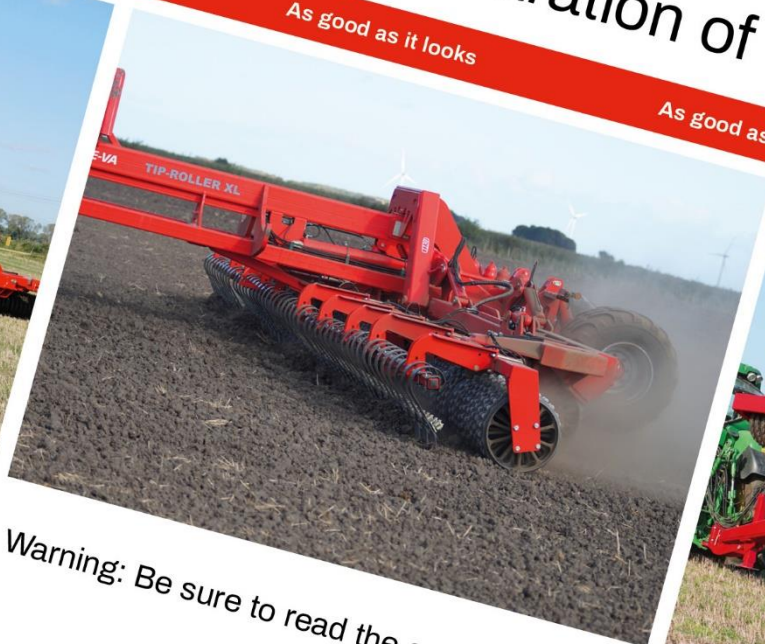
as it looks

As good as it looks

As good as it looks

As good as it looks

As good as it looks



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

Tip-Roller XL

12.30 m - 15.30 m

Manual no. 8000311-04 290124



N. A. Christensensvej 34
DK-7900 Nykøbing Mors

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Contents

| | |
|---|----|
| Contents | 3 |
| EC DECLARATION OF CONFORMITY..... | 4 |
| Description of the machine | 5 |
| Delivery Check | 5 |
| Specifications | 6 |
| Operating Instructions..... | 6 |
| Warning..... | 7 |
| Tip XL roller folding instructions | 7 |
| He-Va SAT-System..... | 9 |
| Spring Board..... | 9 |
| Rolling..... | 10 |
| Safety at the Tip-Roller XL | 10 |
| Safety Instructions, regarding Hydraulic System | 12 |
| Safety and other markings on the machine | 12 |
| Maintenance | 14 |
| Lubrication | 14 |
| Spareparts list..... | 16 |
| Outer wing right / left..... | 16 |
| Outer roller section..... | 16 |
| Side section right..... | 17 |
| Side section left | 18 |
| Side roller section right / left and middle section..... | 20 |
| Chassis and drawbar..... | 22 |
| Drawbar for lift. 630757077 Cat. 3 / Cat. 4 (Additional)..... | 24 |
| Middle frame | 25 |
| Wheel frame w/brake | 26 |
| LED –light bar..... | 28 |
| Light kit: El. diagram | 29 |
| Spring-Board w/ fixed mounted wearing points and traverse locking system..... | 30 |
| Spring-Board mounting w/easy change | 31 |
| Ø16 mm tine for strigle | 32 |
| Roller section..... | 33 |
| Cambridge- and Corrugated rings overview | 34 |
| Rings at support bearing..... | 35 |
| Support bearing | 36 |

| | |
|---|----|
| Support bearing with rubber (additional equipment) | 37 |
| Hydraulic..... | 39 |
| Side sections | 39 |
| Weight distribution system, outer- and center section | 40 |
| Spring-Board | 42 |
| Tipping cylinder | 44 |
| Support leg | 46 |
| Disposal..... | 46 |





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.

In addition, the following harmonized EU standard has been used:
ISO 12100 Machine safety, general design principles, risk assessment and risk reduction.

The declaration comprises the following machines:

Tip-Roller XL 12,3m – 15,3m

Nykøbing the 29th of December 2018

A handwritten signature in black ink, appearing to read 'Villy Christiansen', with a long horizontal flourish extending to the right.

Villy Christiansen

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

Description of the machine

The Tip-Roller XL is a 5-section hydraulic roller, with a 2-section wheel frame. The main purpose of the divided wheel frame is to reduce the radius when turning in transport position and lower height in transport position. The roller sections is mounted in a middle suspension. This construction gives the sections an independent movement from each other, which makes the roller able to follow the surface in uneven or hilly areas.

The roller is mounted with He-Va SAT-system which is a weight distribution system to reduce weight from the chassis and middle section roller and transfer weight evenly to the wing sections.

Before operating the Tip-Roller this operating and safety instruction must be studied very carefully.

Delivery Check

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

Check that the frame construction has not been damaged. You should also 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 that the transport wheels are tightened and OK.

Check the air pressure in the tyres: approx. 3.8 bar / 55 psi

Transport Brackets

At delivery the machine is mounted with brackets for hoisting which is not painted.

These brackets is for attachment of chains or straps, when loading unloading the machine from the transport vehicle, and they must dismantled before use.



gear,

or
be



Specifications

5-section hydraulic wheel-mounted field roller with free movability in all sections. Used for rolling of stones and packing of the top soil. The roller is available with a working width of 12,3 m or 15,3 m and with five different ring types: Cambridge-, Cam-, Star-, 2D wave-, and Crosskill rings.

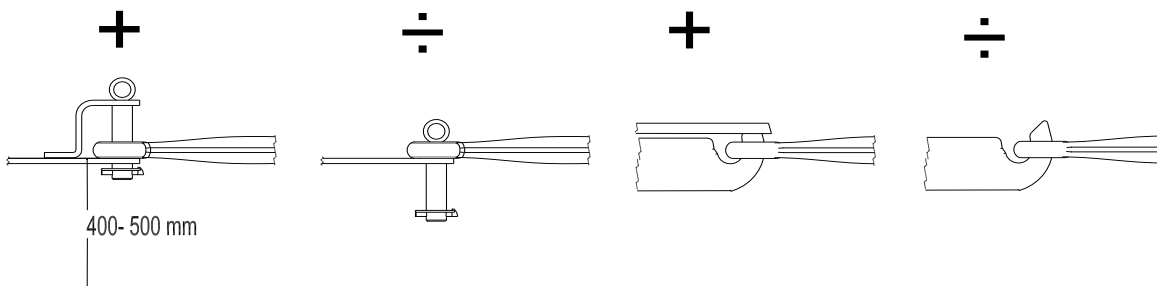
Technical Specifications

| Work Width | 12,3 m | 15,3 m |
|--|--|--------------|
| Total Width in workposition | 12,65 m | 15,65 m |
| Length | 8,6 m | 8,6 m |
| Width in transportposition | 3,0 m | 3,0 m |
| Hight in transportposition | | |
| Pressure on pintle eye in transport position (% of total weight) | ca. 40 % | ca. 40 % |
| Wheel assembly, standard | 710/40Rx22,5 | 710/40Rx22,5 |
| Tyre pressure | 3,8 bar / 55 psi | |
| Oil pressure | min. 150 bar | |
| Hydraulic outlets | 4 double-acting (tipping – folding – support leg – SAT system) Plus 1 DA. per each additional equipment (Spring Board – tine) | |
| Quick-couplings, standard | Sterling type E 402 | |
| Hydraulic oil: system is filled with | Hydro Texaco HD32 | |

Operating Instructions

Attachment

On delivery, the roller is in transport position. When the roller is attached, check that the towing hook height is 400-500 mm. Reverse the tractor, and put in and **secure** the draw bolt.



IMPORTANT: Check that the male quick couplings of the hydraulic hoses, mounted by the factory, fits the female end of the tractor.



Now connect the hydraulic hoses, in the hydraulic outlets of the tractor. The Hydraulic hoses are marked in pairs with colour coded cable ties.

| | | | | |
|--------------|----------------------|-------------------------------------|------------|--------------|
| Wing folding | Tip frame and wheels | SAT-system center and outside wings | Jack stand | Spring Board |
| Blue | Red | Yellow | Black | Green |

Start engine and raise the Jack stand.

Warning

- Do never transport the roller at any time when the middle section roller is decended to ground and wing sections are in transport positions.
- Drive carefully when driving off an on road/field. Be aware of ditches along the road and holes in dirt tracks due to center of gravety is reasonable high.
- Watch out in traffic to be sure there is space enough for the turning radius when turning.

Tip XL roller folding instructions

CAUTION! The machine has a high centre of gravity, only fold the machine on flat stable ground, check for sufficient space and any overhead obstructions. To avoid making the machine unstable, ensure the valve stays actuated until the function being operated has reached the end of its stroke. The tractor must be able to move freely.

Undfolding

- Step 1.** Lower SAT-system pressure until wings tip outwards approx.. 50 bar, fig. 1.
- Step 2.** Move the rear wheels back and tip the frame fully up clear of the transport cradles, fig. 3.
- Step 3.** Fold the wings fully out, fig. 2.
- Step 4.** Tip frame fully down until frame it is latched and the rear wheels are lifted from the ground, fig. 3.
- Step 5.** Set the SAT-system pressure (see page 9), the pressure should then be even on all roller sections, fig. 4.



Folding

- Step 1.** Lower the SAT-system pressure until center roller is fully raised, less than 50 bar.
- Step 2.** Tip frame fully up.
- Step 3.** Fold wings in.
- Step 4.** Lower the frame onto transport cradles and keep the valve actuated until the rear wheels have moved fully forwards.
- Step 5.** Raise the SAT-system pressure until the outer wings tip towards the center of the machine.



He-Va SAT-System



Figure 4

To activate the He-Va SAT-system (weight distribution system), slowly raise pressure in SAT- (figure 4), **until pressure is up to 50 – 60 bar 5)**. This will release weight from the inside wing roller and distribute some weight to the outer wing middle section roller. The individual weight of the will hereby be fairly even. **Despite this the driver pay attention to the fact, soil packing can be depending on different soil types.**

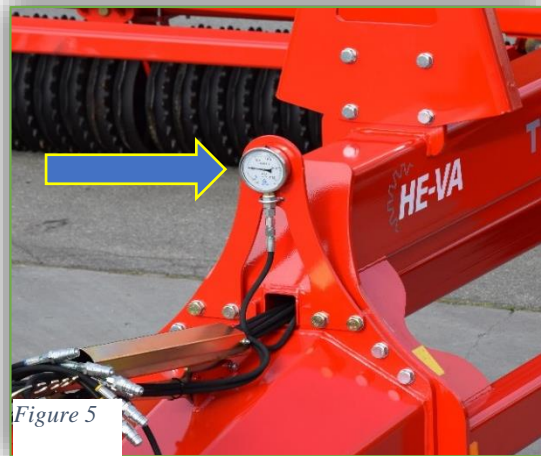


Figure 5

system (figure section and rollers **must various,**

Spring Board

The spring board is adjustable by the means of cylinders mounted in the horns for the spring bar.

If the roller is mounted with two Spring-Board possible to adjust the angle to the surface individually by the top link (figure 6).



Figure 6

the board bars, it is



Rolling

Speed: max. 10 km/h.

When turning, drive in wide curves as far as possible. The turning should be performed no sharper, than all roller rings are still rotating forward.

Only lower the wheels when making ready for transport position.

Do not drive over any large stones, which are not moveable.

WARNING:

Do always make sure that no persons is present at the machine working area, when folding it out and in.

Safety at the Tip-Roller XL

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:

1. Lower the machine on solid ground
2. Hydraulics must be relieved.
3. Tractor must be turned off, and the key removed.
4. 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.

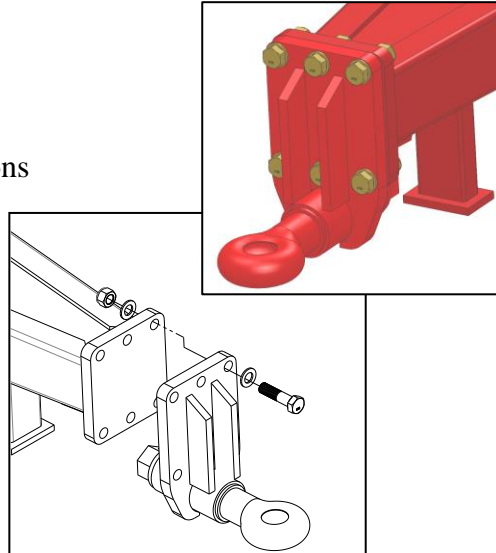
For this reason, it is of highest importance, that any person who is operating the machine, strictly follows the safety regulations and other instructions, which belongs the machine.

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.



Controle tightening:

- of hub bolts, 386 Nm according to specifications
- flange for towing eye, **6 pc of bolts** 541 Nm



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).

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

1. The highest allowable pressure, is 225 bar.
2. It is recommended to mark the hydraulic connections between the implement and tractor, to avoid incorrect operation!
3. 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.
At injuries, consult a doctor immediately. **RISK OF INFECTION!**
4. 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.
5. 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.
6. Hydraulic hoses last for no more than 5 years.
New hydraulic hoses must be identical to the manufacturer's specifications.

Oil, type Hydro Texaco HD 32 has been filled in the hydraulic system

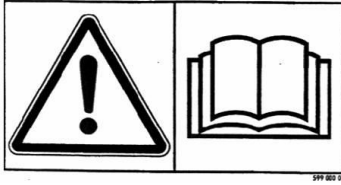
Safety and other markings on the machine

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

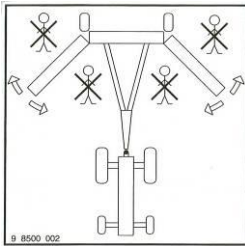
Please read these instructions carefully, and make the driver aware about the markings and **safety regulations** in this Operating Instructions. Keep the markings clean and readable. If they are not, they must be replaced.



Safety – and other markings on the machine



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



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.

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

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 |
| M10x1,5 | 47 | 65 | 79 |
| M12x1,75 | 81 | 114 | 136 |
| M14x2,0 | 128 | 181 | 217 |
| M16x2,0 | 197 | 277 | 333 |
| M18x2,5 | 275 | 386 | 463 |
| M20x2,5 | 385 | 541 | 649 |
| M22x2,5 | 518 | 728 | 874 |
| M24x3,0 | 665 | 935 | 1120 |
| Hub bolts M18x1,5 fine thread | | 385 Nm | |
| Hub bolts M22x1,5 fine thread | | 550 Nm | |



Maintenance

- After 10 hours of operation, tightening of wheels, bearings and stop rings must be done.
- Hoses, fittings and cylinders must be checked for any leaks and retightened.
- When the season is done the roller must be cleaned, lubricated and a thin layer of oil sprayed on all painted parts.
- Glossy piston rods must be protected by grease.

Lubrication

At every 10 hours operation: - every roller sections suspension

At every 30 hours operation: - wings bushings hinged to wheel frame

- bearings

- cylinders

- wheel frame bushings hinged to chassis

- wing frame bushings hinged to chassis

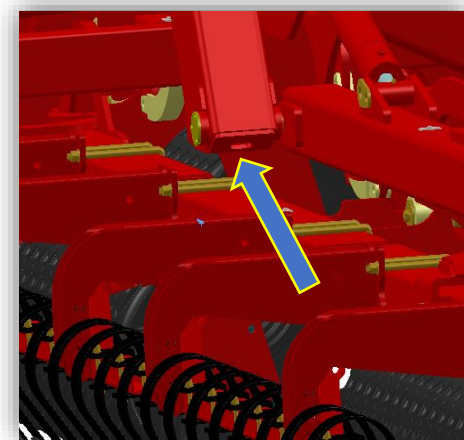
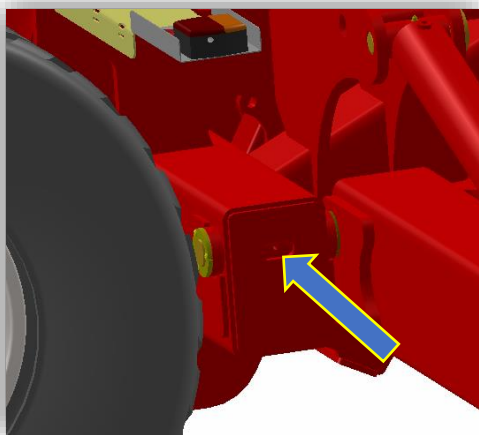
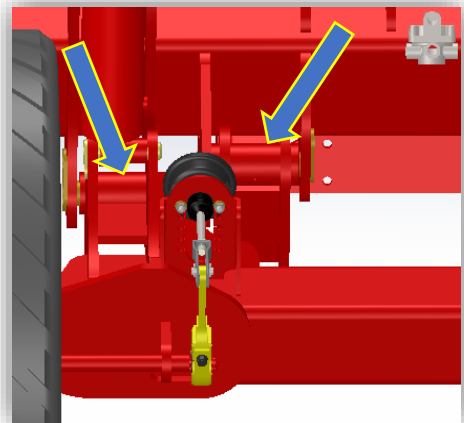
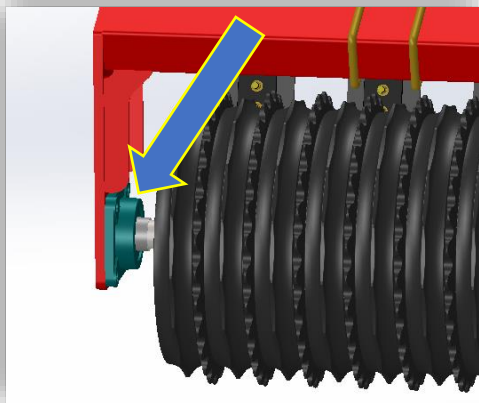
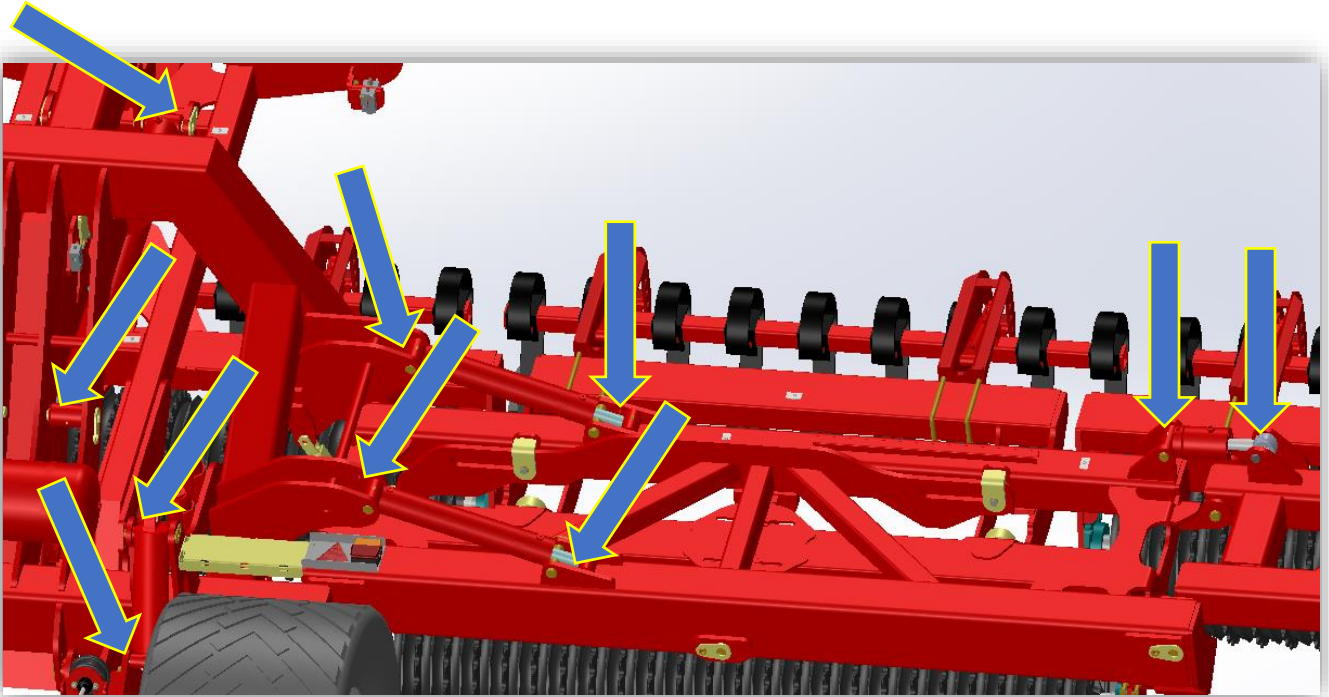
Once a year: - the support leg

IMPORTANT:

| |
|---|
| Bearings must only be lubricated with 1-2 strokes, otherwise the sealing rings can be released. |
|---|

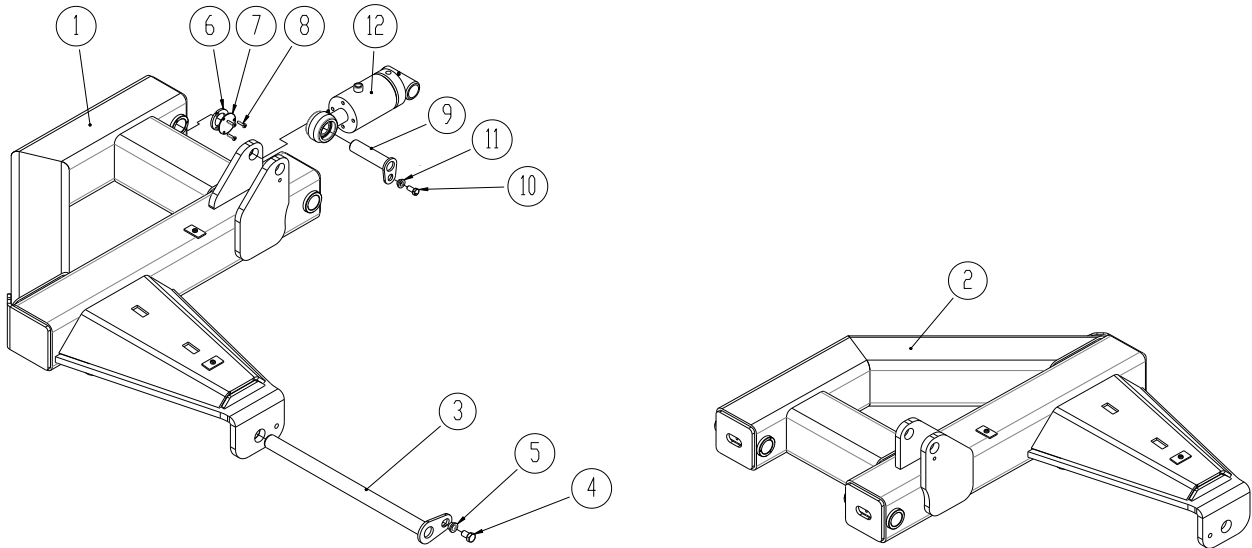


 = Greasenipples

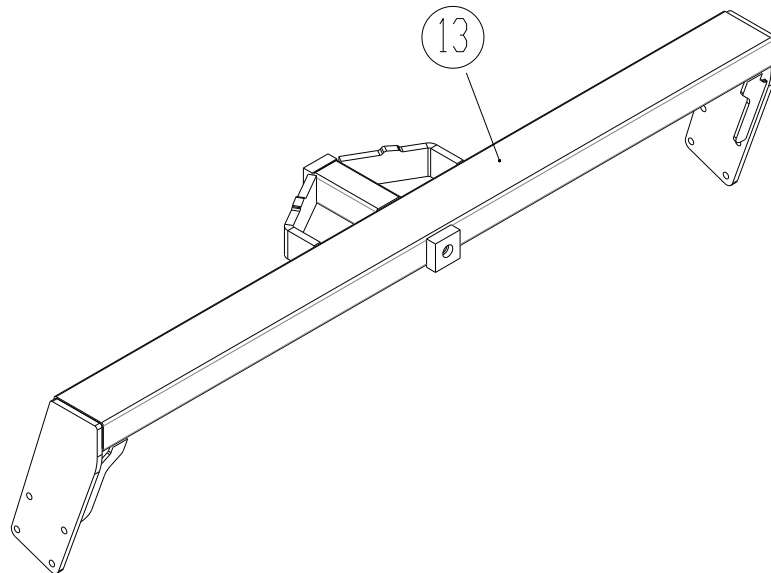


Spareparts list

Outer wing right / left

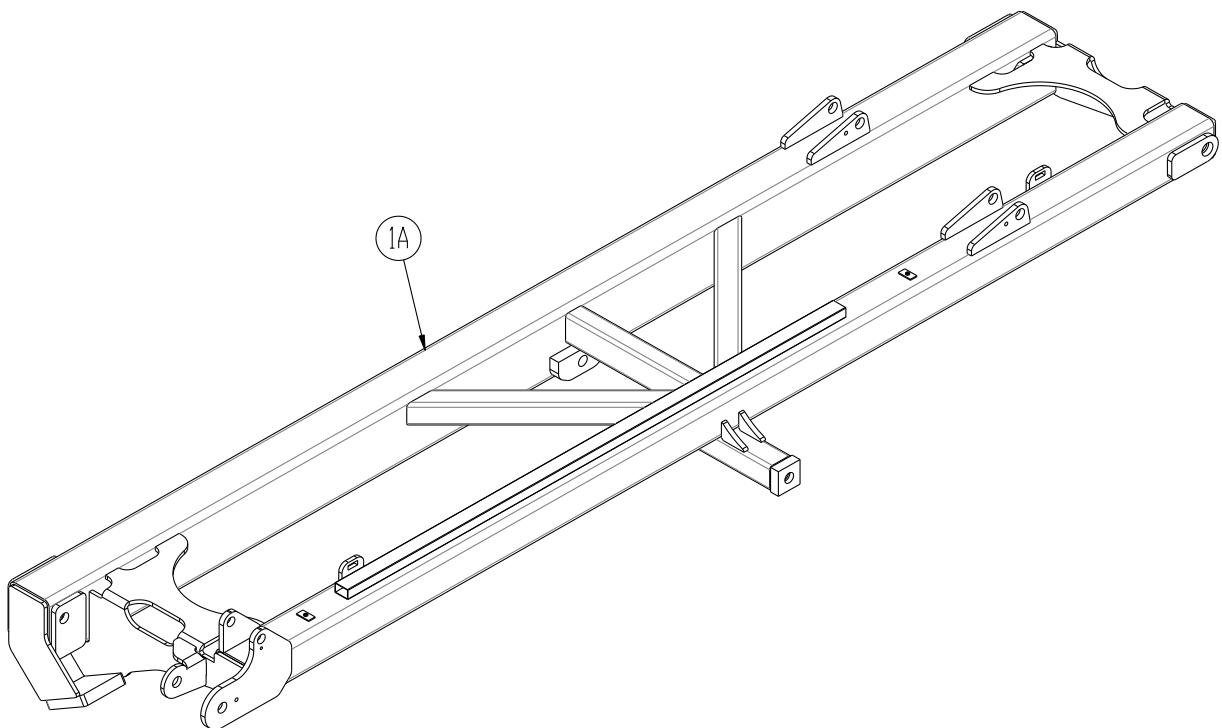


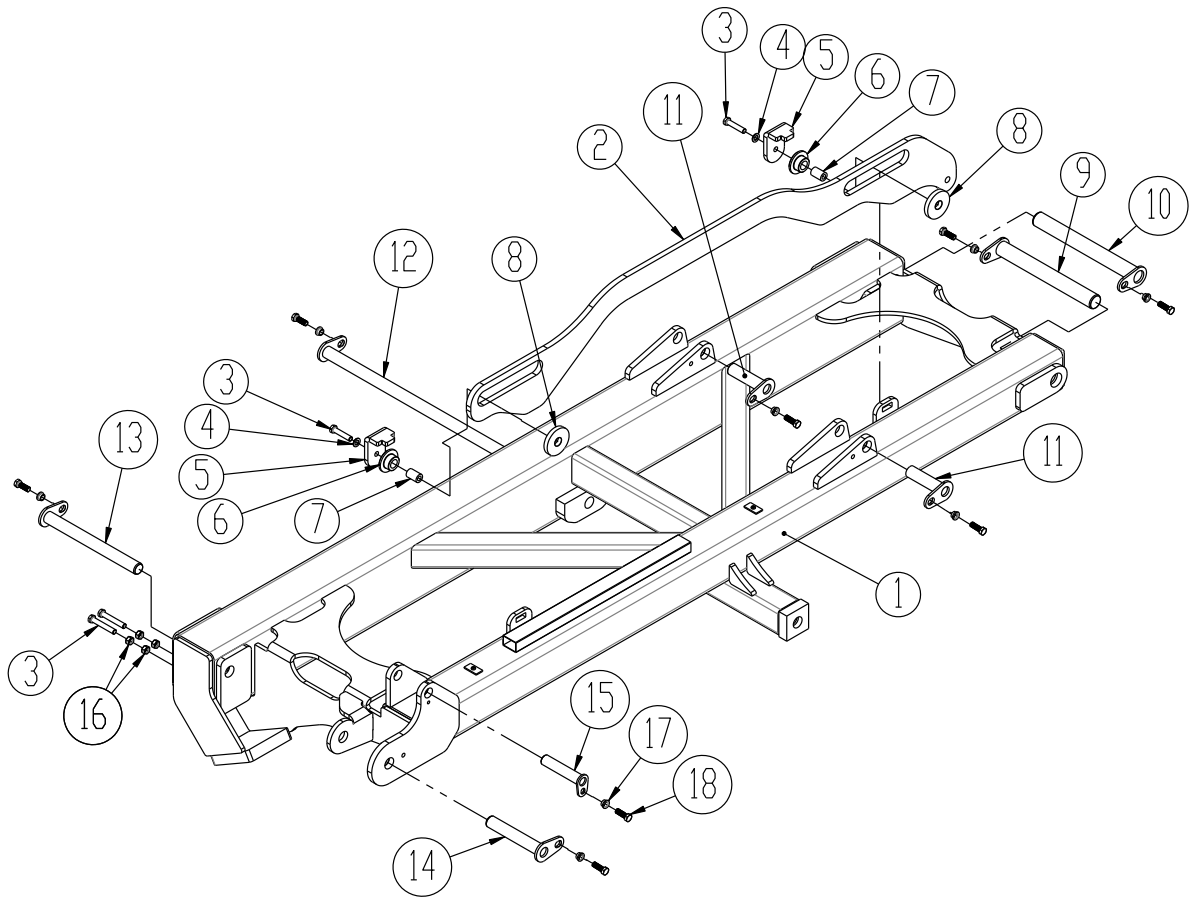
Outer roller section



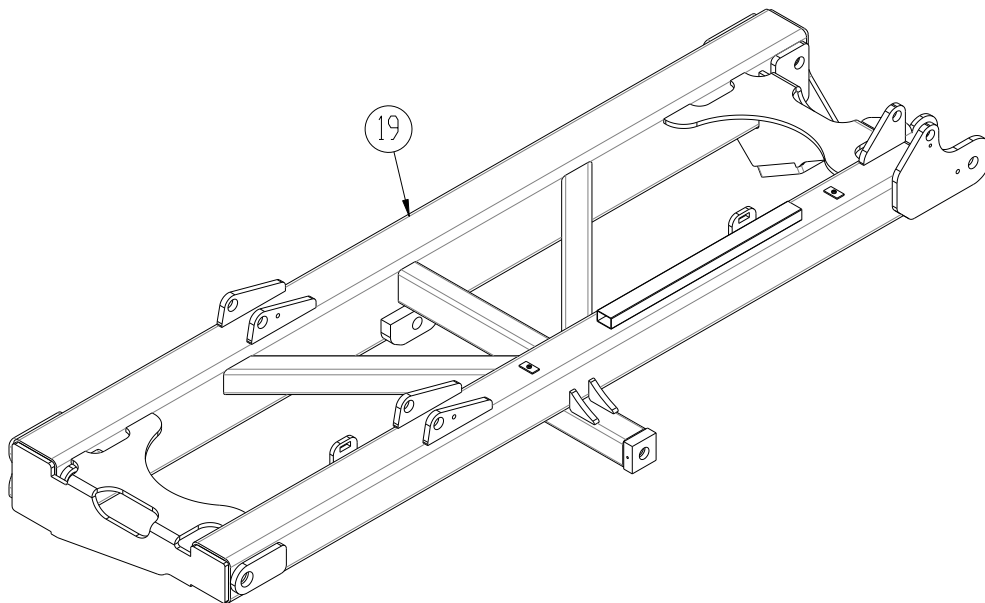
| Pos. | Part no. | Description | 12,3m | 15,3m |
|------|-----------|--|-------|-------|
| 1 | 630850260 | Outer wing right | 1 | 1 |
| 2 | 630850071 | Outer wing left | 1 | 1 |
| 3 | 69440615N | Pin Ø40 L=615 New model | 1 | 1 |
| 4 | 0235775 | Steel set screw M16x35 8.8 (with glue) | 1 | 1 |
| 5 | 630532700 | Lock bushing for pin head | 2 | 2 |
| 6 | 1215096 | Lock plate for Ø40 mm bushing | 2 | 2 |
| 7 | 1215107 | Cover for lock plate Ø40 mm bushing | 2 | 2 |
| 8 | 0227545 | Insex M6x25 BH 10.9 FZB DIN7380 | 6 | 6 |
| 9 | 69435138G | Pin Ø35 L=140 | 2 | 2 |
| 10 | 690101101 | Bolt M12x25 8-8 w/glue | 2 | 2 |
| 11 | 630532600 | Lock bushing for pin head | 2 | 2 |
| 12 | 7345020 | Cylinder Ø100/40 x 50 Ø35/Ø35 | 2 | 2 |
| 13 | 630850070 | Outer roller section right / left | 2 | 2 |

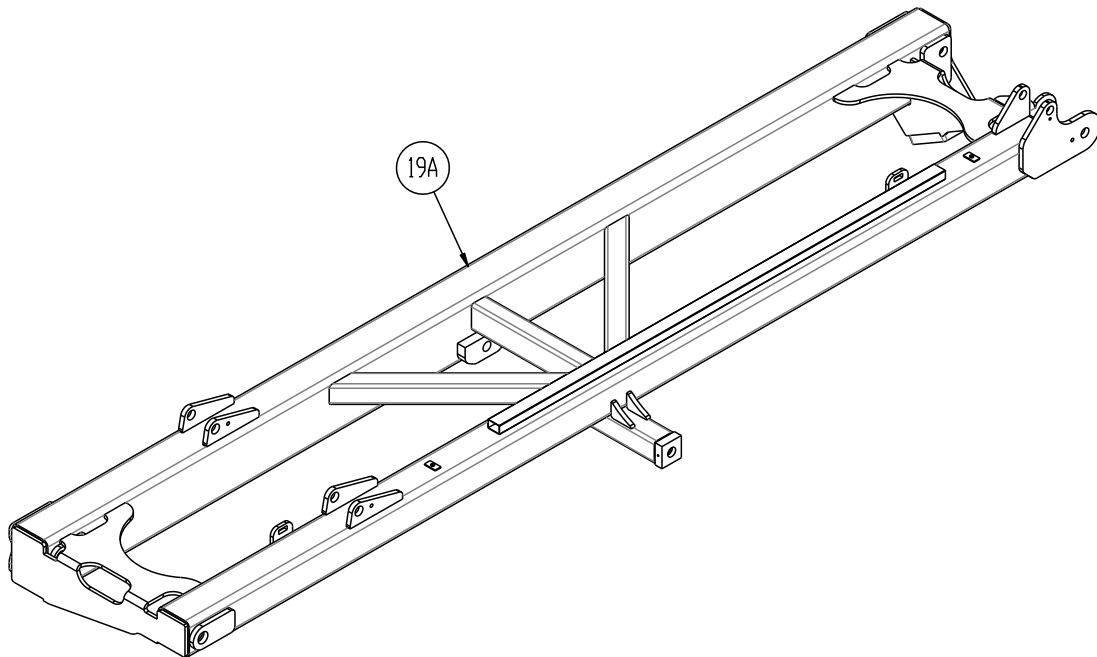
Side section right





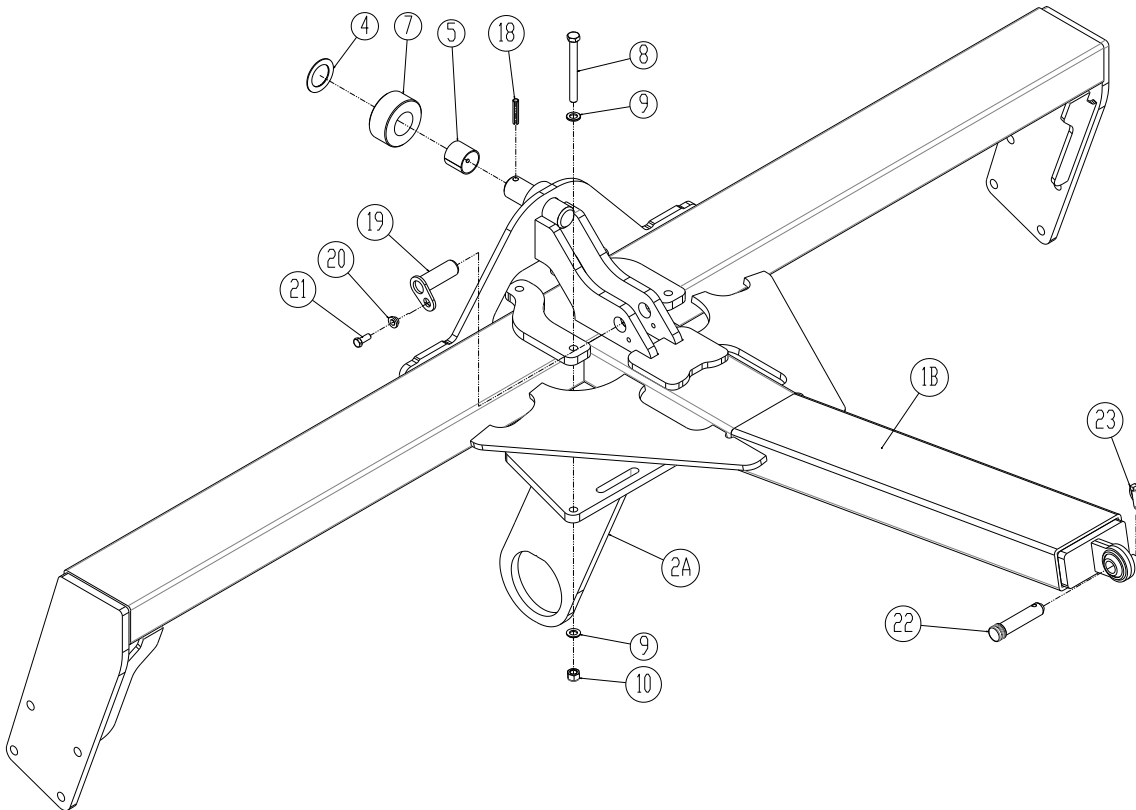
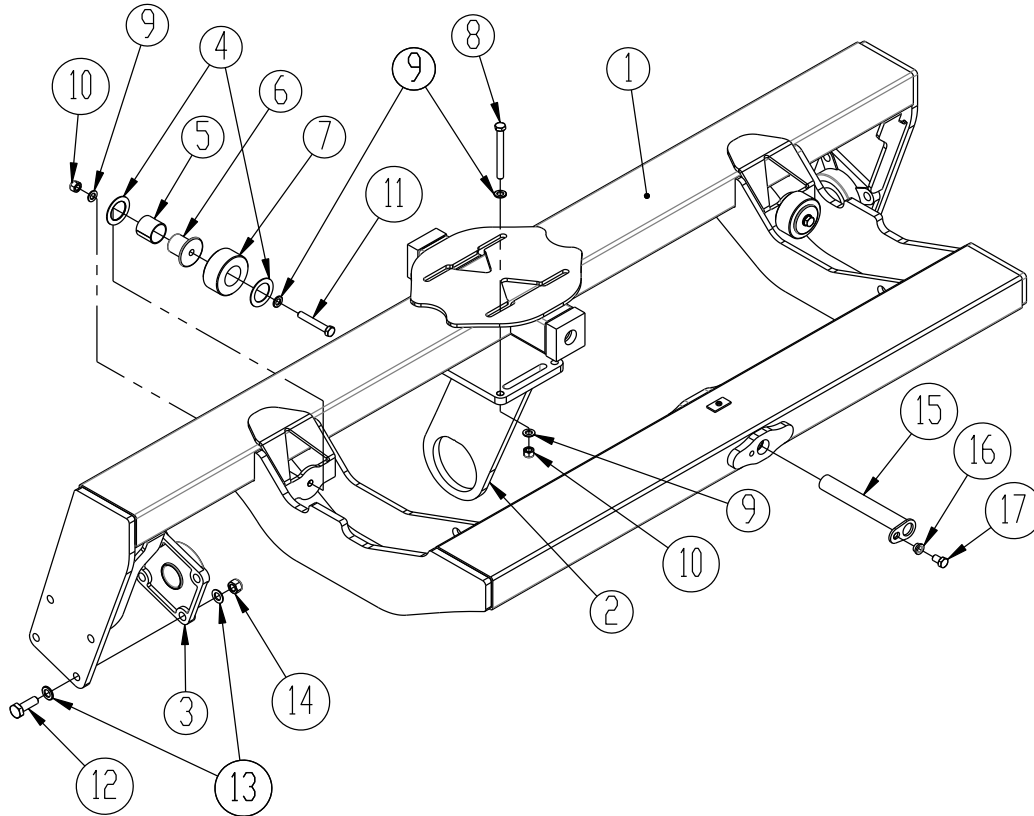
Side section left

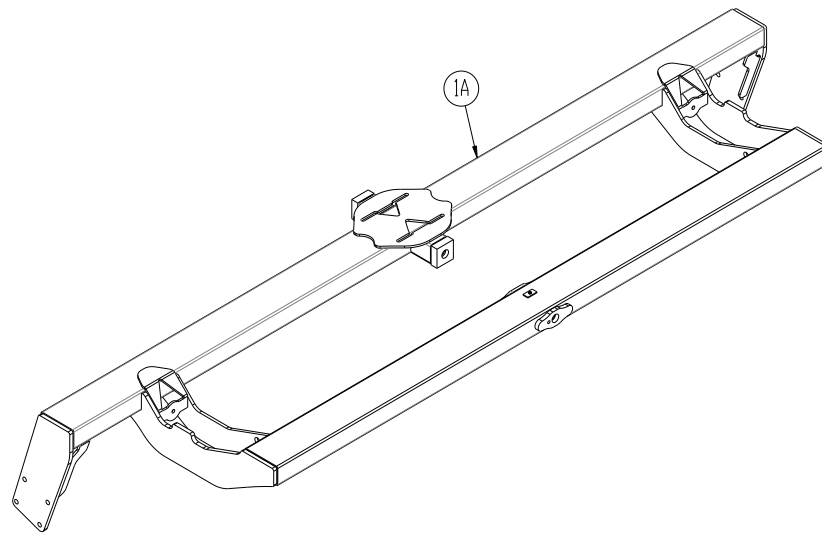




| Pos | Part no. | Description | 12,3m | 15,3m |
|-----|-----------|--|-------|-------|
| 1 | 630850088 | Side wing right, welded | 1 | |
| 1A | 1215127 | Side wing right, welded | | 1 |
| 2 | 630850103 | Locking pawl for side joints | 2 | 2 |
| 3 | 690103282 | Bolt M16x100 10.9 | 4 | 4 |
| 4 | 0272290 | Faceted washer Ø16 – DIN 125B | 4 | 4 |
| 5 | 630850104 | Bracket at locking pawl | 4 | 4 |
| 6 | 630850107 | POM black, Ø80 mm | 4 | 4 |
| 7 | 630850098 | Centerless-grinded Ø30 CK45 L=45 | 4 | 4 |
| 8 | 630850105 | Bracket at locking pawl | 4 | 4 |
| 9 | 69450430G | Pin Ø50 L=430 | 2 | 2 |
| 10 | 69450455G | Pin Ø50 L=455 | 2 | 2 |
| 11 | 69440155N | Pin Ø40 L=155 | 4 | 4 |
| 12 | 69440830N | Pin Ø40 L=830 | 2 | 2 |
| 13 | 69440415N | Pin Ø40 L=415 Ny model | 2 | 2 |
| 14 | 69440240N | Pin Ø40 L=240 | 2 | 2 |
| 15 | 69435170G | Pin Ø35 L=170 | 2 | 2 |
| 16 | 690112005 | Nut M16 | 8 | 8 |
| 17 | 630532700 | Lock bushing for pin head | 16 | 16 |
| 18 | 0235775 | Steel set screw M16x35 8.8 (with glue) | 16 | 16 |
| 19 | 630850270 | Side wing left, welded | 1 | |
| 19A | 1215117 | Side wing left, welded | | 1 |



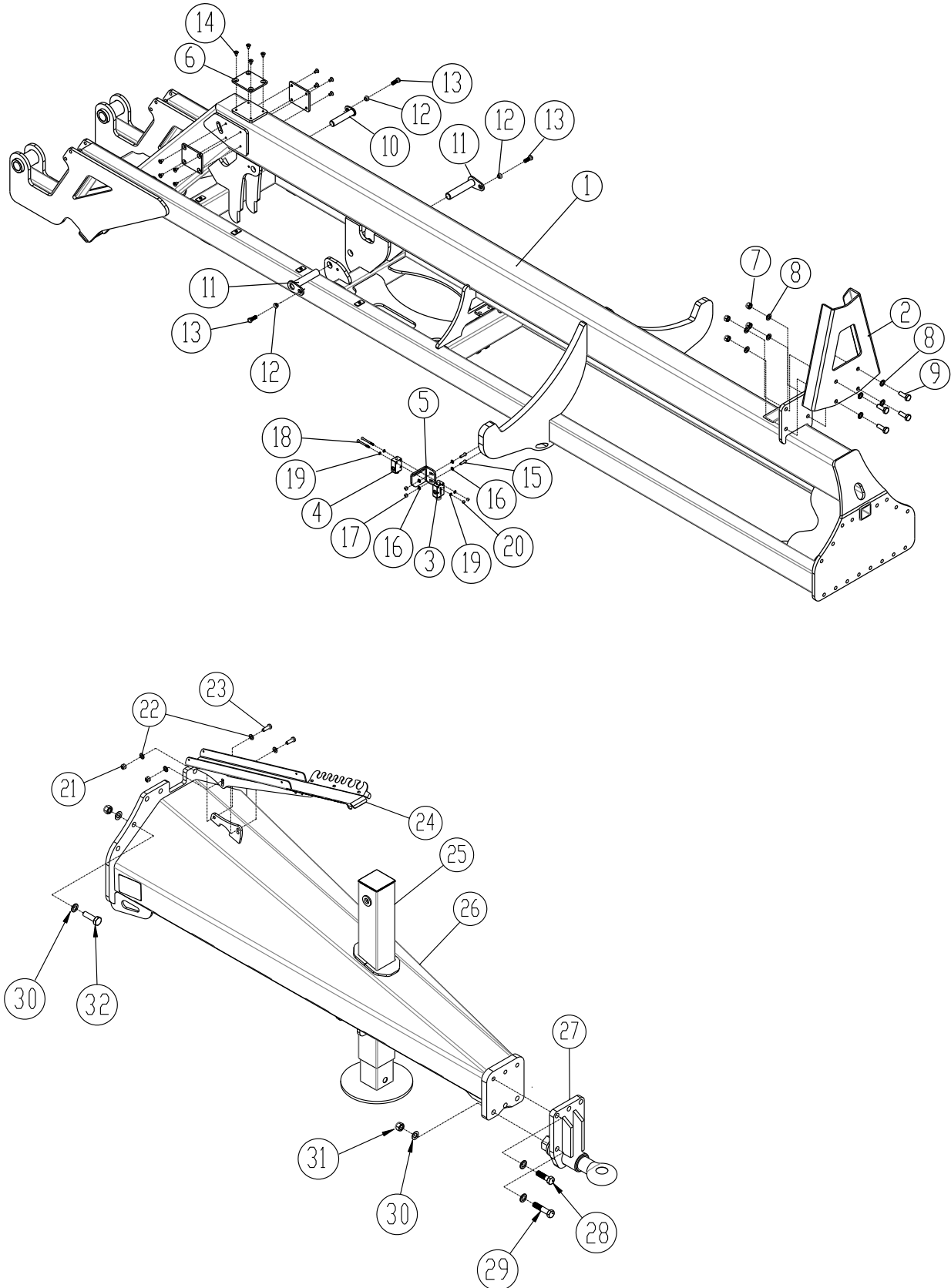
Side roller section right / left and middle section



| Pos. | Part no. | Description | Sidesecc. | Middle |
|------|-----------|---|-----------|--------|
| 1 | 630850083 | Side roller section, right / left 12,3 m | 2 | - |
| 1A | 1215119 | Side roller section, right / left 15,3 m | 2 | - |
| 1B | 630850095 | Middle roller section | 1 | 1 |
| 2 | 630850263 | Bearing for support, side wings and outer wings | 4 | - |
| 2A | 630850271 | Bearing for support, center section | - | 1 |
| 3 | 690140808 | Bearing UCF 312 (Ø60) 0478971 | 2 | 2 |
| 4 | 690140712 | Circular plate Ø52/Ø78x2 | 4 | 1 |
| 5 | 690140710 | Bushing as bearing Ø50/55 L = 50 mm | 2 | 1 |
| 6 | 630850227 | Centerless-pin Ø80 CK45 L = 60 mm | 2 | - |
| 7 | 630850237 | Roller Ø110 L = 50 mm | 2 | 1 |
| 8 | 0235955 | Bolt M16x160 8.8 fzb | 4 | 4 |
| 9 | 0272290 | Faceted washer Ø16 – DIN 125B | 12 | 8 |
| 10 | 0264090 | Safety nut M16 | 6 | 4 |
| 11 | 0235900 | Bolt M16x100 8.8 fzb | 2 | - |
| 12 | 0236130 | Bolt M20x60 8.8 fzb | 8 | 8 |
| 13 | 0272310 | Faceted washer Ø20 DIN125B | 16 | 16 |
| 14 | 0264110 | Safety Nut M20 | 16 | 8 |
| 15 | 1145492 | Pin Ø40 L=310 mm | 8 | - |
| 16 | 630532700 | Lock bushing for pin head | 1 | - |
| 17 | 0235775 | Steel set screw M16x35 8.8 (with glue) | 1 | - |
| 18 | 690131171 | Roll pin Ø12 x 60 mm | 1 | 1 |
| 19 | 69435100G | Pin Ø35 L=100 mm | - | 1 |
| 20 | 630532600 | Lock bushing for pin head | - | 1 |
| 21 | 690101101 | Bolt M12x25 8.8. (w/glue) | - | 1 |
| 22 | 69528096J | Pin Ø28 L=122 mm | - | 1 |
| 23 | 690134004 | Ring Pin | - | 1 |

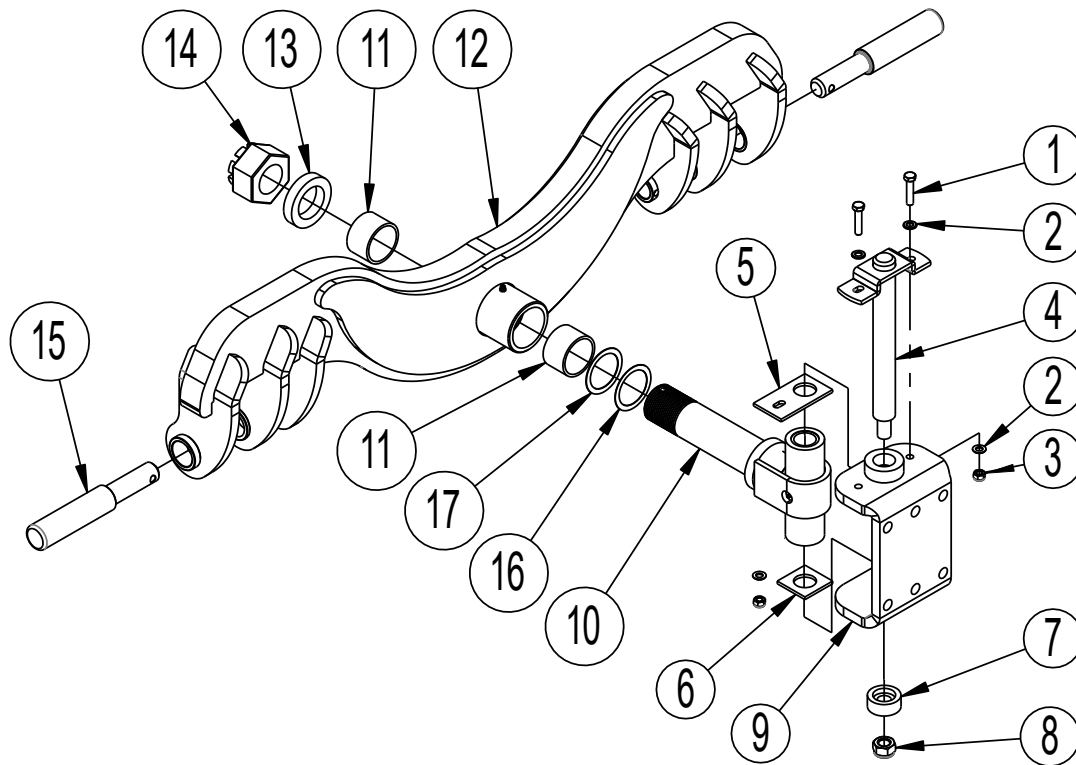


Chassis and drawbar



| Pos. | Part No. | Description | 12,3 m | 15,3 m |
|------|-----------|--|--------|--------|
| 1 | 630850130 | Chassis, welded | 1 | - |
| 1 | 1215114 | Chassis, welded | - | 1 |
| 2 | 630850228 | Tower | 1 | 1 |
| 3 | 690207100 | End stop valve FC10NA | 1 | 1 |
| 4 | 690207101 | End stop valve FC10NC | 1 | 1 |
| 5 | 630850292 | Bracket for end stop valve | 1 | 1 |
| 6 | 630850168 | Wearing plate | 3 | 3 |
| 7 | 0264110 | Safety nut M20 DIN 985 | 4 | 4 |
| 8 | 0272310 | Faceted washer Ø21x3 mm | 8 | 8 |
| 9 | 0236130 | Bolt M20x60 8.8 | 4 | 4 |
| 10 | 69435168G | Pin Ø35 CK 45 L = 168 mm | 1 | 1 |
| 10a | 630532600 | Lock bushing for pin head | 1 | 1 |
| 10b | 690101101 | Steel set screw M12x25 8.8 (with glue) | 1 | 1 |
| 11 | 69440200N | Pin Ø40 CK 45 L = 200 mm | 2 | 2 |
| 12 | 630532700 | Lock bushing for pin head | 3 | 3 |
| 13 | 0235775 | Steel set screw M16x35 8.8 (with glue) | 3 | 3 |
| 14 | 0228095 | Undersænk- M12x20 mm 8.8 fzb DIN 7991 | 12 | 12 |
| 15 | 0235060 | Bolt M10x35 mm fzb 8.8 | 2 | 2 |
| 16 | 0272260 | Faceted washer Ø10 | 4 | 4 |
| 17 | 0264060 | Safety nut M10 | 2 | 2 |
| 18 | 690103061 | Bolt M8x90 mm 8.8 | 2 | 2 |
| 19 | 0272050 | Faceted washer Ø8,4x1,6 | 4 | 4 |
| 20 | 0264050 | Safety nut M8 | 2 | 2 |
| 21 | 0264070 | Safety nut M12, fzb DIN 985 | 2 | 2 |
| 22 | 0272270 | Faceted washer 12mm, fzb DIN 125B | 4 | 4 |
| 23 | 0235350 | Bolt M12x35 mm, fzb 8.8 | 2 | 2 |
| 24 | 7345006 | Holder for hoses, model Large | 1 | 1 |
| 25 | 690141105 | Hydraulic support leg, 5772 kg | 1 | 1 |
| 26 | 1215150 | Drawbar, welded | 1 | 1 |
| 27 | 630757017 | Drawbar, complete | 1 | 1 |
| 28 | 690103173 | Bolt M20x70 mm, 10.9 | 3 | 3 |
| 29 | 690103161 | Bolt M20x90 mm, 10.9 | 3 | 3 |
| 30 | 0272310 | Faceted washer Ø20 DIN125B | 41 | 41 |
| 31 | 0264110 | Safety nut M20 | 19 | 19 |
| 32 | 0236150 | Bolt M20x70 mm, | 16 | 16 |

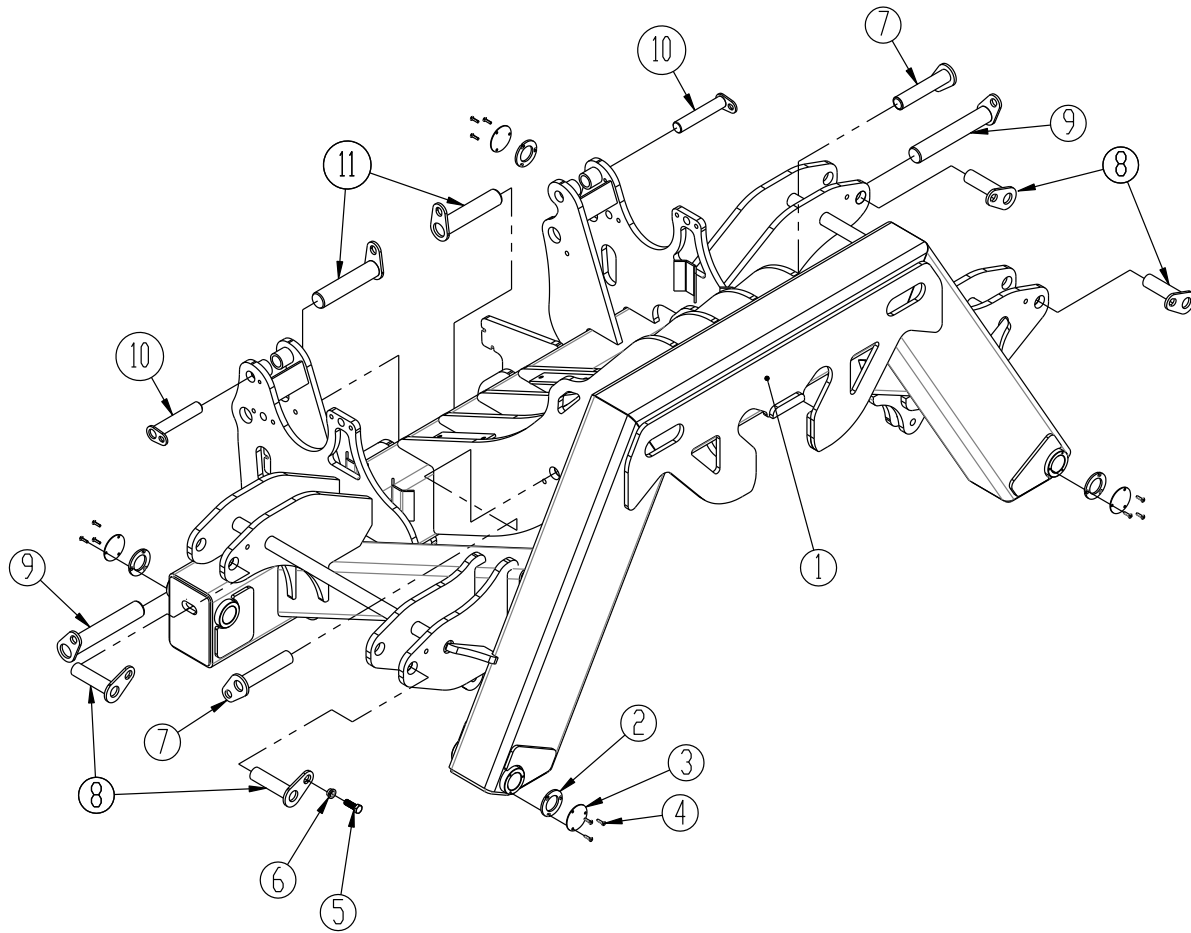


Drawbar for lift. 630757077 Cat. 3 / Cat. 4 (Additional)


| Pos. | Part no. | Description | Pc. |
|------|-----------|---|-------|
| 1 | 0235390 | Bolt M12x55 mm, 8.8 fzb | 2 |
| 2 | 0272270 | Faceted washer 12 mm, fzb Din 125B | 4 |
| 3 | 0264070 | Self-locking nut MM12, fzb DIN 985 | 2 |
| 4 | 1127870 | Pin, vertical complete | 1 |
| 5 | 1128390 | Steel plate 70x6x130, Quality SB27W12CB | 1 |
| 6 | 1127990 | Steel plate 70x6x70, Quality SB27W12CB | 1 |
| 7 | 1127900 | Bushing Ø60x25 mm, Quality 50 | 1 |
| 8 | 0264130 | Self-locking nut M24 DIN985 | 1 |
| 9 | 1145335 | U-bracket | 1 |
| 10 | 630757076 | Axel, horizontal | 1 |
| 11 | 0475450 | I-pressure bushing EG Ø80/70x50mm | 2 |
| 12 | 630757078 | Draw bar, welded | 1 |
| 13 | 7420000 | Bushing Ø100x12mm, st. 50 (To be used is no. 7420000 or | 1 |
| 13 | 7420001 | Bushing Ø100x15mm, st. 50 no. 7420001 depending on space) | 1 |
| 14 | 0262500 | Nut M64x4 KL6 DIN 935-1 | 1 |
| 15 | 69537273C | Round Steel E 360, Quality 70-2 | 2 |
| 16 | 690140656 | Shim ring Ø70/Ø90x0,5mm DIN988, no. depending on tolerences | 0 - 3 |
| 17 | 690140654 | Shim ring Ø70/Ø90x1,0mm DIN988 no. depending on tolerences | 0 - 3 |



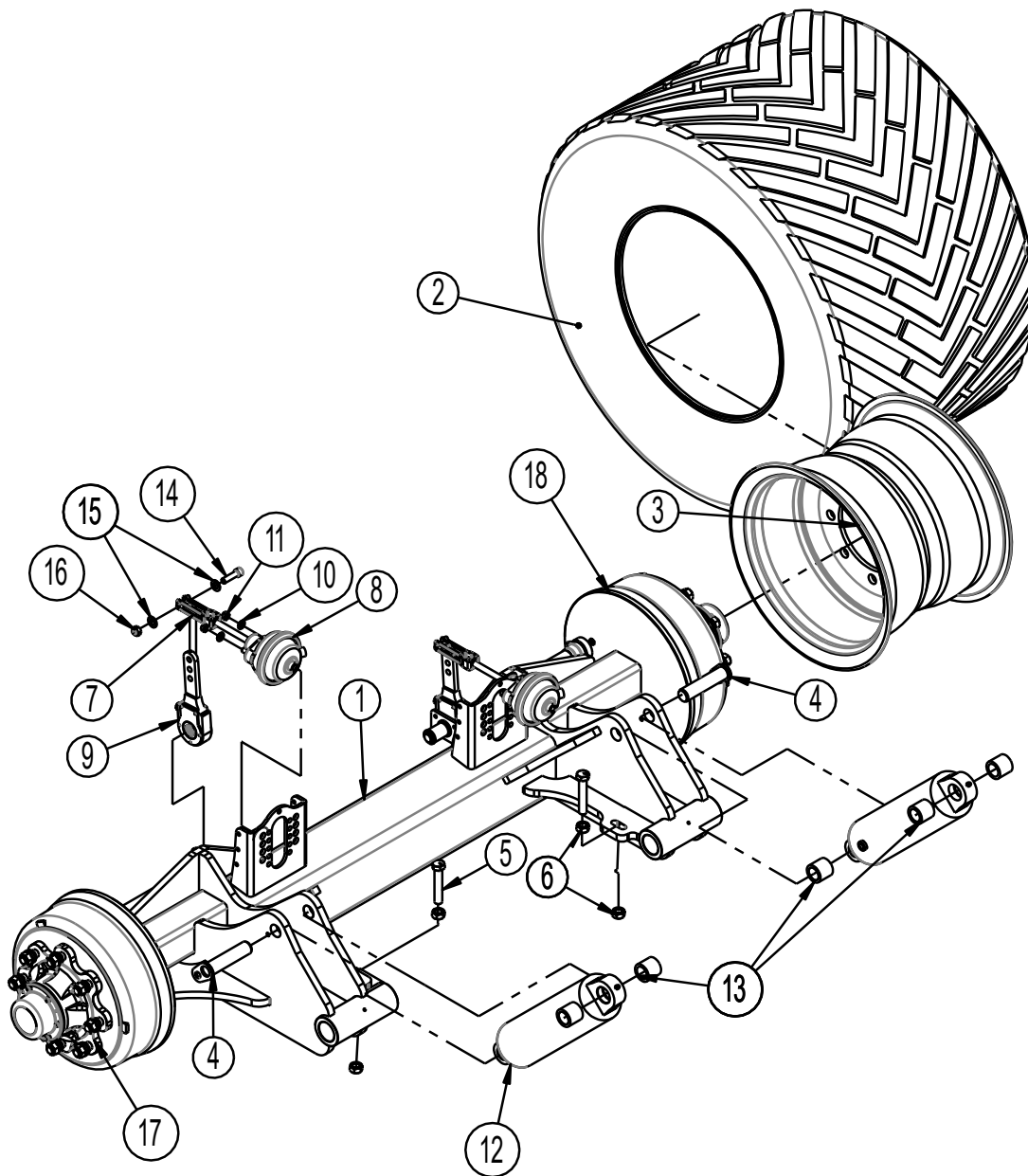
Middle frame



| Pos. | Part no. | Description | 12,3 m | 15,3 m |
|------|-----------|--|--------|--------|
| 1 | 630850106 | Middle frame | 1 | 1 |
| 2 | 121596 | Lock plate for Ø40 mm bushing | 4 | 4 |
| 3 | 1215106 | Cover plate for Ø40 mm bushing | 4 | 4 |
| 4 | 0227545 | Insex. M6x25 BH 10.9 FZB DIN7380 | 12 | 12 |
| 5 | 0235775 | Steel set screw M16x35 8.8 (with glue) | 12 | 12 |
| 6 | 630532700 | Lock bushing for pin head | 12 | 12 |
| 7 | 69440200N | Pin Ø40 CK 45 L = 200 mm | 2 | 2 |
| 8 | 69440155N | Pin Ø40 CK 45 L = 155 mm | 4 | 4 |
| 9 | 69450295G | Pin Ø50 CK 45 L = 295 mm | 2 | 2 |
| 10 | 69435185G | Pin Ø35 CK 45 L = 185 mm | 2 | 2 |
| 10a | 690101101 | Steel set screw M12x25 8.8 (with glue) | 2 | 2 |
| 10b | 630532600 | Lock bushing for pin head | 2 | 2 |
| 11 | 69450230G | Pin Ø50 CK 45 L = 230 mm | 2 | 2 |



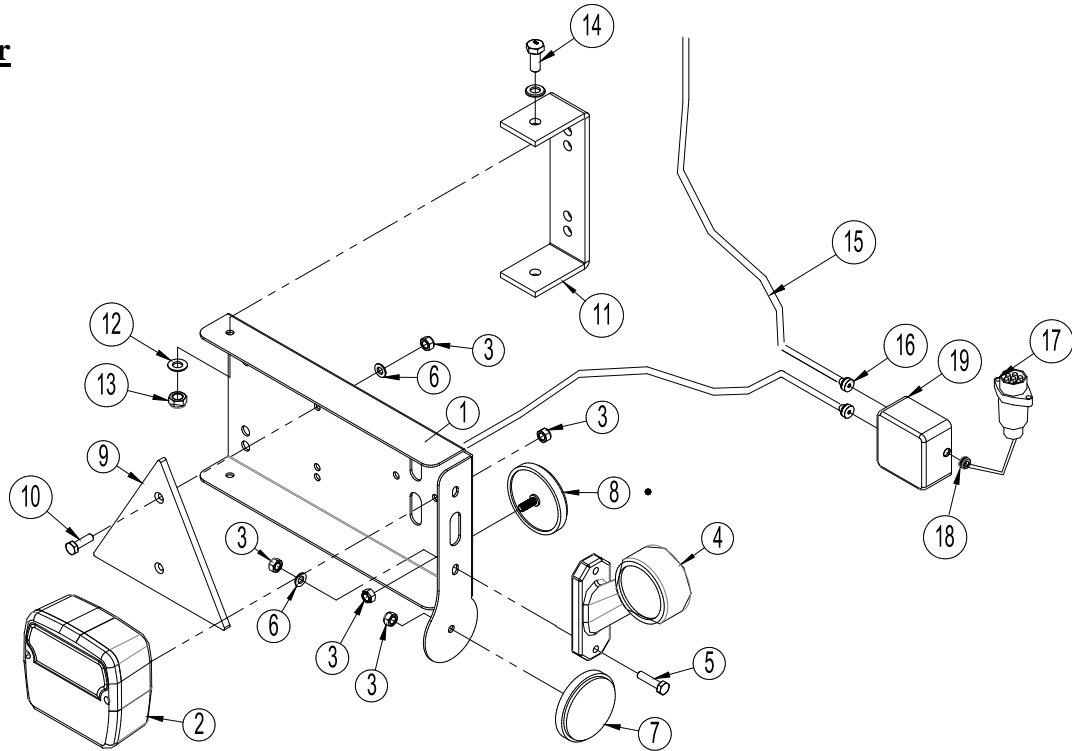
Wheel frame w/brake



| Pos. | Part no. | Description | Pc. |
|------|-----------|---|-----|
| 1 | 630850351 | Wheel frame w/brake | 1 |
| 2 | 0396910 | Tire 710/40R22,5 FL630 | 2 |
| 3 | 0396900 | Rim 8/M27-221-275 | 2 |
| 2+3 | 0396920 | Wheel complete, right 710/40R22,5 | 1 |
| 2+3 | 0396930 | Wheel complete, left 710/40R22,5 | 1 |
| 4 | 69435148G | Pin Ø35 L = 148 mm | 2 |
| 5 | 0238870 | Bolt M20x110, 10.9 fzb | 2 |
| 6 | 690112009 | Nut M20 | 4 |
| 7 | 7297509 | Mounting kit w/long bars | 2 |
| 8 | 7297508 | Pneumatic membranecylinder 12", no U-piece for mounting | 2 |
| 8 | 7345014 | Hydraulic brake cylinder BR25SL | 2 |
| 9 | 7297528 | Brake arm, adjustable | 2 |
| 10 | 0272270 | Faceted washer 12 mm, fzb DIN 125B | 4 |
| 11 | 0394861 | Hub nut M12x1,5 | 4 |
| 12 | 7345042 | Cylinder 110/40x285 | 2 |
| | 7345043 | Gasket set 110/40 (Laizhou) | |
| 13 | 630850185 | Bushing 50x7 L = 45 mm | 6 |
| 14 | 661042217 | Insex 6-kt M14x50 12.9 | 2 |
| 15 | 690117013 | Faceted washer ø16 | 4 |
| 16 | 690113008 | Safety nut M14 | 2 |
| 17 | 7297562 | Brakehub 6000 kg TVZ | 1 |
| 18 | 7297563 | Brakehub 6000 kg TVZ | 1 |

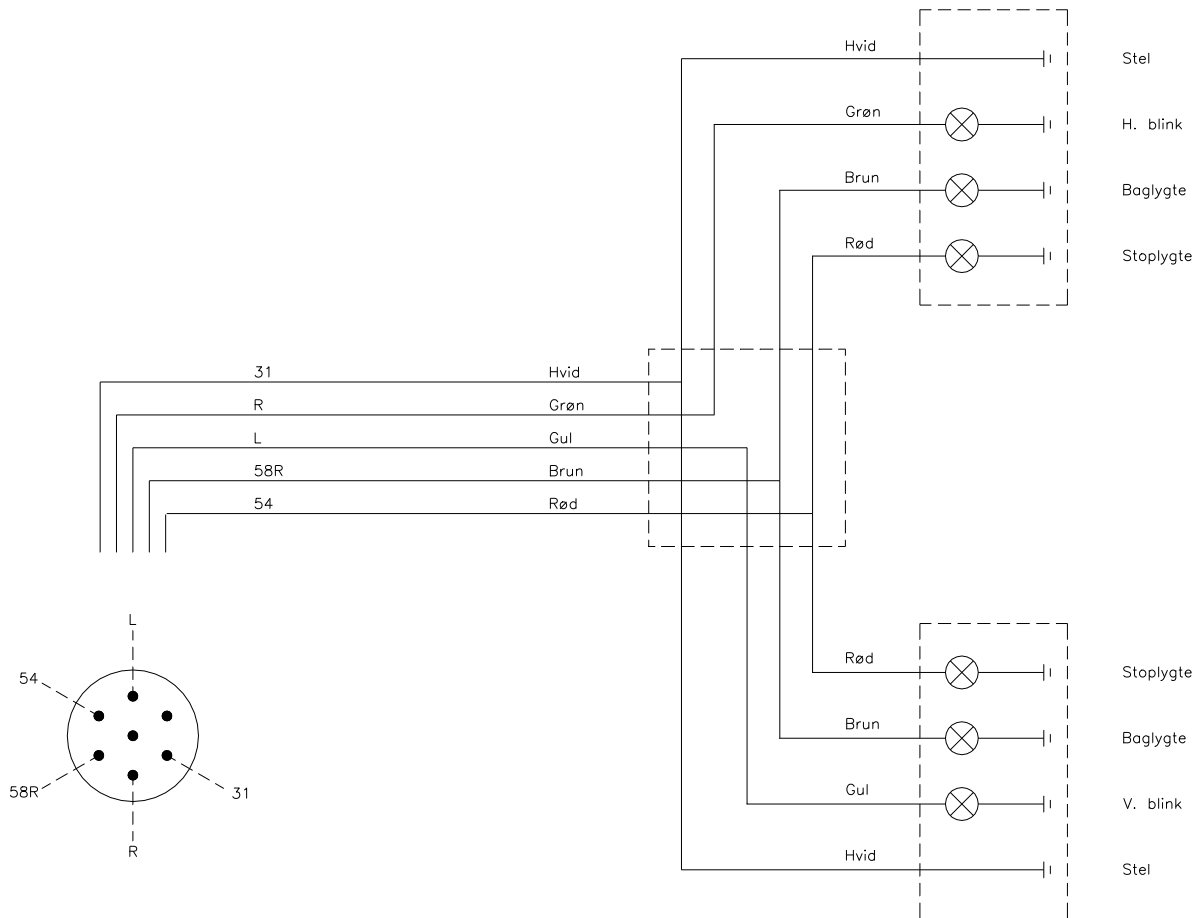


LED –light bar



| Pos. | Part no. | Description | Pc. |
|------|-----------|--|-----|
| 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 | 690160017 | 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 |

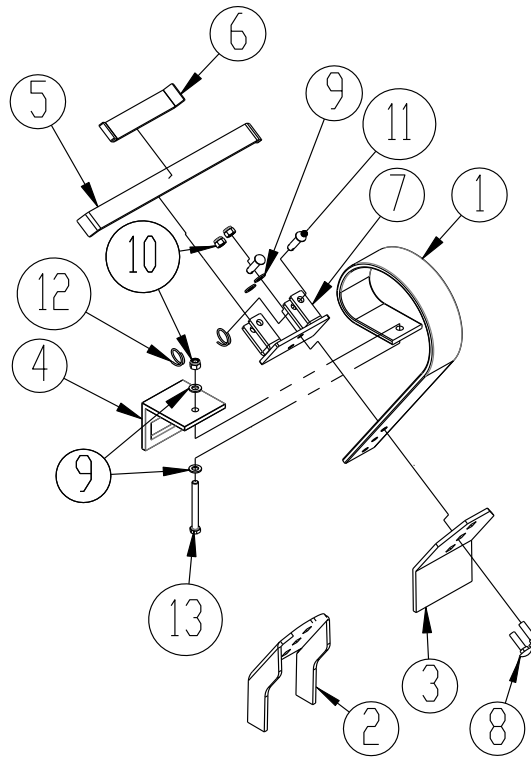
Notice: Check measurements of wires before ordering spare parts.

Light kit: El. diagram


| Danish | | English | |
|--------|------|---------|-------------|
| 31 | Hvid | White | Frame |
| R | Grøn | Green | Right turn |
| L | Gul | Yellow | Left turn |
| 58R | Brun | Brown | Rear light |
| 54 | Rød | Red | Brake light |



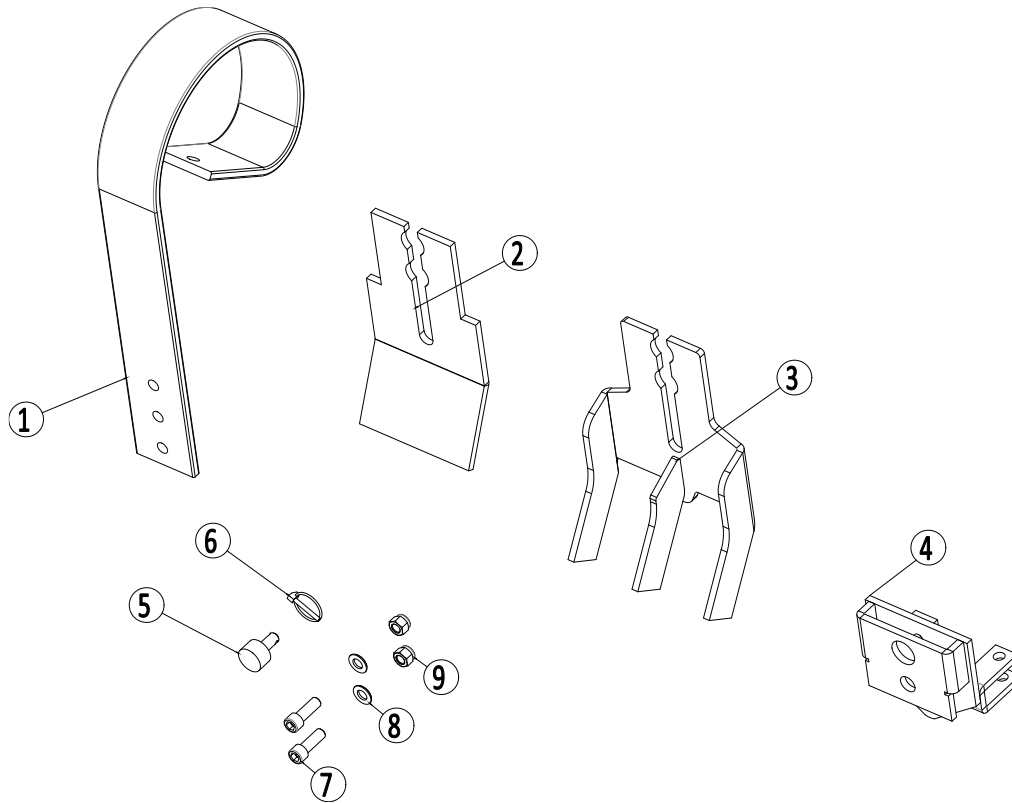
Spring-Board w/ fixed mounted wearing points and traverse locking system



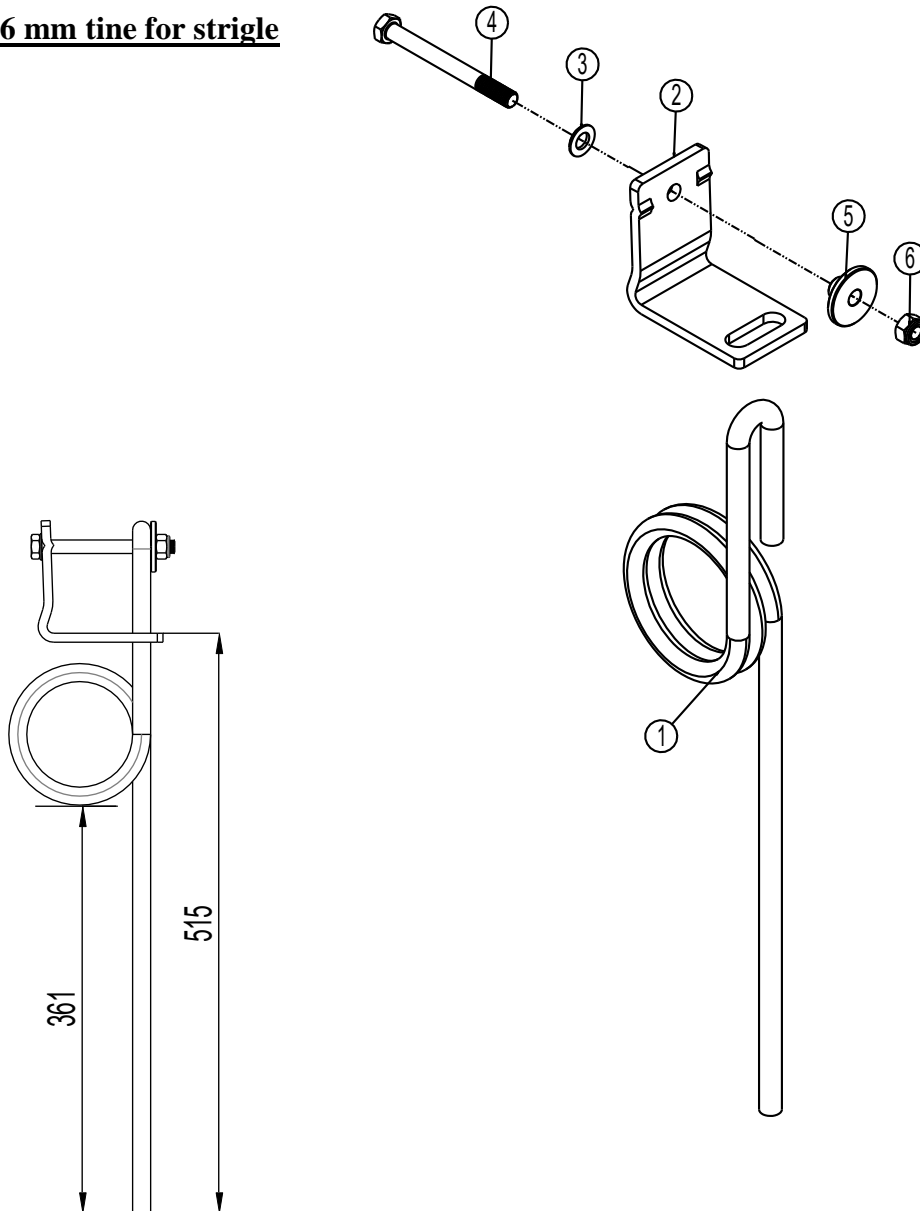
| Pos. | Part no. | Description | Pc. |
|------|-----------|--|-----|
| 1 | 0422145 | Spring-board tine 80x10 - long | 1 |
| 2 | 633052150 | Slicing point (crust breaker) | 1 |
| 3 | 633052100 | Wearing point for Spring-Board tine 8x150 | 1 |
| 4 | 633052200 | Mounting piece for Spring-Board tine | 1 |
| 5 | 633055710 | Lock bar (long) for traverse locking system | 1 |
| 6 | 633055700 | Lock bar (short) for traverse locking system | 1 |
| 7 | 633055500 | Traverse bracket for locking system | 1 |
| 8 | 690101220 | Carriage bolt M12x45 8.8 | 2 |
| 9 | 690117014 | Faceted washer Ø12 | 4 |
| 10 | 690113006 | Safety nut | 3 |
| 11 | 69512040K | Pin Ø12,5 L = 40 St 52 Yellow Zink Plated | 2 |
| 12 | 690134000 | Locking ring 30xø3 Galvanized | 2 |
| 13 | 690103098 | Bolt M12x110 10.9 | 1 |

Spring-Board mounting w/easy change

Wearing points and Slicing point (Crust breaker) and traverse locking system

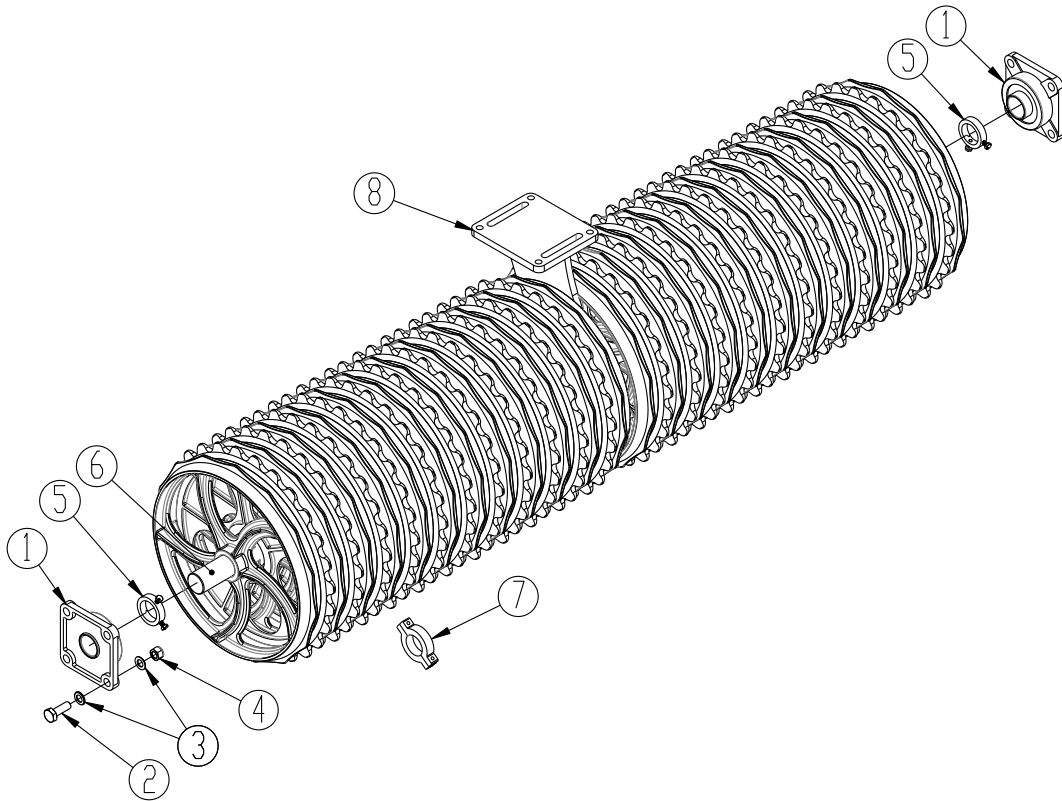


| Pos. | Part no. | Description | Pc. |
|------|----------|---|-----|
| 1 | 0422145 | Spring-Board tine | 1 |
| 2 | 1170388 | Flat wearing point – Easy-Change | 1 |
| 3 | 1170410 | 3 – point Slicing point (Crust breaker) – Easy-Change | 1 |
| 4 | 1170389 | Easy-Change bracket for traverse locking system | 1 |
| 5 | 1170391 | Locking pin | 1 |
| 6 | 0378200 | Locking ring Ø4,5 mm | 1 |
| 7 | 0227842 | Bolt M12 x 35 8.8 | 2 |
| 8 | 0272270 | Faceted washer | 2 |
| 9 | 0264070 | Safety nut M12 | 2 |

Ø16 mm tine for strigle


| Pos. | Part no. | Description | Pcs. |
|------|-----------|----------------------------------|------|
| 1 | 633055614 | Tine for strigle Ø16 H=515mm | 1 |
| 2 | 633055612 | Mounting bracket | 1 |
| 3 | 0272270 | Faceted washer 12mm fzb, DIN125B | 1 |
| 4 | 0235485 | Bolt M12x120 10.9 | 1 |
| 5 | 7355063 | Conical disc | 1 |
| 6 | 0264070 | Locking nut M12, fzb DIN985 | 1 |
| | 633055615 | Tine complete (pos 1-6) | |




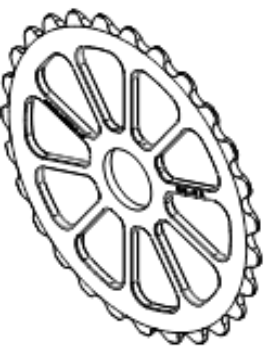

Roller section






| Pos. | Part no. | Description | 12,3m | 15,3m |
|------|-----------------|--|-------|-------|
| 1 | 0478971 | Bearing UCF 312 Ø60 | 10 | 10 |
| 2 | 0236130 | Bolt M20x60 8.8 fzb | 40 | 40 |
| 3 | 0272310 | Faceted washer Ø20 DIN125B | 80 | 80 |
| 4 | 0264110 | Safety nut M20 | 40 | 40 |
| 5 | 671040400 | Stop ring w/2 stk. M12 bolts (for Ø60 axle) | 10 | 10 |
| 6 | 678612710 | Axle Ø59,95 h9, E335C, outer sec. + side sec. at 12,3m | 4 | 2 |
| 6 | 678614210 | Axle Ø59,95 h9, E335C, side section | - | 2 |
| 6 | 678612920 | Axle Ø59,95 h9, E335C, middle section | 1 | 1 |
| 7 | 690150090 | Adjustment shim 15 mm, incl bolts | 5 | 5 |
| 7 | 690150099 | Adjustment shim 20 mm, incl bolts | 5 | 5 |
| 7 | 690150091 | Adjustment shim 25 mm, incl bolts | 5 | 5 |
| 8 | Support bearing | See page 36 - 37 | 5 | 5 |

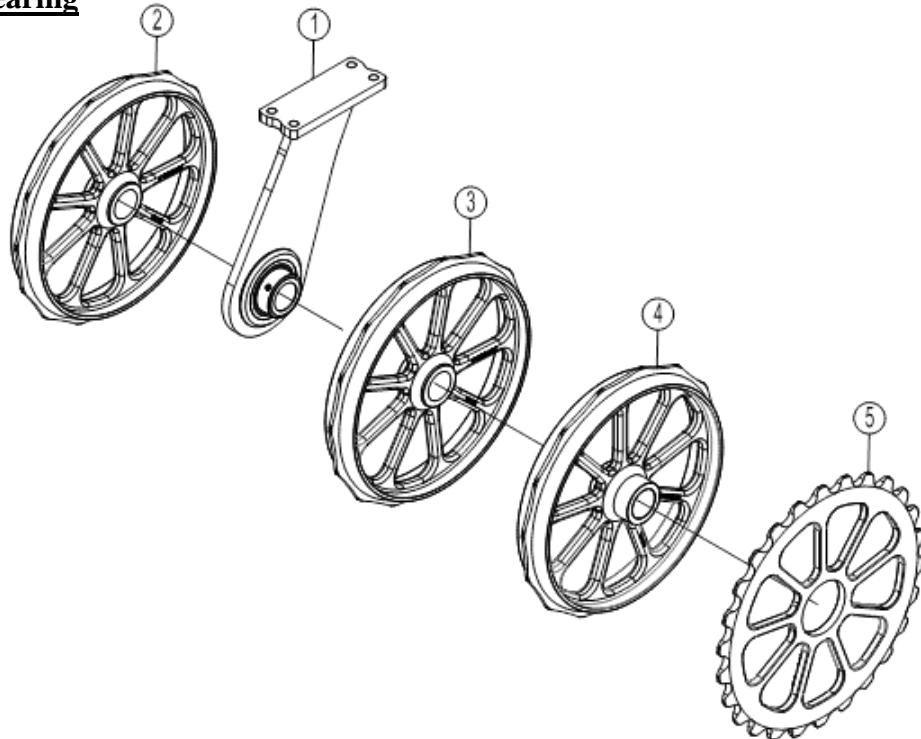


Cambridge- and Corrugated rings overview

| Cambridge rings Ø560 mm with 9 spokes | | Description | Quality | Part no. |
|--|--|----------------------------|-----------|-----------|
| <p>Pos. 1 560 mm Plain ring (9 spokes)</p>  | <p>Pos. 2 560 mm Breaker ring (9 spokes)</p>  | Pos. 1 Hub 104 mm | GG25 | 7375005 |
| | | Pos. 1 Hub 104 mm | GGG50 | 7375009 |
| | | Pos. 1 Hub 80 mm | GG25 | 7375007 |
| | | Pos. 1 Hub 80 mm | GGG50 | 7375011 |
| | | Pos. 1 Hub 72 mm | GG25 | 7375017 |
| | | Pos. 1 Hub 72 mm w/bearing | GGG50 | 7375023 |
| | | Pos. 1 Hub 82 mm w/bearing | GG25 | 7375018 |
| | | Pos. 1 Hub 82 mm w/bearing | GGG50 | 7375024 |
| | | Pos. 2 | GG25 | 7375000 |
| | | Pos. 2 | GGG50 | 7375012 |
| Cambridge rings Ø620 mm with 10 spokes | | Description | Quality | Part no. |
| <p>Pos. 3 620 mm Plain ring (10 spokes)</p>  | <p>Pos. 4 620 mm Breaker ring (10 spokes)</p>  | Pos. 3 Hub 104 mm | GG25 | 690150113 |
| | | Pos. 3 Hub 104 mm | GGG50 | 7375016 |
| | | Pos. 3 Hub 80 mm | GG25 | 690150111 |
| | | Pos. 3 Hub 80 mm | GGG50 | 7375015 |
| | | Pos. 3 Hub 72 mm v/leje | GG25 | 630764049 |
| | | Pos. 3 Hub 72 mm v/leje | GGG50 | 7375021 |
| | | Pos. 3 Hub 82 mm v/leje | GG25 | 630764050 |
| | | Pos. 3 Hub 82 mm v/leje | GGG50 | 7375022 |
| | | Pos. 4 | GG25 | 690150067 |
| | | Pos. 4 | GGG50 | 690150116 |
| 2D Curroged rings | | Description | Quality | Part no. |
| <p>Pos. 5 Curroged ring (10 spokes)</p>  | Pos. 5 Ø550 | GG25 | 7375007 | |
| | Ø550 Hub 67 mm See next page | GGG50 | 7375050 | |
| | Ø550 Hub 72 mm See next page | GGG50 | 7375023 | |
| | Pos. 5 Ø600 | GG25 | 690150111 | |
| | Ø600 Hub 67 mm See next page | GGG50 | 7375051 | |
| | Ø600 Hub 72 mm See next page | GGG50 | 7375021 | |

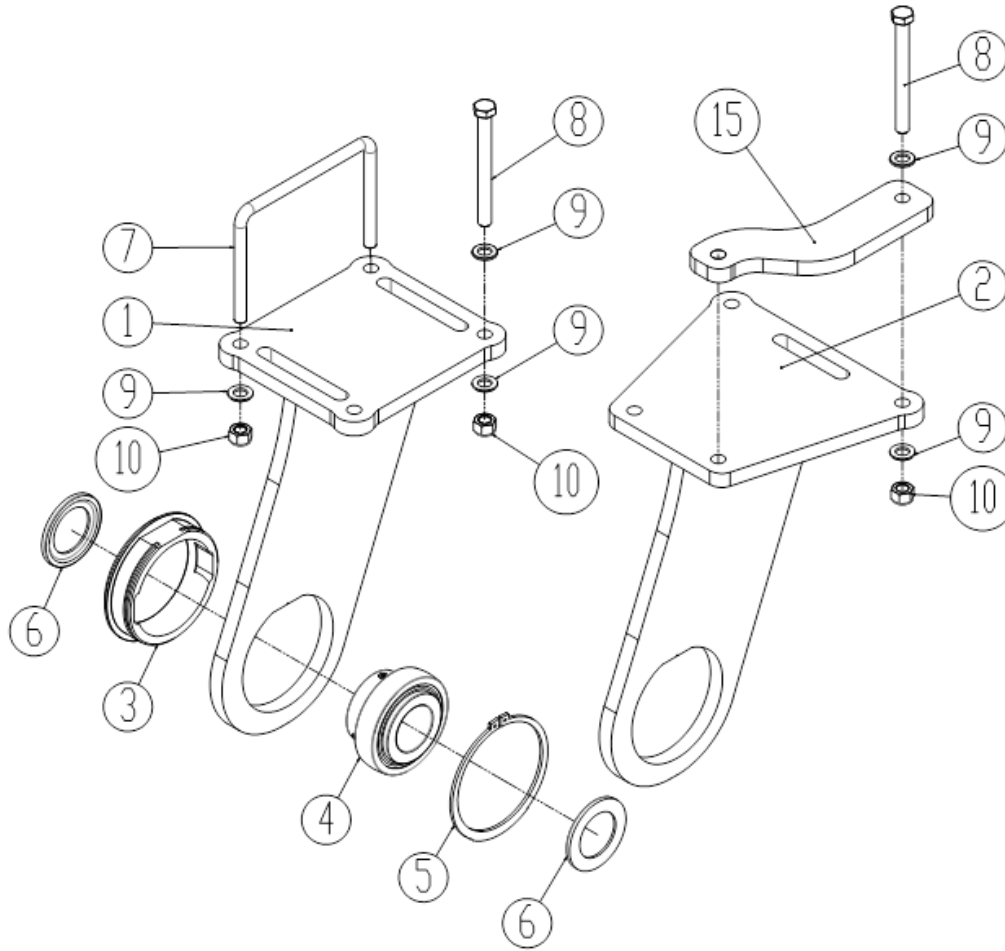
| Star rings Ø550/Ø600 mm | | | Description | Quality | Part no. |
|--|--|--|-----------------------|---------|-----------|
| Pos. 6 600 mm  | Pos. 7 550 mm  | Pos. 8 235 mm  | Pos. 6 Ø600/Ø135 | GGG50 | 690150065 |
| | | | Pos. 7 Ø550 | GGG50 | 690150066 |
| | | | Pos. 8 Mounting plate | | 690150112 |

Rings at support bearing

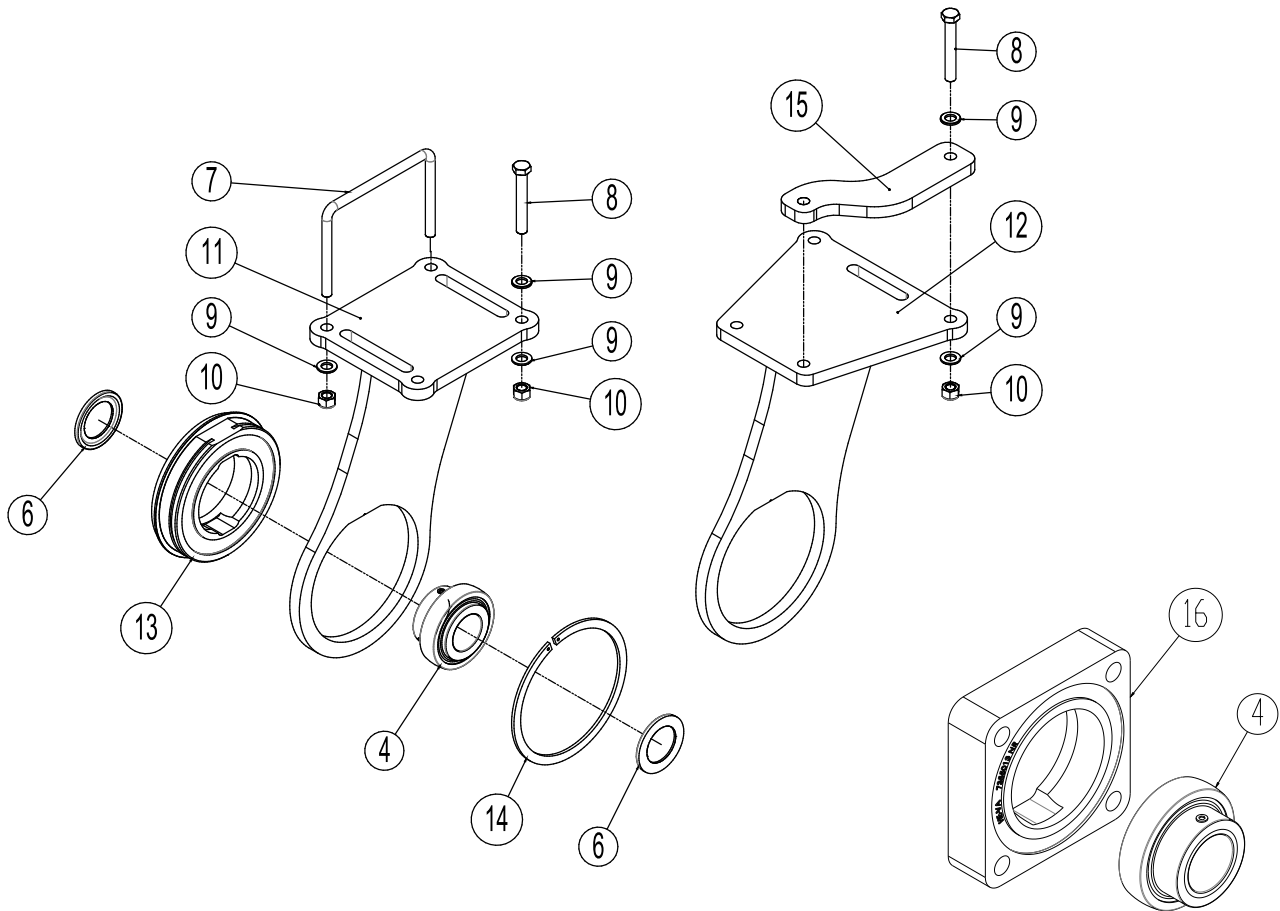


| Pos. | Description |
|------|---|
| 1 | Support bearing |
| 2 | Ring with hub 72 mm |
| 3 | Ring with hub 82 mm |
| 3 | Ring with hub 67 mm (see page 34) ONLY w/ 2D – Currogated rings |
| 4 | Ring with hub 104 |
| 5 | Breaker ring standard |

Support bearing



Support bearing with rubber (additional equipment)



| Pos. | Part no. | Description | 12,3m | 15,3m |
|------|-----------|---|-------|-------|
| 1 | 630850263 | Console for support bearing, side- and outer section | 4 | 4 |
| 2 | 630850271 | Console for support bearing, center section | 1 | 1 |
| 3 | 630764008 | Holder for support bearing | 5 | 5 |
| 4 | 690140116 | Bearing UC312 R6 | 15 | 15 |
| 5 | 691370150 | Seeger circlip ring Ø150 DIN 471 | 5 | 5 |
| 6 | 7355000 | Thrust plate, narrow f/ UCF312 hub | 10 | 10 |
| 7 | 690110105 | U-bolt M16 100x200x100 (kun yderled) | 4 | 4 |
| 8 | 690103117 | Bolt M16x160 mm 8.8 | 12 | 12 |
| 9 | 0272290 | Faceted washer Ø16 – DIN125B | 32 | 32 |
| 10 | 0265090 | Safety nut M16 | 20 | 20 |
| 11 | 1215112 | Console f/support bearing with rubber. Side- outer sec. | 4 | 4 |
| 12 | 1215113 | Console f/support bearing with rubber. Center section | 1 | 1 |
| 13 | 7355040 | Holder for bearing with rubber for UC312 | 5 | 5 |
| 14 | 691370220 | Seeger circlip ring Ø220 DIN471 | 5 | 5 |
| 15 | 630850268 | Plate f/mounting of sup. bearing at the Mittelsection | 2 | 2 |
| 16 | 7355013 | Rubberdamped housing f/UC312 for axleends | 10 | 10 |



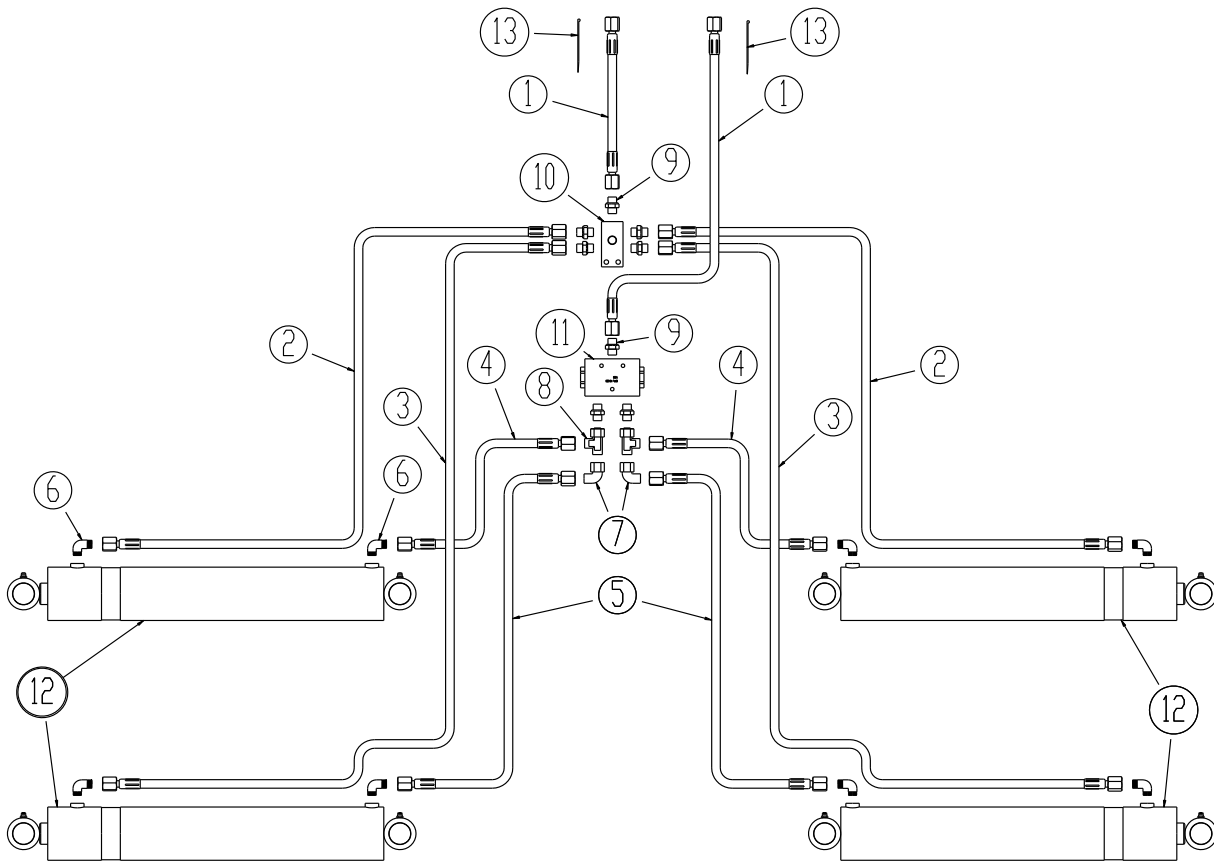
Noter

| | |
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| | |
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Hydraulic

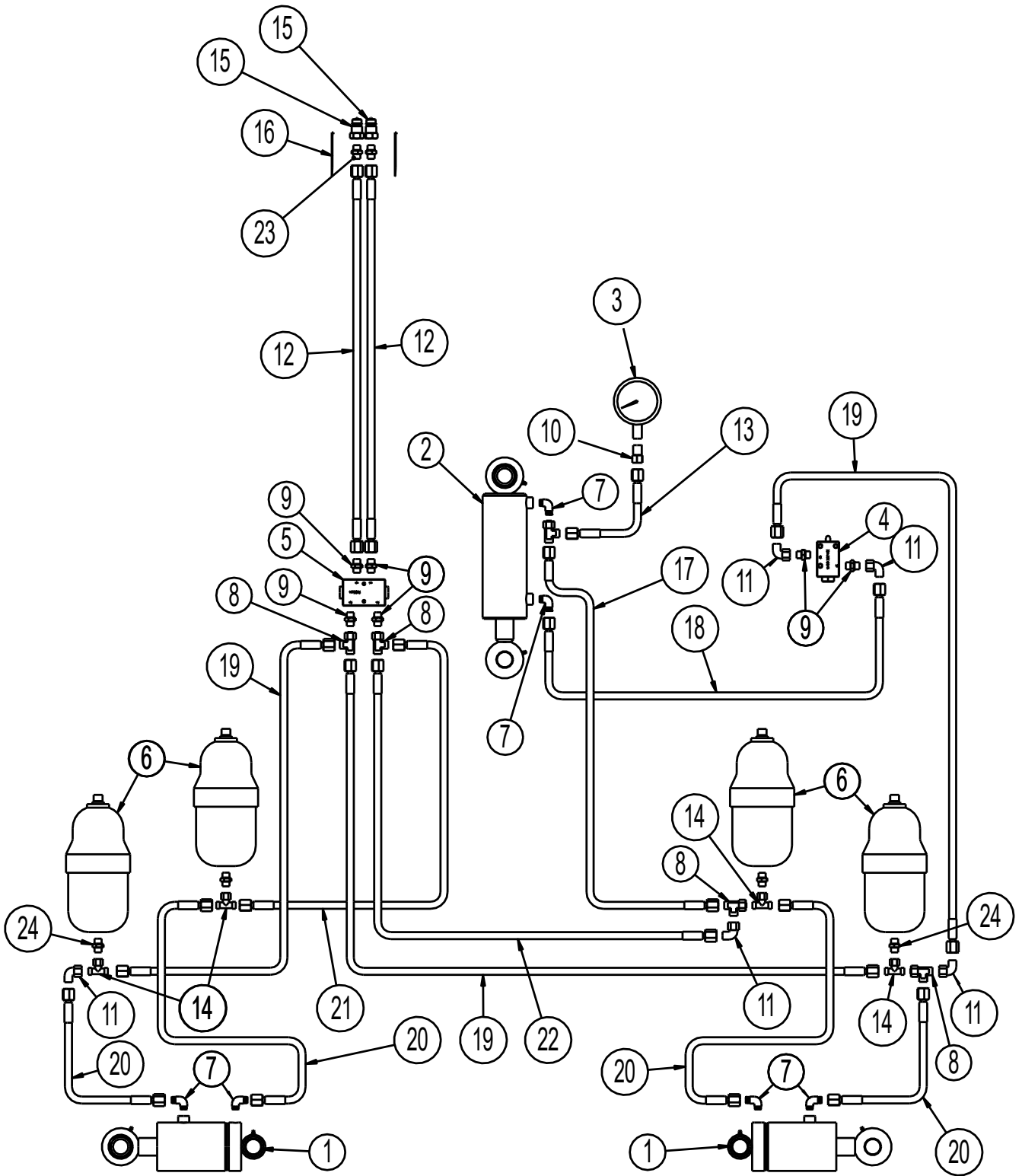
Side sections



| Pos. | Part no. | Description | 12,3 m | 15,3 m |
|------|-----------|--|--------|--------|
| 1 | 0455416 | Hydraulic hose 3/8" L = 9750 mm | 2 | |
| 1 | 0455490 | Hydraulic hose 3/8" L = 11250 mm | | 2 |
| 2 | 0454916 | Hydraulic hose 3/8" L = 3300 mm | 2 | 2 |
| 3 | 0454675 | Hydraulic hose 3/8" L = 2500 mm | 2 | 2 |
| 4 | 0454798 | Hydraulic hose 3/8" L = 2800 mm | 2 | 2 |
| 5 | 0454578 | Hydraulic hose 3/8" L = 1995 mm | 2 | 2 |
| 6 | 690203106 | Fitting, 90° angle 12- 3/8" BSP | 8 | 8 |
| 7 | 690203112 | Fitting adjustable, 90° angle 12 mm | 2 | 2 |
| 8 | 690203017 | Tee T12 L w/ O-ring | 2 | 2 |
| 9 | 0446754 | Connector, 2 x male thread, Ø12 x 3/8" | 8 | 8 |
| 10 | 660501415 | Aluminum connector 40x40x85, 6 gates | 1 | 1 |
| 11 | 0442775 | Flowdivider 3/8" 50x50% 10 – 20 l/min | 1 | 1 |
| 12 | 7345033 | Cylinder 90/40-500, ø40/ø40 | 4 | 4 |
| | 690200274 | Gasket set Ø90/40 (Laizhou) | | |
| 13 | | Blue strips | 2 | 2 |



Weight distribution system, outer- and center section

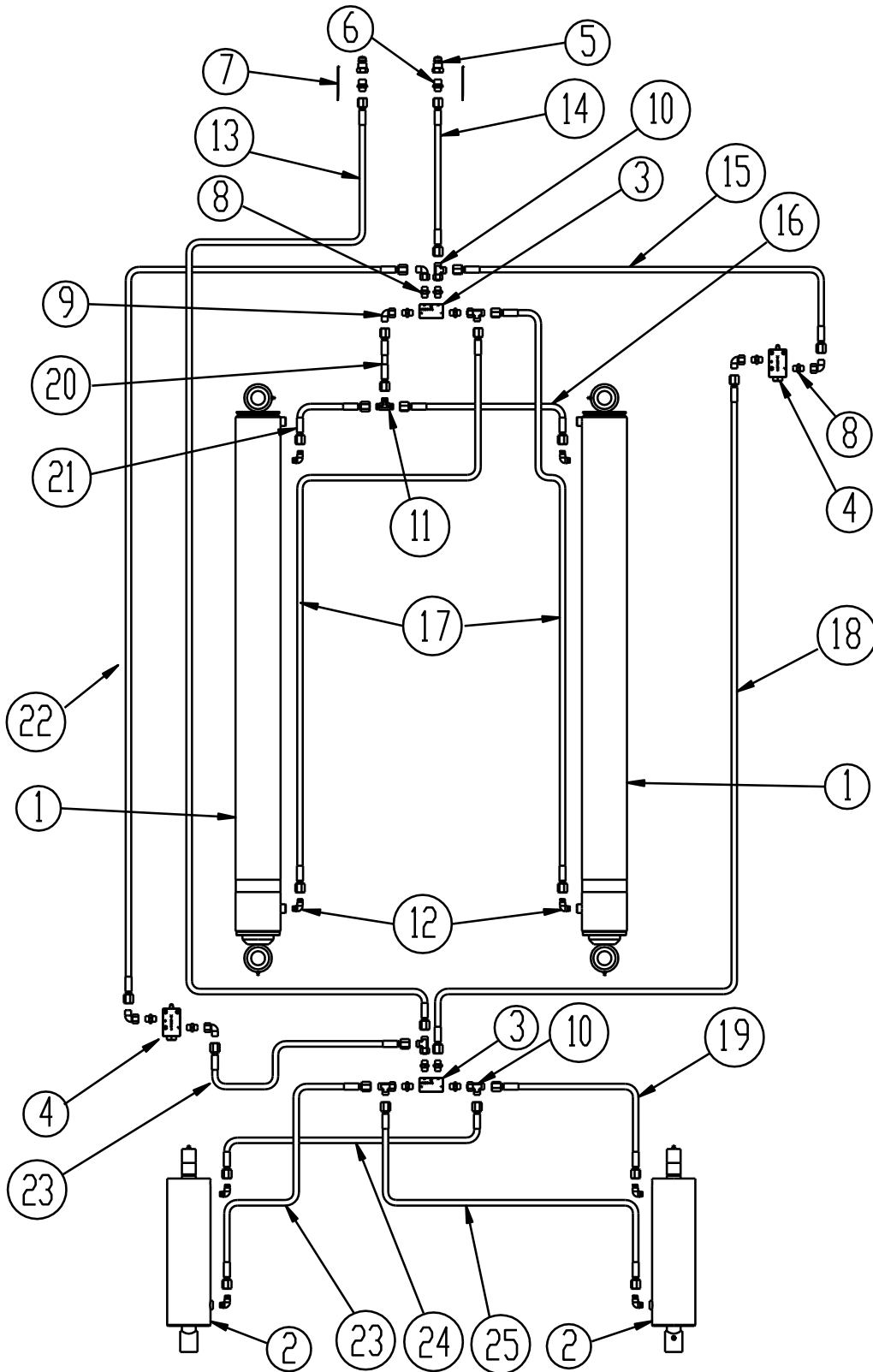


| Pos. | Part no. | Description | 12,3 m | 15,3 m |
|------|-----------|--|--------|--------|
| 1 | 7345020 | Cylinder Ø100/40 x 50 ø35/ø35 | 2 | 2 |
| | 690200289 | Gasket set Ø100/40 (Laizhou) | | |
| 2 | 7345037 | Cylinder Ø90/40 x 155 ø35/ø35 2 x rod eyes | 1 | 1 |
| | 690200274 | Gasket set Ø90/40 (Laizhou) | | |
| 3 | 690206822 | Pressure guage 250 bar, ø100 | 1 | 1 |
| 4 | 690207101 | End stop valve FC10NC | 1 | 1 |
| 5 | 0442512 | Pilot controlled non return valve 3/8" | 1 | 1 |
| 6 | 690206510 | Accumulator HST 2,3L 40 bar | 4 | 4 |
| 7 | 690203106 | Fitting, 90° angel 12-3/8" | 6 | 6 |
| 8 | 690203017 | Tee adjustable T12 L, w/O-ring | 5 | 5 |
| 9 | 0446754 | Connector, 2 x male thread, Ø12 x 3/8" | 12 | 12 |
| 10 | 690206825 | Fitting for pressure gauge | 1 | 1 |
| 11 | 690203112 | Fitting, adjustable 90° 12 mm | 5 | 5 |
| 12 | 0455391 | Hydraulic hose 3/8" L = 9560 mm | 2 | - |
| 12 | 0455460 | Hydraulic hose 3/8" L = 11100 mm | - | 2 |
| 13 | 0454935 | Hydraulic hose 3/8" L= 3610 mm | 1 | - |
| 13 | 0454994 | Hydraulic hose 3/8" L = 5340 mm | - | 1 |
| 14 | 690203125 | Stilbar T12 L | 4 | 4 |
| 15 | 0444020 | Lynkobling 1/2" | 2 | 2 |
| 16 | - | Yellow strips | 2 | 2 |
| 17 | 0454941 | Hydraulic hose 3/8" L = 3800 mm | 1 | 1 |
| 18 | 04544936 | Hydraulic hose 3/8" L = 3700 mm | 1 | 1 |
| 19 | 690201205 | Hydraulic hose 3/8" L = 1130 mm | 3 | 3 |
| 20 | 0454994 | Hydraulic hose 3/8" L = 5340 mm | 4 | 4 |
| 21 | 0454254 | Hydraulic hose 3/8" L = 1010 mm | 1 | 1 |
| 22 | 0454217 | Hydraulic hose 3/8" L = 810 mm | 1 | 1 |
| 23 | 690203103 | Fitting, straight Ø12 – 1/2" | 2 | 2 |
| 24 | 690203097 | Fitting, straight M18x1,5 – Ø12 | 4 | 4 |



| Pos. | Part no. | Description | 12,3 m | 15,3 m |
|------|-----------|---------------------------------|--------|--------|
| 1 | 690200160 | Cylinder 50/30x155 ø20/fork | 10 | 10 |
| | 690200046 | Gasket set 50/30 mm (Laizhou) | | |
| 2 | 690203106 | Fitting, 90° angel 12-3/8" BSP | 20 | 20 |
| 3 | 690207901 | Restrictor (1 mm) | 10 | 10 |
| 4 | 690203115 | Tee, 3 x male thread T12 | 18 | 18 |
| 5 | 690201232 | Hydraulic hose 3/8" L = 3530 mm | 2 | 2 |
| 6 | 0454254 | Hydraulic hose 3/8" L = 1010 mm | 6 | 6 |
| 7 | 0455026 | Hydraulic hose 3/8" L = 6000 mm | 2 | 2 |
| 8 | 690203103 | Connector Ø12 x 1/2" BSP | 2 | 2 |
| 9 | 0444020 | Quick coupling 1/2" | 2 | 2 |
| 10 | | Green straps | 2 | 2 |
| 11 | 0454186 | Hydraulic hose 3/8" L = 625 mm | 1 | 1 |
| 12 | 0454212 | Hydraulic hose 3/8" L = 710 mm | 1 | 1 |
| 13 | 0454217 | Hydraulic hose 3/8" L = 820 mm | 7 | 7 |
| 14 | 0454244 | Hydraulic hose 3/8" L = 935 mm | 5 | 5 |
| 15 | 0454972 | Hydraulic hose 3/8" L = 4610 mm | 4 | - |
| 15 | 0454994 | Hydraulic hose 3/8" L = 5340 mm | - | 4 |
| 16 | 0454798 | Hydraulic hose 3/8" L = 2800 mm | 4 | - |
| 16 | 0454935 | Hydraulic hose 3/8" L = 3610 mm | - | 4 |
| 17 | 0454172 | Hydraulic hose 3/8" L = 500 mm | 4 | 4 |
| 18 | 690201205 | Hydraulic hose 3/8" L = 1130 mm | 2 | 2 |

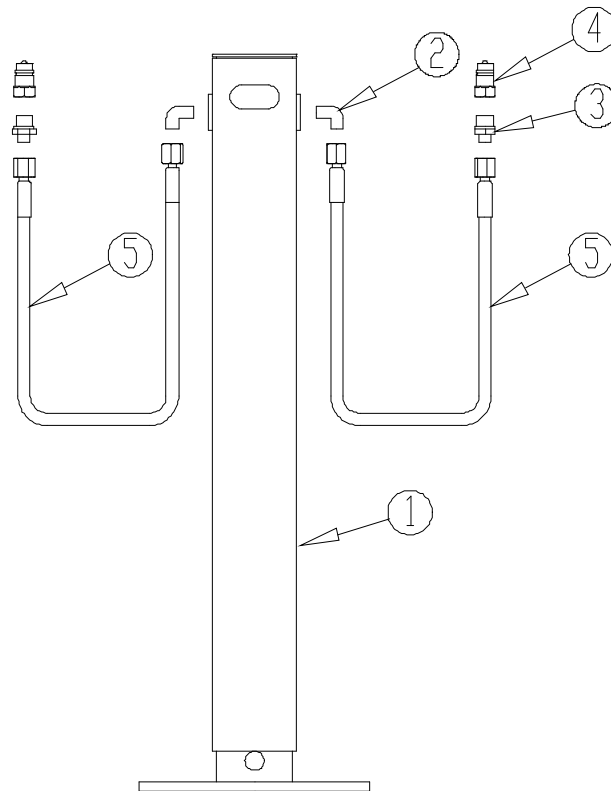


Tipping cylinder

| Pos. | Vare nr. | Betegnelse | 12,3 m | 15,3 m |
|------|-----------|---|--------|--------|
| 1 | 7345028 | Cylinder 120/90 x 1300 after serialnr: 351620 | 2 | 2 |
| 1a | 690200319 | Gasket 120/90 (Laizhou) | 2 | 2 |
| 1b | 7345028 | Cylinder 110/90 x 1300 before serialnr: 351620 | 2 | 2 |
| 1c | 690200312 | Gasket 110/90 | 2 | 2 |
| 2 | 7345042 | Cylinder 110/40 x 285 | 2 | 2 |
| | 7345043 | Gasket set 110/40 (Laizhou) | | |
| 3 | 0442510 | Pilot controlled non return valve 3/8" | 2 | 2 |
| 4 | 690207101 | End stop valve FC10NC | 2 | 2 |
| 5 | 0444020 | Quick coupling 1/2" | 2 | 2 |
| 6 | 690103103 | Fitting, straight Ø12 x 1/2" BSP | 2 | 2 |
| 7 | - | Red strips | 2 | 2 |
| 8 | 0446754 | Fitting straight Ø12 x 3/8" | 12 | 12 |
| 9 | 690203112 | Fitting, adjustable 90° Ø12 mm | 6 | 6 |
| 10 | 690203017 | Tee adjustable T12 L, w/O-ring | 5 | 5 |
| 11 | 690203115 | Tee connector T12 | 1 | 1 |
| 12 | 690203106 | Fitting, adjustable 90° 12-3/8" BSP | 8 | 8 |
| 13 | 0455460 | Hydraulic hose 3/8" L = 11100 mm | 1 | 1 |
| 14 | 0455026 | Hydraulic hose 3/8" L = 6000 mm | 1 | - |
| 14 | 0455098 | Hydraulic hose 3/8" L = 7450 mm | - | 1 |
| 15 | 0454314 | Hydraulikslange 3/8" L = 1130 mm | 1 | - |
| 15 | 0454798 | Hydraulikslange 3/8" L = 2800 mm | - | 1 |
| 16 | 0454172 | Hydraulikslange 3/8" L = 500 mm | 1 | 1 |
| 17 | 0454556 | Hydraulikslange 3/8" L = 1830 mm | 2 | 2 |
| 18 | 0454972 | Hydraulikslange 3/8" L = 4610 mm | 1 | - |
| 18 | 0455034 | Hydraulikslange 3/8" L = 6350 mm | - | 1 |
| 19 | 0454314 | Hydraulikslange 3/8" L = 1130 mm | 1 | 1 |
| 20 | 0454314 | Hydraulikslange 3/8" L = 1130 mm | 1 | 1 |
| 21 | 0454164 | Hydraulikslange 3/8" L = 400 mm | 1 | 1 |
| 22 | 0454988 | Hydraulikslange 3/8" L = 4950 mm | 1 | 1 |
| 23 | 0454360 | Hydraulikslange 3/8" L = 1260 mm | 2 | 2 |
| 24 | 0454254 | Hydraulikslange 3/8" L = 1010 mm | 1 | 1 |
| 25 | 0454440 | Hydraulikslange 3/8" L = 1460 mm | 1 | 1 |



Support leg



| Pos. | Vare nr. | Betegnelsen | 12,3 m | 15,3 m |
|------|-----------|-------------------------------|--------|--------|
| 1 | 690141105 | Support leg | 1 | 1 |
| 2 | 690203006 | Fitting 90° angle 10-3/8" BSP | 2 | 2 |
| 3 | 0446752 | Fitting straight 10-3/8" BSP | 2 | 2 |
| 4 | 0444020 | Quick coupling 1/2" | 2 | 2 |
| 5 | 690201047 | Hydraulic hose 1/4" L | 2 | 2 |

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

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.



GOOD AS IT LOOKS!
AS GOOD AS IT LOOKS!
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The design is subject to modification without notice.