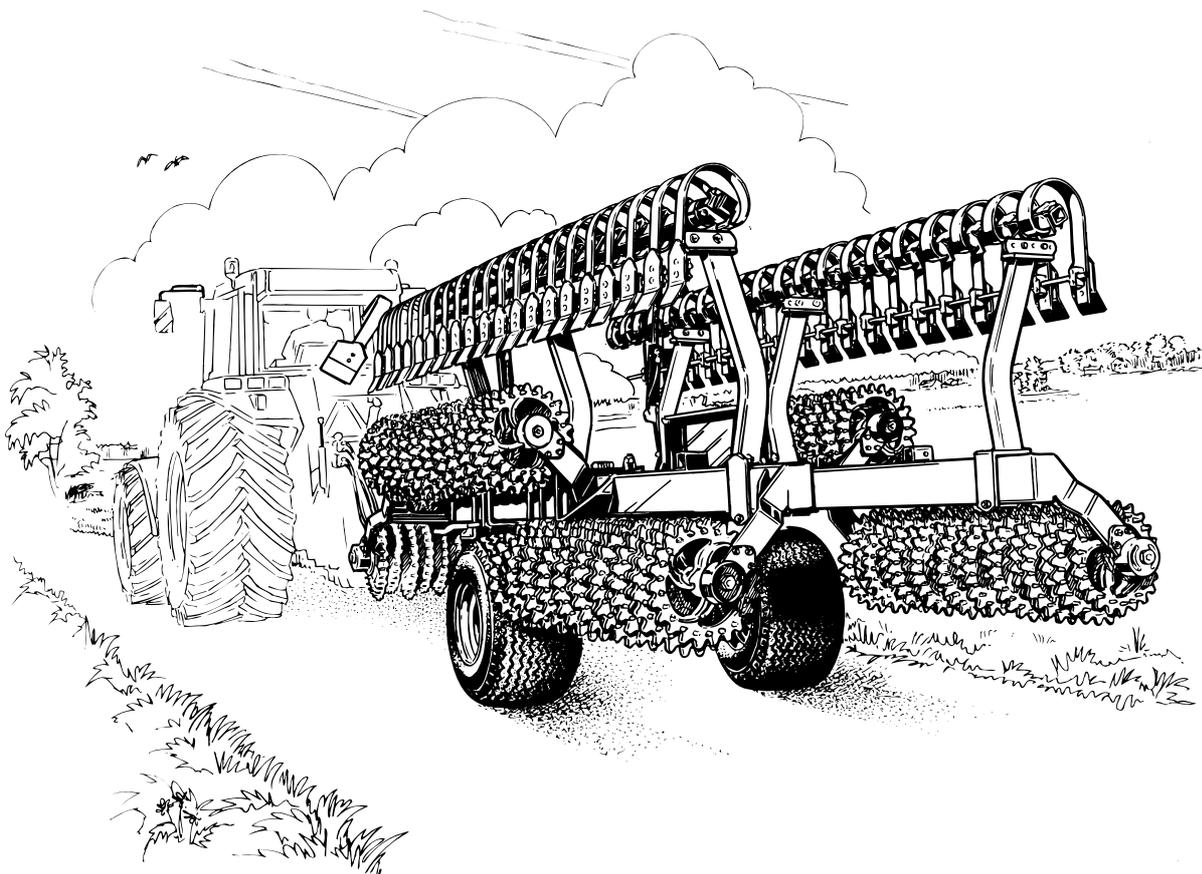


VÄDERSTAD

Rexius

series
RS 500-1230

Manufacturing No.100-



Instructions

902580-en
20.08.2013 3

Original instructions

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EC DECLARATION OF CONFORMITY FOR THE MACHINE
in accordance with the EU Machinery Directive 2006/42/EC

Väderstad-Verken AB, P.O. Box 85, SE-590 21 Väderstad, SWEDEN
hereby confirms that the cultivation tools hereunder have been manufactured in
accordance with the Council Directive 2006/42/EC.

The above declaration covers the following machines:
RS 500P, RS 650P, RS 650, RS 820, RS 940, RS 1020 and RS 1230,
manufacturing no. 100-6 000.

Väderstad 2010-06-18

A handwritten signature in black ink, appearing to read 'Lars-Erik Axelsson', written over a horizontal line.

Lars-Erik Axelsson
Legal requirements coordinator
Väderstad-Verken AB
Box 85, 590 21 Väderstad

The undersigned is also authorised to compile
technical documentation for the above machines.

1 Safety rules

1.1 Before using the implement



! Always pay extra attention to the instructions or diagram when you see this symbol!



Figure 1.1

! This implement is intended for compacting/cultivating arable land. Learn to handle the implement carefully and correctly. It could be dangerous in the wrong hands and if used without taking proper care.

1.2 Warning decals

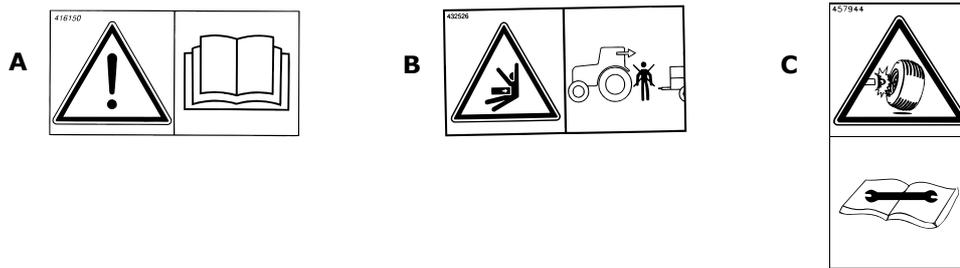


Figure 1.2

- A Read the instructions carefully and make sure you understand them.
- B Do not stand between the tractor and the implement when the tractor is reversed and the implement hitched.
- C Following 10-15 km of transport on the road, retighten the wheel nuts. Retighten the nuts similarly after changing wheels. Tighten the nuts using a torque wrench. See “4.1 Regular maintenance” on page 37.

1.3 Location of warning decals on the machine

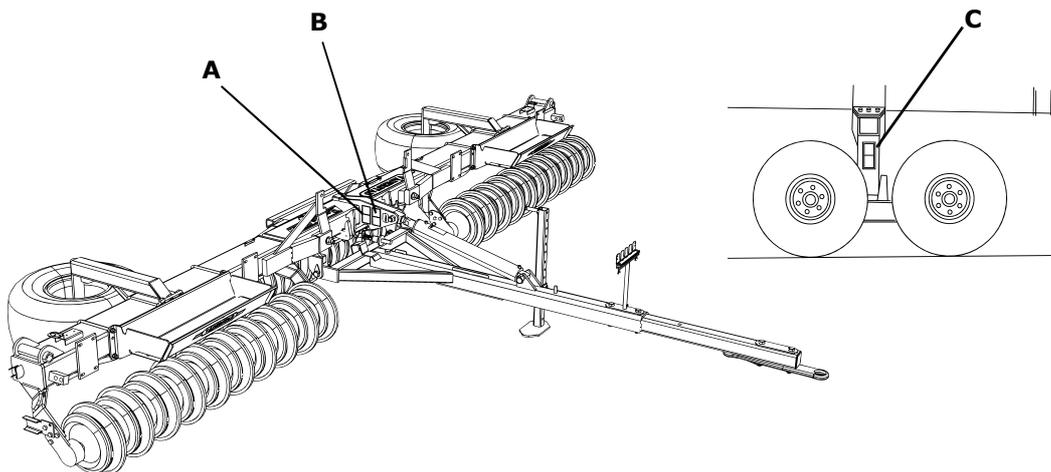


Figure 1.3

1.4 Other safety rules

- ! Never work under the implement when carrying out service or maintenance work.
- ! Be sure that the immediate vicinity of the roller is free.

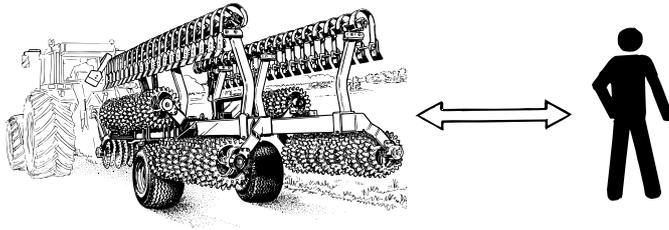


Figure 1.4

- ! Make sure that the automatic stoppers have been locked when transporting the roller (applies to RS 500-1020).

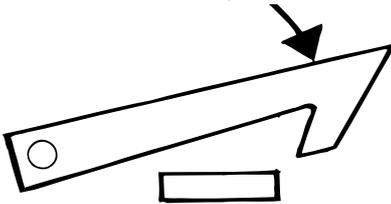
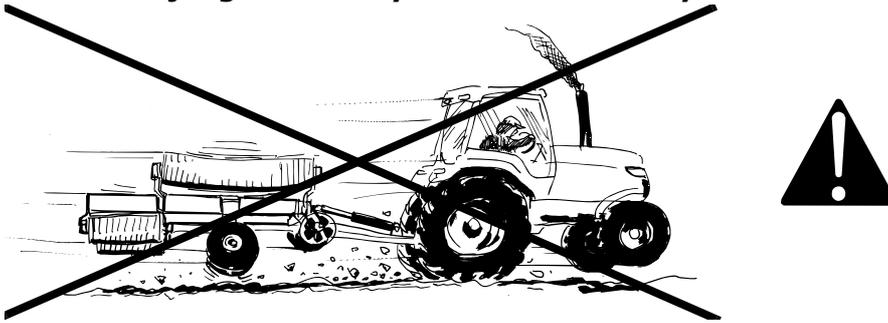


Figure 1.5

- ! This machine/equipment and its tyres are designed for a maximum speed of 40 km/h for transportation on the road.
Pay attention to national speed limits. Also refer to the section “1.4.1 Use sound judgement! Pay attention to safety!” on page 9.
- ! Switching between transport and work mode, and vice versa, should be done on level ground. Do not allow the machine to lean laterally.
- ! Prior to transport on public roads, remove dirt that may fall off from both the tractor and roller.
- ! Prior to connecting the hydraulic hoses, make sure the male couplings on the roller and the female connectors on the tractor are clean and free from dirt.
- ! When servicing the hydraulic system, the wings of the roller should be unfolded and the roller lowered to the ground. Collect any spilled oil.
- ! Always use genuine Väderstad spare parts to maintain the quality and reliability of the implement. If other brands of spare parts are used, all guarantee and claim commitments cease to be valid.

1.4.1 Use sound judgement! Pay attention to safety!*Figure 1.6*

The roller has a high unsuspended weight and it very easily enters into a "jumping" cycle on bumpy roads. Driving at high speeds on uneven road surfaces will subject the equipment to severe mechanical stress.

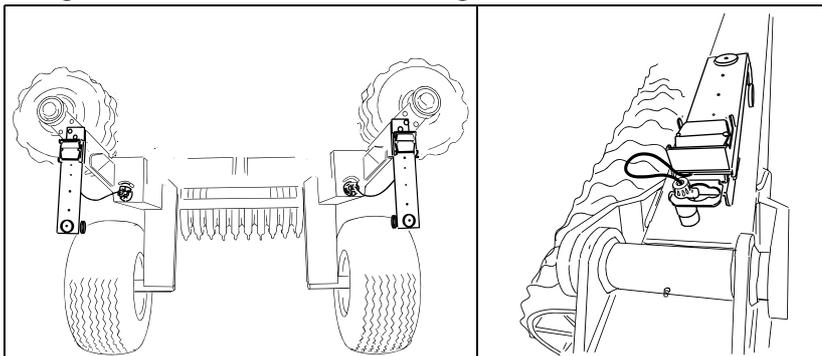
If the road or driving surface is uneven, adapt the speed to the conditions.

The warranty does not cover damage that may occur as a result of incautious transport of the roller.

Keep in mind that the roller is heavy and the braking distance increases considerably.

One must never be in such a rush that proper safety procedures are ignored.

Use the lights on the implement in accordance with local traffic regulations. For road transport, be sure to mount the light assemblies as indicated in "Figure 1.7". When working in the field, place the light assemblies as indicated in "Figure 1.8".

*Figure 1.7**Figure 1.8*

1.5 Data plates

! The machine is equipped with either a combination of signs 1.5.1, Serial number plate, 1.5.2, CE plate and 1.5.3 Serial number plate, or 1.5.4, Machine label.

1.5.1 Serial number plate

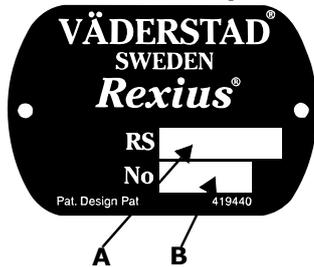


Figure 1.9

A Type

B Manufacturing No.

1.5.2 CE plate

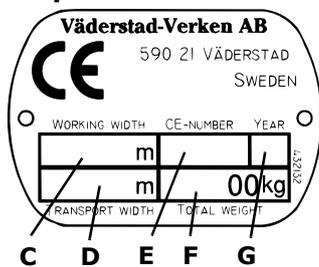


Figure 1.10

C Working width (m)

D Transport width (m)

E CE number

F Implement weight (kg)

G Manufacturing code

1.5.3 Serial number plate Crossboard

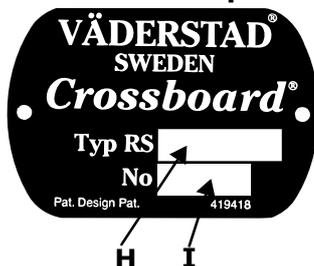


Figure 1.11

H Type

I Manufacturing No.

1.6 Machine plates

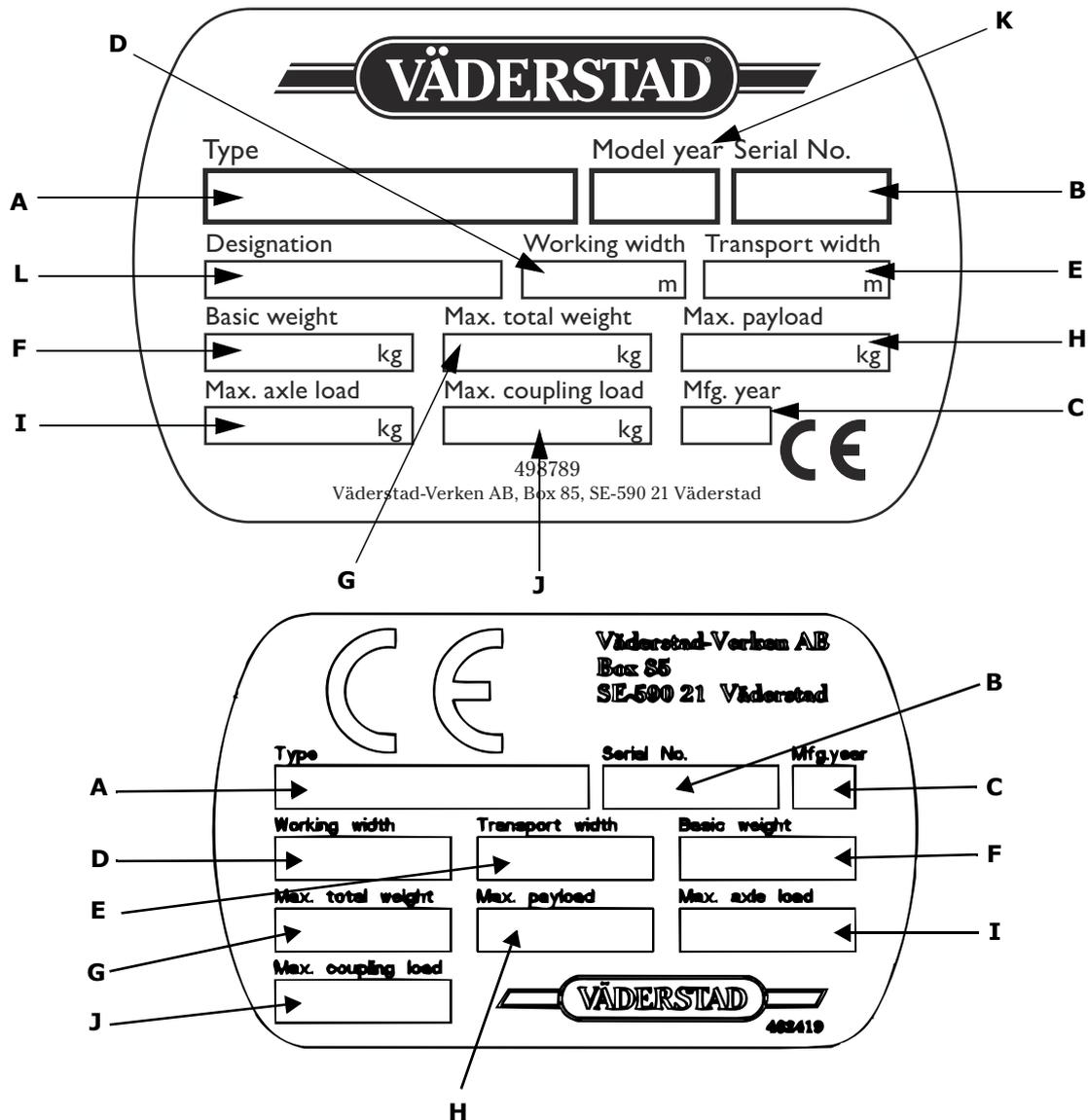


Figure 1.12

- A Machine type
- B Manufacturing serial number (Always state the serial number of your machine when ordering spare parts and in case of servicing or warranty claims.)
- C Year of manufacture
- D Working width
- E Transport width
- F Tare weight of the basic machine
- G Maximum total weight
- H Maximum permitted payload
- I Maximum permitted axle loading
- J Maximum coupling load (at the tractor hitch)
- K Model Year
- L Designation

Also refer to "5 Technical data" on page 43.

1.7 Moving the machine when not hitched to a tractor



NOTE! If the machine must be moved when not hitched to a tractor, it must be transported on a machine trailer or lorry flatbed! The machine must be rolled onto and off the transport vehicle using a tractor. Lifting with a crane is prohibited!

- 1 Set the machine to the transport position; see “3.2 Resetting to transport mode, items 1-6.” on page 19.
- 2 Secure the wing sections ready for transport using tension straps (A) or similar; see “Figure 1.13”. Machines with an extended outer section must be secured on both sides of the pivot point (B).

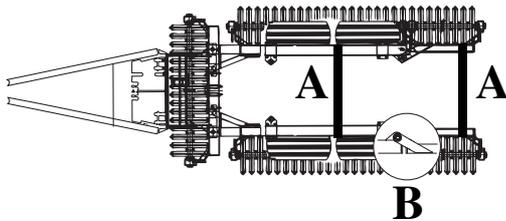


Figure 1.13

- 3 Reverse the machine lengthwise onto the trailer or flatbed. If using a flatbed, a ramp, loading pier or similar will be required. Take great care. Check that no machine parts are damaged during loading.

NOTE! Before reversing, check that the machine is fully raised and that the automatic locks of the wing sections are engaged! See “Figure 1.14”.

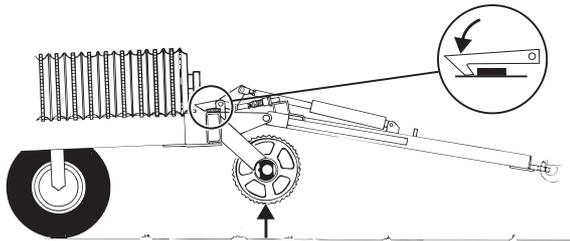


Figure 1.14

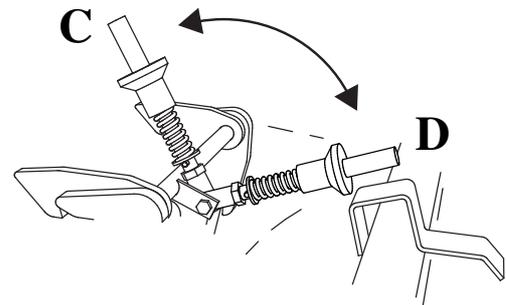


Figure 1.15

- 4 Fold up the stay for the transport lock's opening device, so that the lock does not open when the machine is lowered; see “Figure 1.15” position (C).
- 5 Lower the compaction roller to the ground. Reset the transport lock by folding back the stay for the transport lock's opening device; see “Figure 1.15” position (D).
- 6 Adjust and secure the parking stay so that the machine rests on the parking stay, compaction roller and transport wheels.
- 7 Secure the machine's transport wheels and compaction roller to prevent rolling using chocks or similar.
- 8 Unhitch the tractor from the machine.

- 9 Secure the machine using suitable lashing equipment in accordance with applicable rules. The lashing equipment must be attached to the machine at the locations indicated by the decals; see “Figure 1.16”.
- ! For information on the machine's dimensions and weight, see “5 Technical data” on page 43!
- ! Always make sure that you comply with applicable national regulations concerning transport dimensions, requirements for escort vehicles or similar!

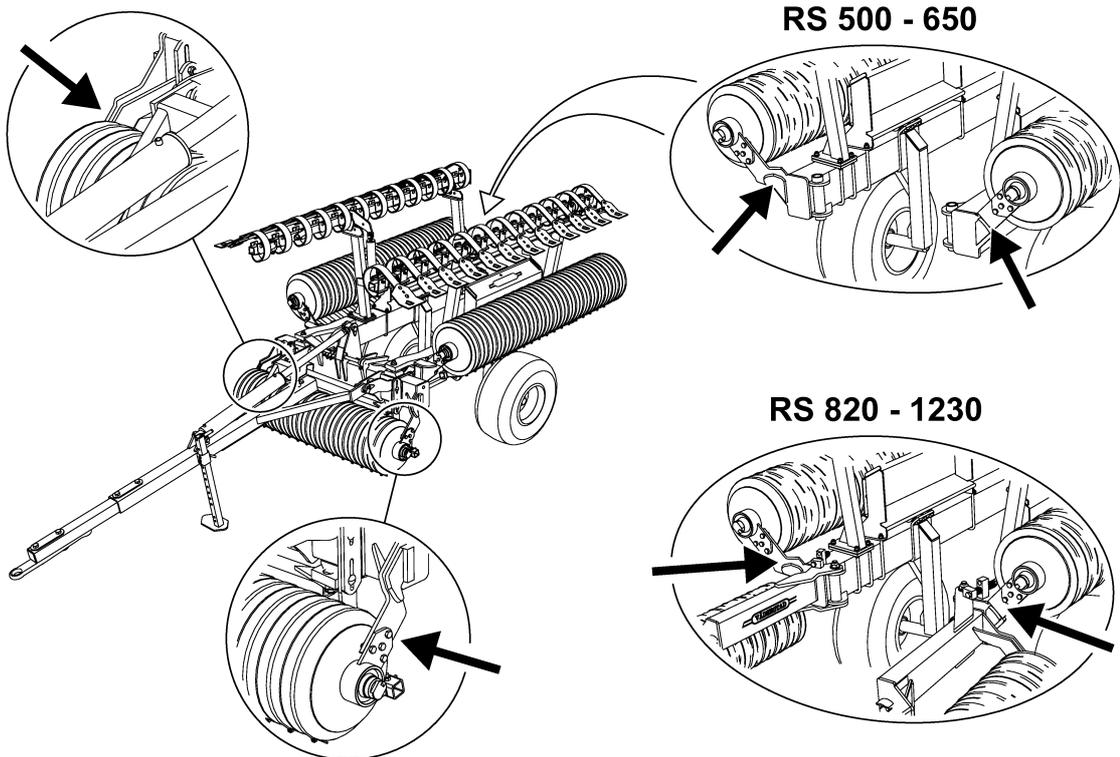
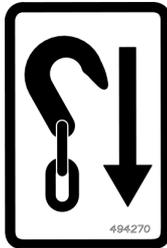


Figure 1.16

2 Assembly instructions

Depending on the means of transport, the roller can be delivered more or less completely assembled. To assemble the roller, follow the relevant assembly instructions below.

2.1 Loading and unloading

Rollers delivered in the transport position should be lifted from the side with forks inserted under the frame. If chains are used, connect them to the three lifting eyelets, pos. 20 and 21. The lifting eyelets are marked with lifting symbols.

2.2 Assembly

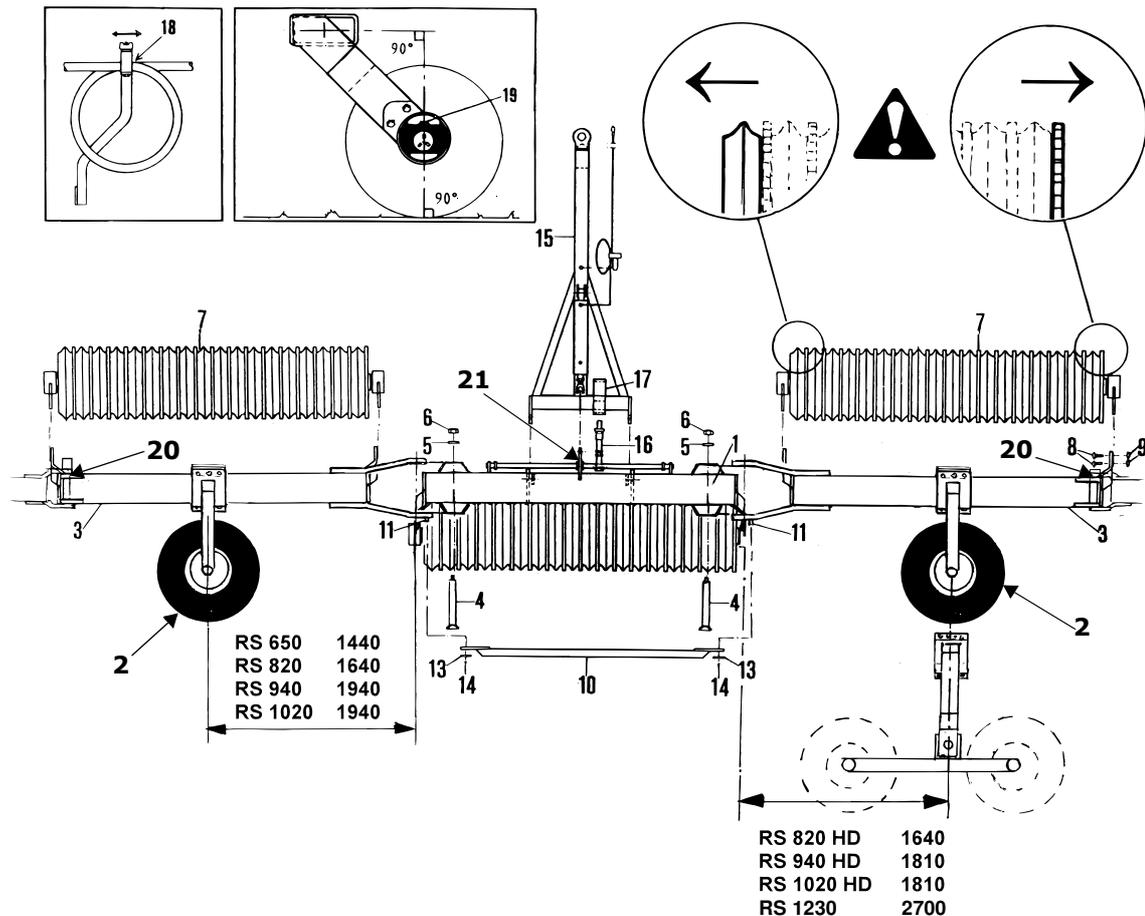


Figure 2.1

- 1 Rest the centre section, item 1, on supports parallel with the ground.
- 2 Fit the wheels, item 2, on the wing sections, item 3, with the air valves facing outwards/downwards.
Check the tyre inflation pressures continually. See technical data "5 Technical data" on page 43.
- 3 Fit the wings to the centre section and lock them in place with the pivot bolts, item 4. Fit the pivot bolts from the rear as shown in the Fig. Secure with the washer, item 5, and lock nut, item 6. Tighten until there is slight play between the wing hinges and the centre section.
- 4 For assembly of the outer sections on the RS 820-1230, see "2.3 Fitting washers on the RS 820-1230" on page 17.

Assembly instructions

- 5 Roll the roller assemblies, item 7, into position with the outer, narrow roller to the right in the direction of travel, i.e. in the same direction as the centre section's roller assembly. Fit the bolts, item 8, from the inside and secure them with the lock nuts, item 9.
- 6 Fit the tie rod, item 10, on the studs, item 11, of the wing sections with a washer outside the tie rod. Then secure it with spring pins, item 14. See the sticker on the roller.

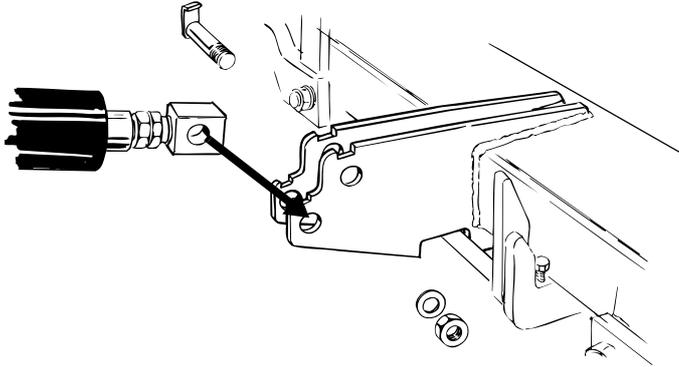


Figure 2.2

- 7 Mount the drawbar, item 15, and hydraulic ram on the centre section by means of its retaining bolts. Place the opening device, item 16, on top of the drawbar's sheet metal stop, item 17. The adjustable head of the hydraulic ram should be fitted to the ram support on the centre section as shown in "Figure 2.2" .

NOTE! If the hydraulic ram is installed incorrectly, it will become damaged.

Mount the hose holder, facing forwards, on the drawbar. Secure the hoses as in item 18, allowing the length of the hoses to be varied.

- 8 Grease the pivot bolts, item 4. Check the lubrication of the wheel hubs and roller assembly bearings.
- 9 Check the mounting of the roller assembly. The shoulder on the rubber suspension block, item 19, should face upwards.

It is very important to tighten the screws on the roller assemblies. Carry out the first inspection after 10 hours of use.



At the end of each season, check to see that the broad roller rings (not the breaker rings) have not moved in relation to each other. If there has been movement, add cup springs 401444 accordingly.

2.3 Fitting washers on the RS 820-1230

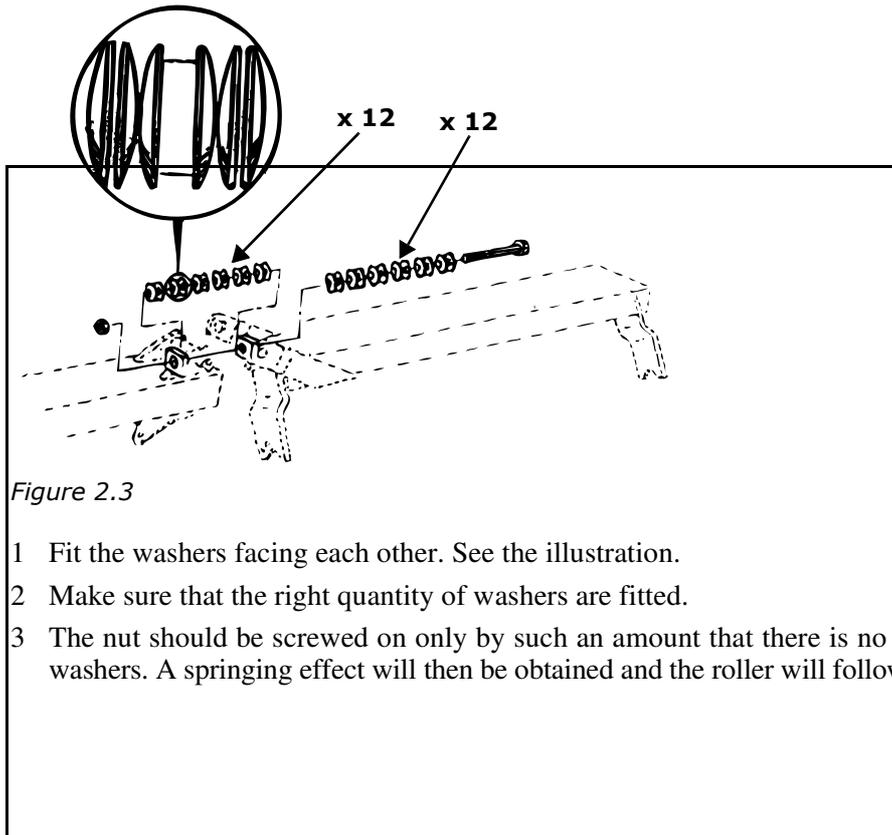


Figure 2.3

- 1 Fit the washers facing each other. See the illustration.
- 2 Make sure that the right quantity of washers are fitted.
- 3 The nut should be screwed on only by such an amount that there is no free play between the washers. A springing effect will then be obtained and the roller will follow the ground better.

Assembly instructions

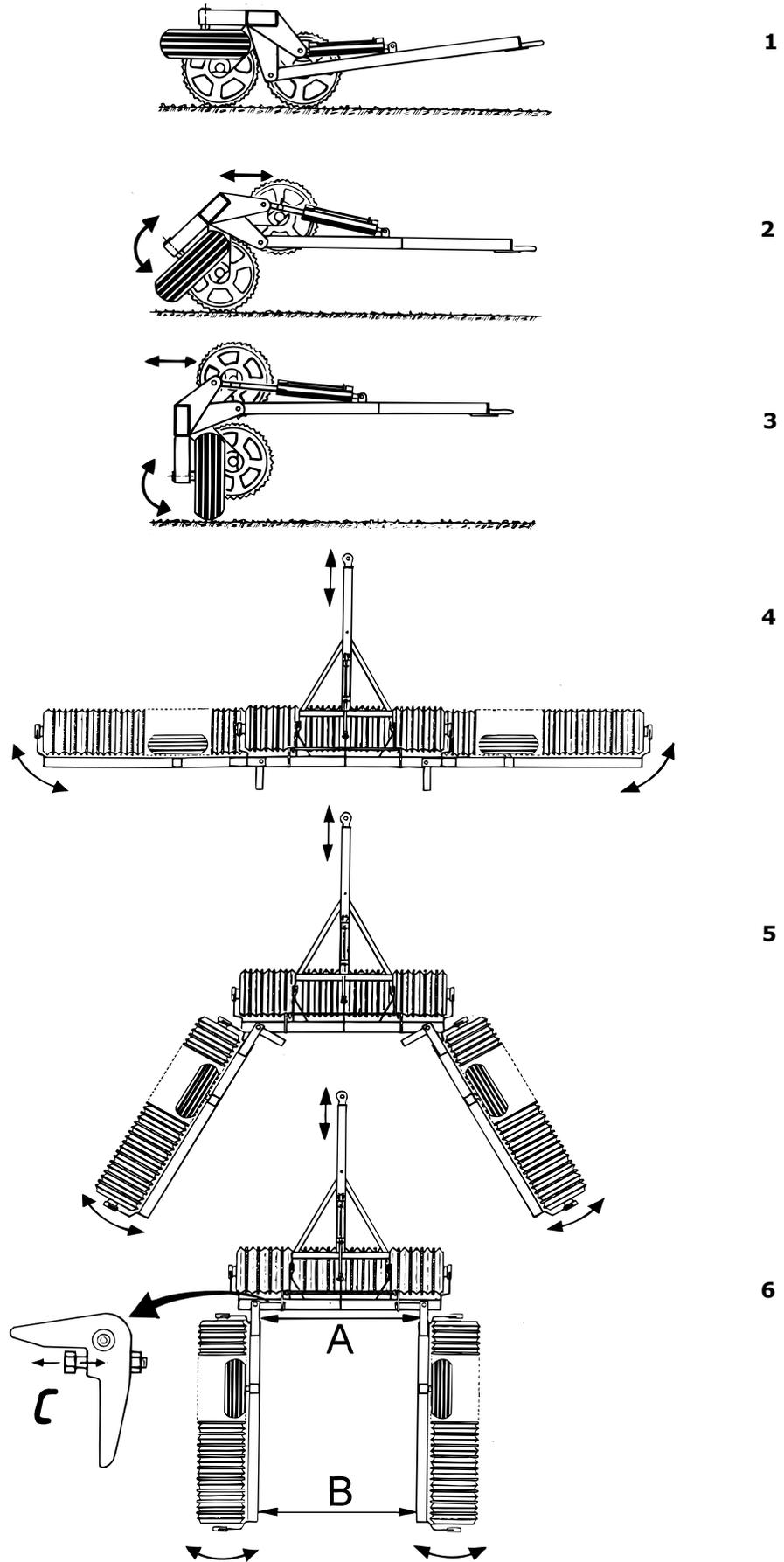


Figure 2.4

3 Instructions and adjustments

3.1 Hitching the roller

Hitch the roller to the tractor and connect the hydraulic hoses. If the roller is equipped with a Crossboard, make sure that the hoses are connected in pairs to the proper hydraulic connections on the tractor. Finally, be sure to pull up the parking supporting leg.

3.2 Resetting to transport mode, items 1-6.

NOTE! Switching to the transport mode, should be done on level ground. Do not allow the implement to lean laterally.

! See “Figure 2.4”.

3.2.1 RS 500-1020

- 1 Engage the neutral position or hold the clutch down. The brakes or handbrake must not be applied. Tip the roller fully rearwards.
- 2 Drive the tractor slowly forwards, causing the wing sections to swing rearwards until they meet and are automatically locked in place. The roller is now ready for transport.

3.2.2 RS 1230

- 1 Switch to the neutral position or fully depress the clutch pedal. Do not apply the brakes or the handbrake. Raise/fold up the pre-implements completely. Tilt the implement all the way to the back.
- 2 Slowly drive the tractor forward. The wing sections will then swing backwards and align with the implement for transport.
- 3 Lower the centre section to the ground. Switch off the tractor and apply the handbrake. Exit the tractor and secure the machine in the transport position by engaging and securing the rigging screw of the transport lock. See “Figure 3.1”



Figure 3.1

Instructions and adjustments

3.3 Resetting to working mode, items 6-1.

NOTE! Switching to the work mode, must be done on level ground. Do not allow the implement to lean laterally.

! See “Figure 2.4”

3.3.1 RS 500-1020

- 1 Drive forwards and stop.
- 2 Lower the centre section to the ground, causing the transport lock to open automatically.
- 3 Reverse the tractor slowly until the roller has unfolded completely. Declutch the tractor and lower the roller. Drive a few metres forwards with the hydraulic valve open. The roller is now in working mode.

3.3.2 RS 1230

- 1 Drive forward and stop.
- 2 Make sure the pre-implements are completely raised/folded up. Lower the centre section to the ground.
- 3 Switch off the tractor and apply the handbrake. Exit the tractor and undo the transport lock. Place the transport lock in the holder. See “Figure 3.1”
- 4 Slowly reverse the tractor until the wing sections of the implement have been folded out completely. Put the tractor in neutral and lower the implement. Drive a few metres forward while keeping the hydraulic valve open.

3.4 Checking wheel angle

Wheel toe-in is factory adjusted but must be checked after a couple of days of usage.

- A Place the roller in the transport position.
- B Measure dimensions A and B.
- C Compare these two measurements. Measurement B should be max. 10 mm smaller than A and max 30 mm larger than A.
- D If the difference is excessive, adjust using the adjusting screw C. Turn the screw clockwise to **reduce** the dimension and anticlockwise to **increase** it. When the adjusting screw is adjusted 1 mm on each side, this results in a 16 mm adjustment of measurement B. A large B adjustment makes unfolding in the field easier. To reduce wear on the wheels during long road transports, B should be set to equal A.

3.5 Folding/unfolding the Crossboard, RS 650-1020

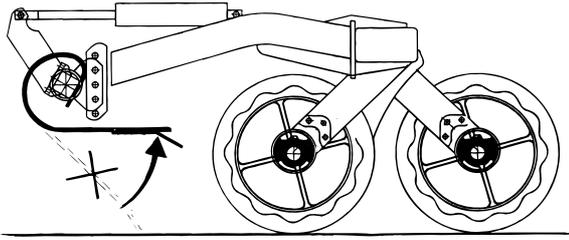


Figure 3.2

When folding down the roller, the Crossboard should be in the folded position. If this is not the case, the centre tines can easily be damaged against the drawbar.

3.6 Adjustment of the hydraulic ram to tractor towing height, A

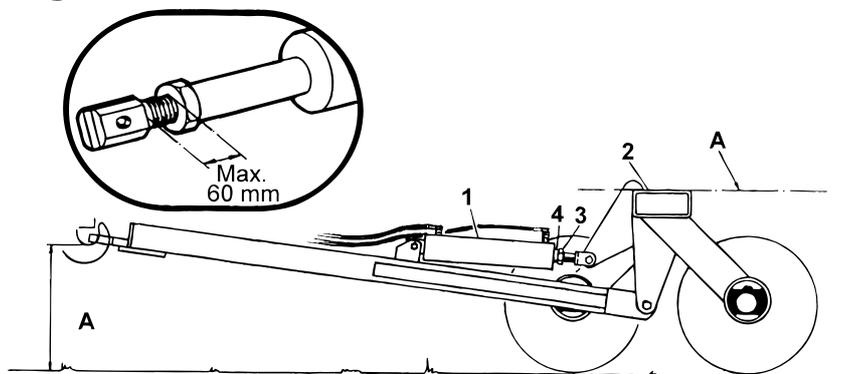


Figure 3.3

This should be done in the working mode in the field with the roller hitched to the tractor's tow hook.

Then the hydraulic ram is fully retracted, the roller frame, item 2, should be parallel with the ground (see line A).

- 1 Stop the tractor and release the hydraulic pressure.
- 2 Slacken the lock nut, item 3.
- 3 Turn the piston rod (4) and adjust the cylinder to the correct length. The piston rod must be completely retracted.
Do not unscrew the end of the piston rod more than 60 mm!
- 4 Secure with the lock nut.
- 5 Retract the piston rod and drive forward a few metres with the hydraulic lever in neutral. Check the position of the frame.
- 6 Always drive with the hydraulic lever in the neutral position when working with the implement; not when it is transported.

When rolling is carried out, the ram may slowly creep outwards due to leakage in the tractor's valve. For even cultivation, make a habit of occasionally retracting the piston rod.

3.7 Adjustment of the transport lock's opening device, RS 500-1020

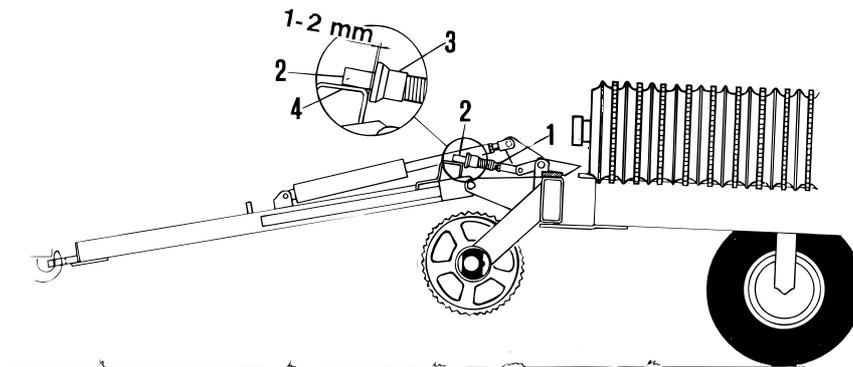


Figure 3.4

- 1 Adjustment should be carried out with the roller in transport mode and the hydraulic ram fully extended.
- 2 Slacken the lock nut, item 1.
- 3 Rotate the rod, item 2, until the sleeve, item 3, is 1-2 mm from the stop, item 4.
- 4 Tighten the lock nut.
- 5 Lower the centre section to the ground and check that the transport lock's catches open.

3.8 Crossboard levelling board, RS 650-1020

3.8.1 Installation (also refer to the spare parts list at the end of the manual)

- 1 Install the two arms fitted with hydraulic cylinder brackets onto the inner mounting plates on the wheel sections. Then install the outer arms. See “Figure 3.5” or “Figure 3.6”. Do not tie the joints too tight.

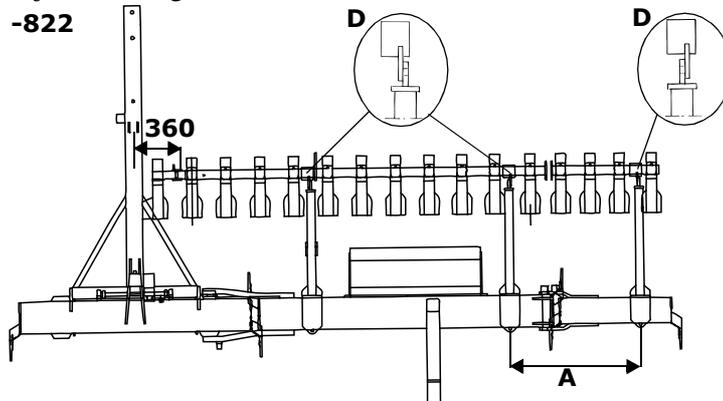


Figure 3.5

Table 3.1 Measurement A shows reference settings.

| Model | A |
|---------|------|
| RS 820 | 915 |
| RS 940 | 1470 |
| RS 1020 | 1820 |

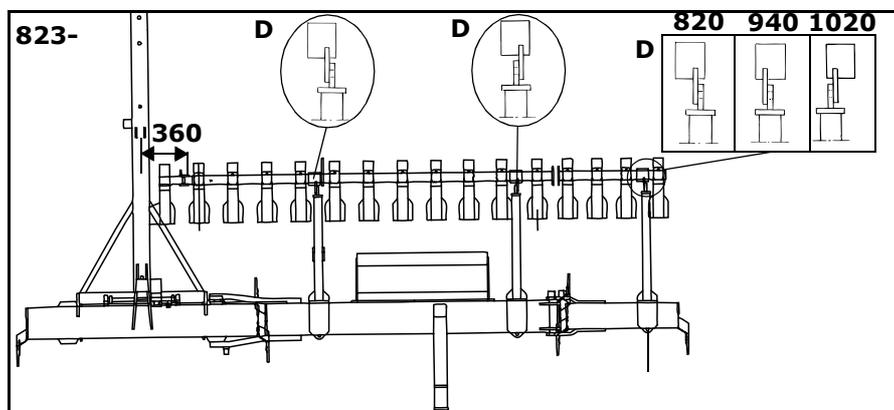


Figure 3.6

- 2 Install the left-hand and right-hand shafts with the Crossboard tines. Carefully check the position of the guide bushing, item D. Check that the distance between the hinge and the centre of the drawbar is **360 mm**. The shafts have three different height positions depending on the type of rings and type of soil. On model RS 650-820 HD, the shafts should be installed in the lowest position.
- 3 Tighten the arms closest to the drawbar. Tighten the upper and lower nuts alternately. Confirm that the arms are aligned by visual inspection from the side. Then adjust the second arm on the left and right side until the distance between the bushing and tine bracket is 5 mm.
- 4 On model RS-820-1020, screw the two outer shafts together.

Instructions and adjustments

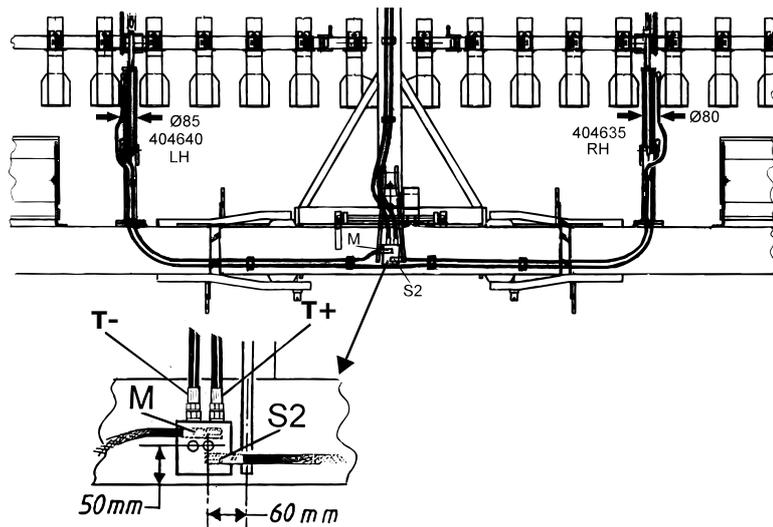


Figure 3.7

- 5 Install the hydraulic cylinders, the cylinder with the larger diameter on the left side with the nipples facing outwards. See "Figure 3.7".
- 6 Install the hydraulic lock in the M6 treads.
- 7 Install the hose frames.
- 8 If the roller does not have a double-acting hydraulic ram, then an extra hose must be fitted. Remove the air nipple and screw on the hose provided. The hydraulic system to the roller must be double-acting in order that its front edge does not lift when the Crossboard levelling board is pressed down.

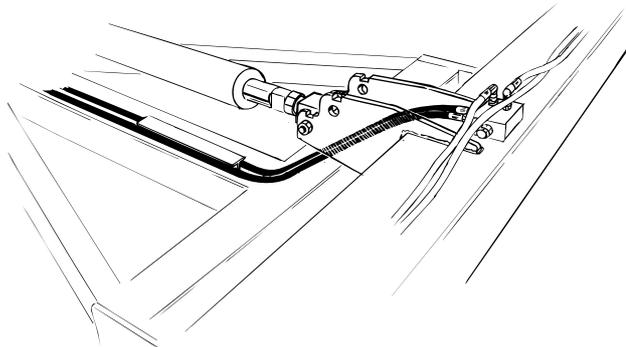


Figure 3.8

- 9 Pull the hoses from the hydraulic lock to the tractor through the ram support on the frame, under the folding ram, and connect them to the T-profile on the draw-bar beam. Stretch the hoses from the Crossboard when the roller is in the **transport position** and the lifting ram has been completely extended.
- 10 Check the tightness of all connections.

- 11 Adjust the pistons so that the Crossboard levelling board is set evenly on the left and right sides. To achieve this, loosen the lock nut and adjust the piston rod. Do not unscrew the rod end more than 20 mm. See "Figure 3.9".

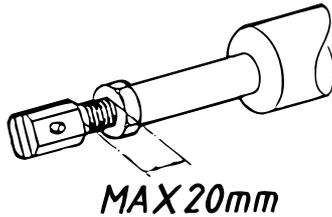


Figure 3.9

- 12 Lubricate the two tine bar hinges and check for free movement. This is important if the implement is to function satisfactorily.

3.8.2 Instructions

- ! The Crossboard levelling board must be in the raised position, i.e. piston rods fully extended, when the rollers are unfolded and folded.

When reaching the field, prior to unfolding the roller, be sure to check that the tines next to the draw-bar are folded up. If this is not the case, the wear plates will strike the draw-bar and the hydraulics. Unfold the roller, drive slowly forward and force the Crossboard levelling board to the ground. Fold the two leading tine bars in under the drawbar.

The Crossboard levelling board must be in the raised position when the rollers are folded. When changing from working to transport position, the inner tines contact the drawbar and fold away.

Make a habit of bleeding the hydraulic system 10-15 seconds each time the roller is attached. Bleed the system by completely extending the piston rods and then holding the lever in position.

3.9 Quick Change System

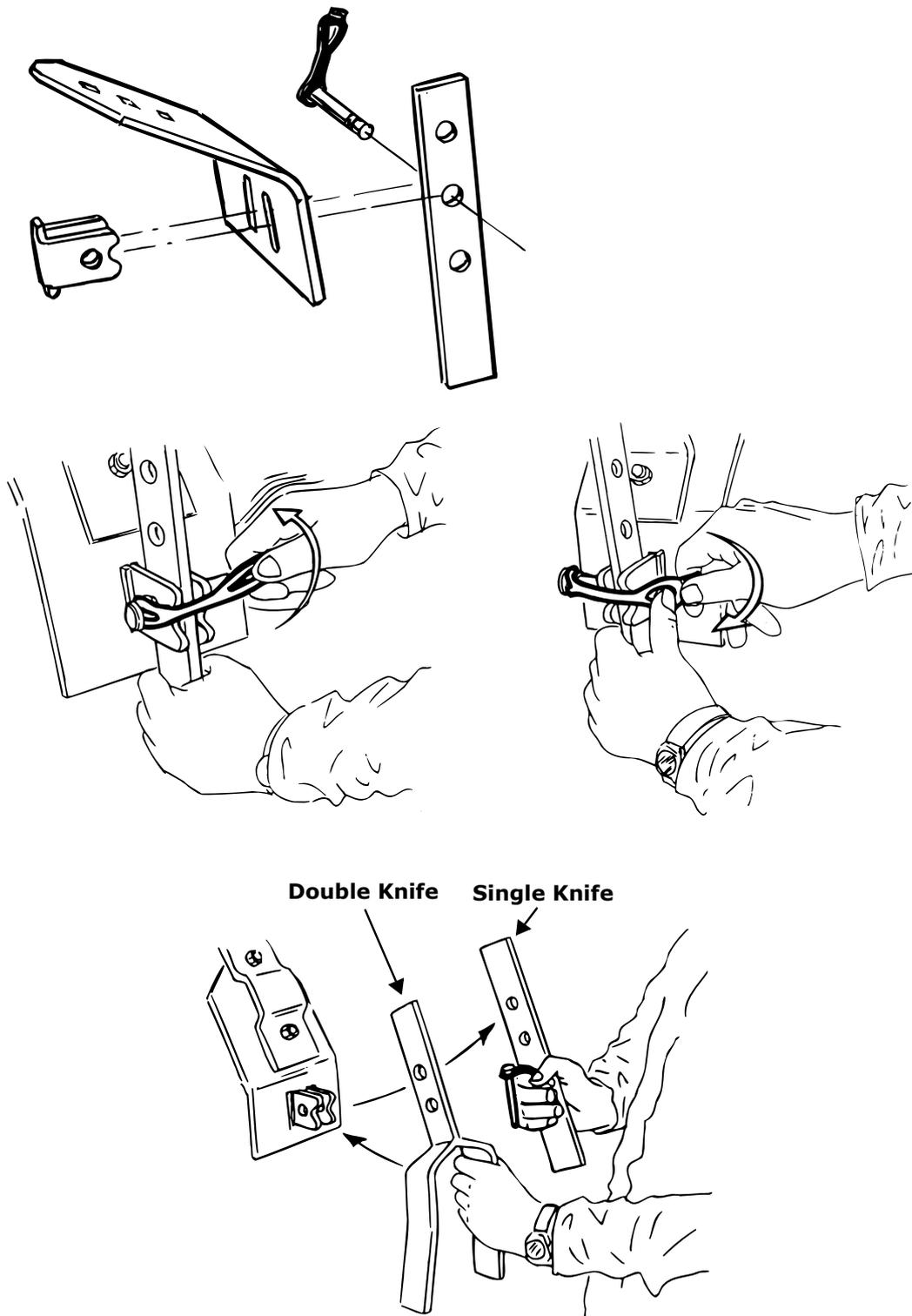


Figure 3.10

3.10 Stabiliser rods, RS 650-1020

On delivery the stabiliser rods are mounted on the Crossboard. In spring, it is recommended that the implement is used without the stabiliser rods. This will ensure that the desired vibration effect and flexibility of the Crossboard levelling board are achieved. The levelling board creates very fine soil when the tines are allowed to vibrate.

Under extremely difficult conditions, equip the Crossboard with stabiliser rods for optimum crushing effect.

Store the stabiliser rods where they are easily accessible.

To help keep the board clean, remove the stabiliser rods when working in damp Autumn conditions.

3.10.1 Assembly of round rods

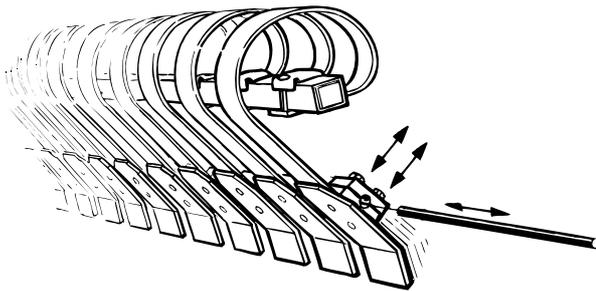


Figure 3.11

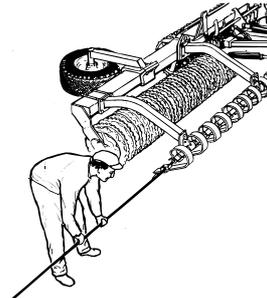


Figure 3.12

Unfold the roller to working position. Fold up the Crossboard so that the tines clear the ground. Install the stabiliser rod from the outside. Secure the rod with the locking block.

3.10.2 Fitting twin rods

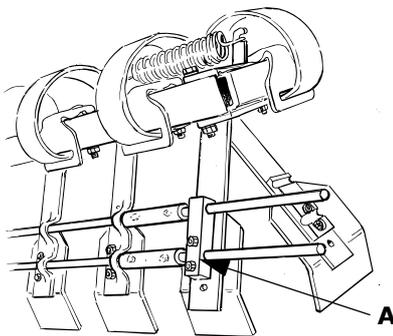


Figure 3.13

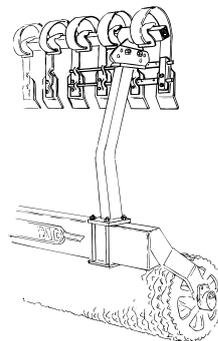


Figure 3.14

Fit the twin rods while the roller is in the transport position.

If the roller is equipped with two Crossboard sections, the rods should be fitted from the front as shown in “Figure 3.13”.

If the roller is equipped with four Crossboard sections, the rods for the outer sections should be fitted from the rear as shown in “Figure 3.14”.

- 1 Remove the guide (A) from the Crossboard tine.
- 2 Push in the rods.
- 3 Install the guide (A).

Instructions and adjustments

3.10.3 Assembly of round rods

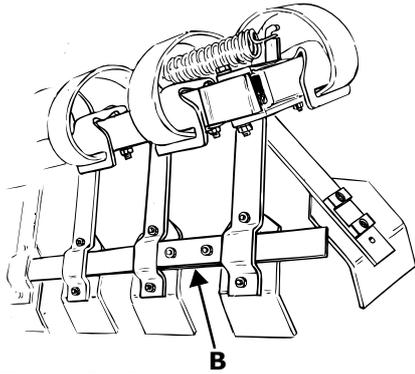


Figure 3.15

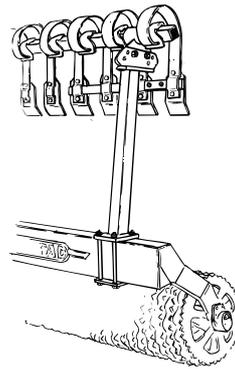


Figure 3.16

Assembly should be done with the roller in the transport position.

If the roller uses two Crossboards, the rods should be assembled from the front as shown in “Figure 3.15”.

If the roller has four Crossboards, the rods should be assembled on the outer section from the rear as shown in “Figure 3.16”.

- 1 Release the locking device (B) from the rod.
- 2 Push in the rod.
- 3 Fit the locking device (B).

3.11 Adjusting the scrapers (RS 500-650 P)

Adjust the scrapers until the tips of the same are as close to the roller rings as possible, but be sure they are not in contact.

- ! Only adjust the scrapers when the implement has been folded down to the work position!
- ! Avoid reversing the machine when it has been folded down to the work position! Soil and plant residue could get caught in the roller ring units, and if the machine is then reversed there is a risk of causing damage to the scrapers.

3.11.1 Centre section scrapers

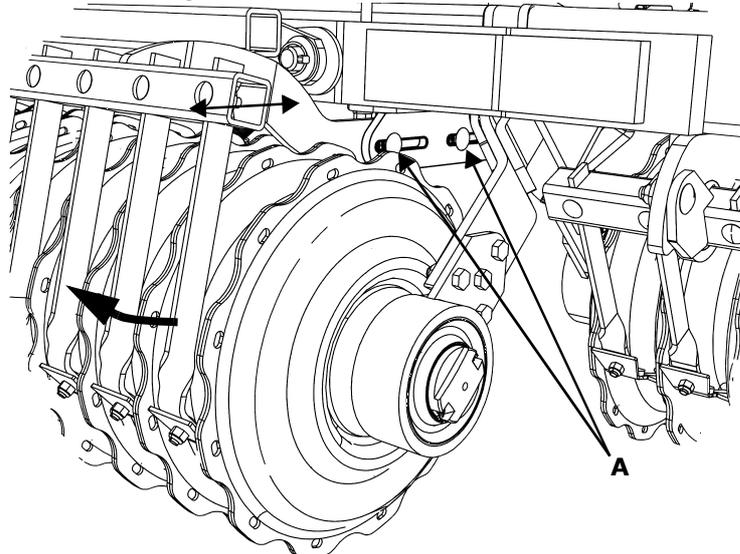


Figure 3.17

The scrapers on the centre section can be adjusted lengthwise by repositioning the scraper unit in the oblong holes in the holders under the frame. Loosen the screw unions (A) and set to the desired position. Then retighten the screw unions.

3.11.2 Wheel section scrapers

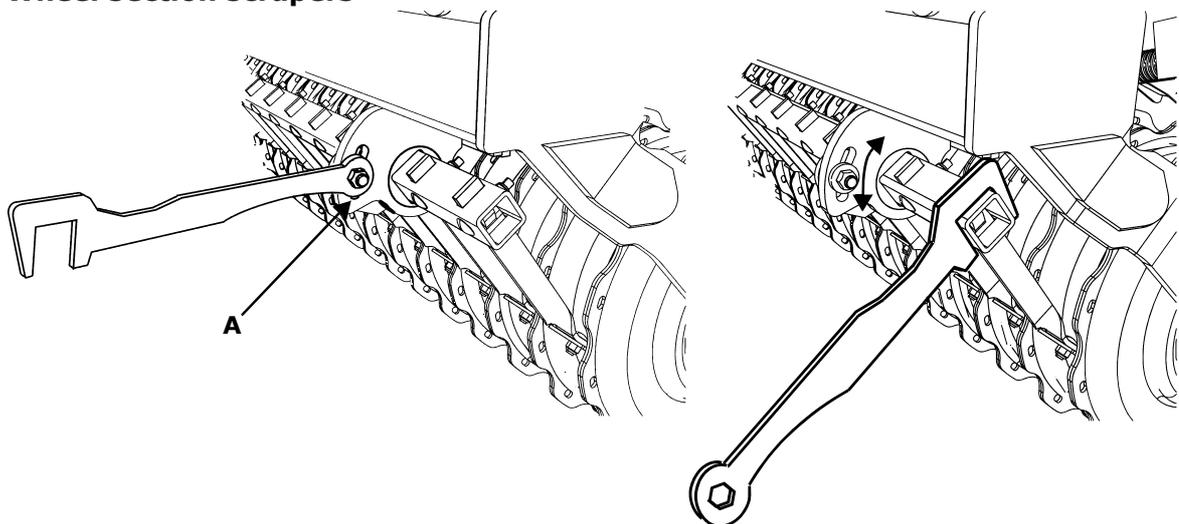


Figure 3.18

The scrapers on the wheel sections can be adjusted by turning the tube along the groove in the holder. Loosen the nut (A) and set to the desired position. Retighten the nut.

Instructions and adjustments

3.11.3 Scraper pins and tips

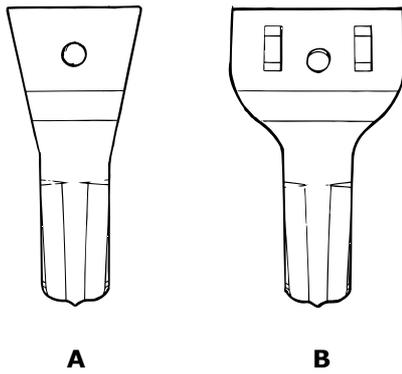


Figure 3.19

The implement is delivered with standard type scraper tips (A). Wider tips (B) can be ordered. The part number for these tips is indicated in the spare parts manual. The wider tip is designed for clay soils and moist conditions with little occurrence of straw, e.g. when working in moist, ploughed clay soil.

3.12 Hydraulic brakes (accessories)

3.12.1 General

The RS 650-1230 and RS 500-650 P can be fitted with hydraulic brakes. The machine is then brought to a stop by brakes applied on all four wheels. The system relies on a hydraulic brake cylinder for each wheel. The system also has an emergency brake that is applied if the machine by accident becomes unhitched from the tractor. The system relies on an accumulator, a valve and a wire that is connected to the tractor.

3.12.2 Connection and driving

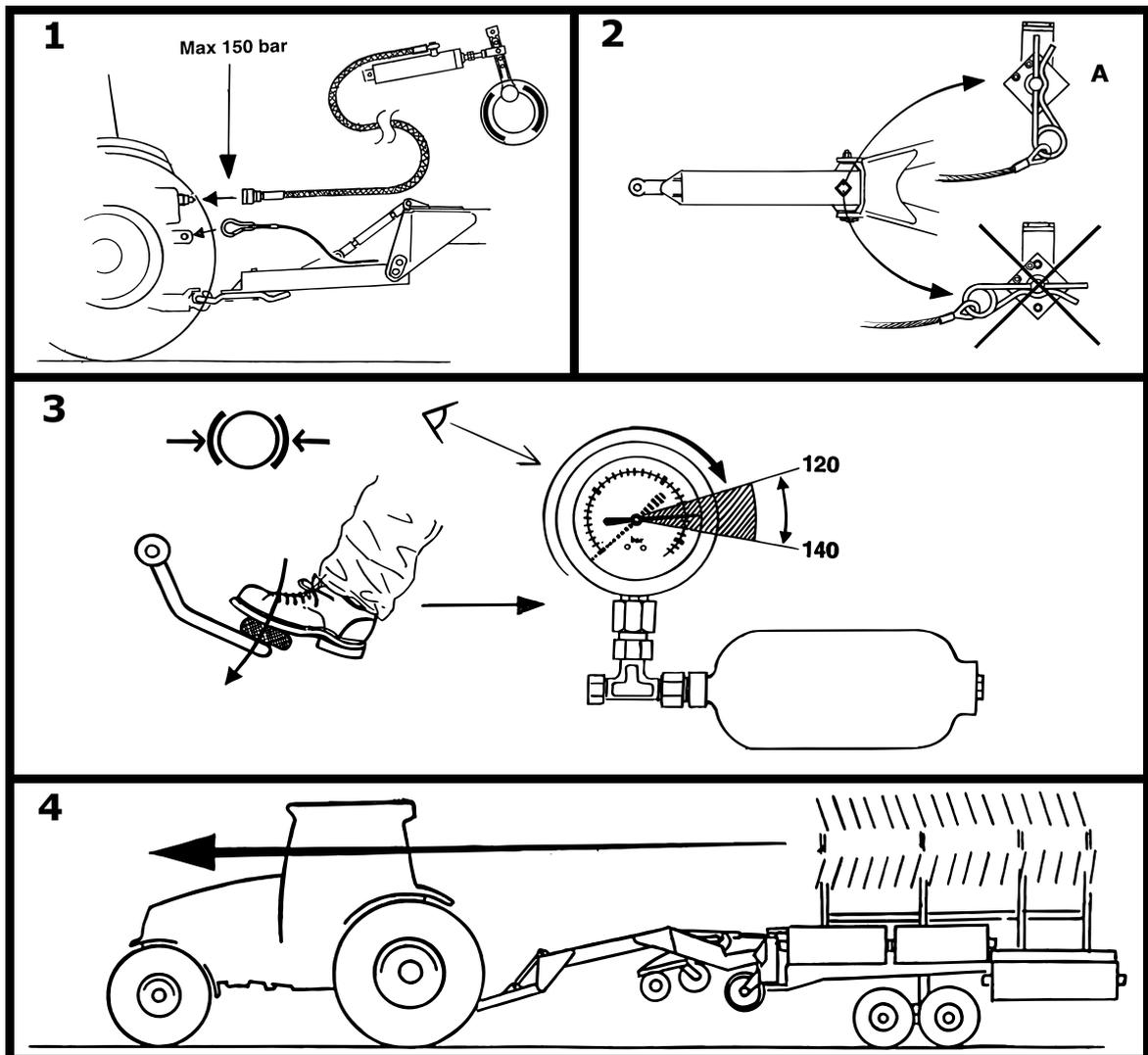


Figure 3.20

- 1 Connect the hydraulic hose of the brake system to the brake coupling on the tractor. Please note that the hose must only be connected to a brake coupling that is controlled by the tractor's brake pedal and with a maximum pressure of 150 bar. Connect the wire to a convenient point on the tractor. Make sure the wire cannot get entangled.
- 2 Ensure that the emergency brake valve is set to position A.
- 3 Press down the brake pedal and keep it in this position until the manometer on the machine's draw-bar shows 120 - 140 bar.
- 4 The machine is now ready for driving.

Instructions and adjustments

3.12.3 Parking

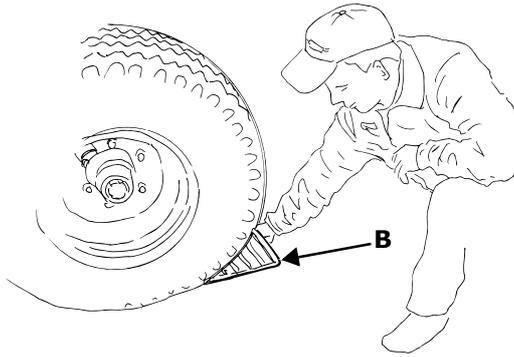


Figure 3.21

Be sure to park the implement on a stable and level surface. Secure the implement with the wheel chocks (B).

3.12.4 Adjusting the brakes

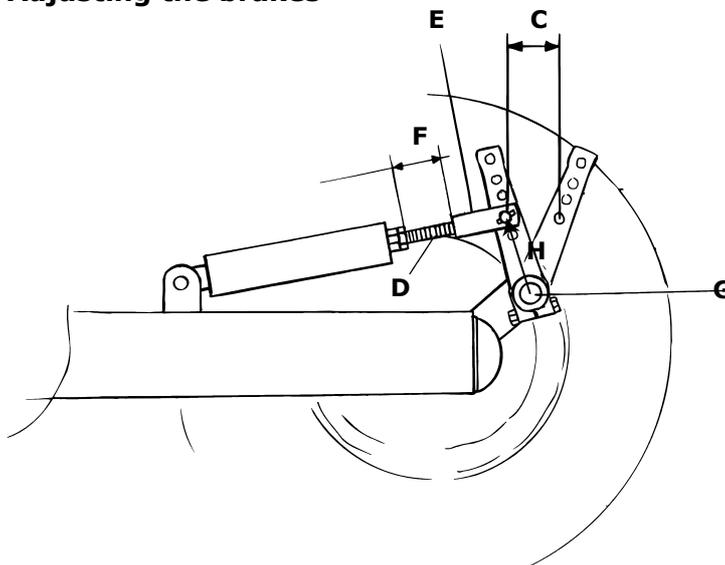


Figure 3.22

It is imperative that correct brake adjustment is verified when the machine is new and subsequently twice a year.

NOTE! Unless the brakes are adjusted, the brake action will wear off over time. In the end, the brakes will not operate at all.

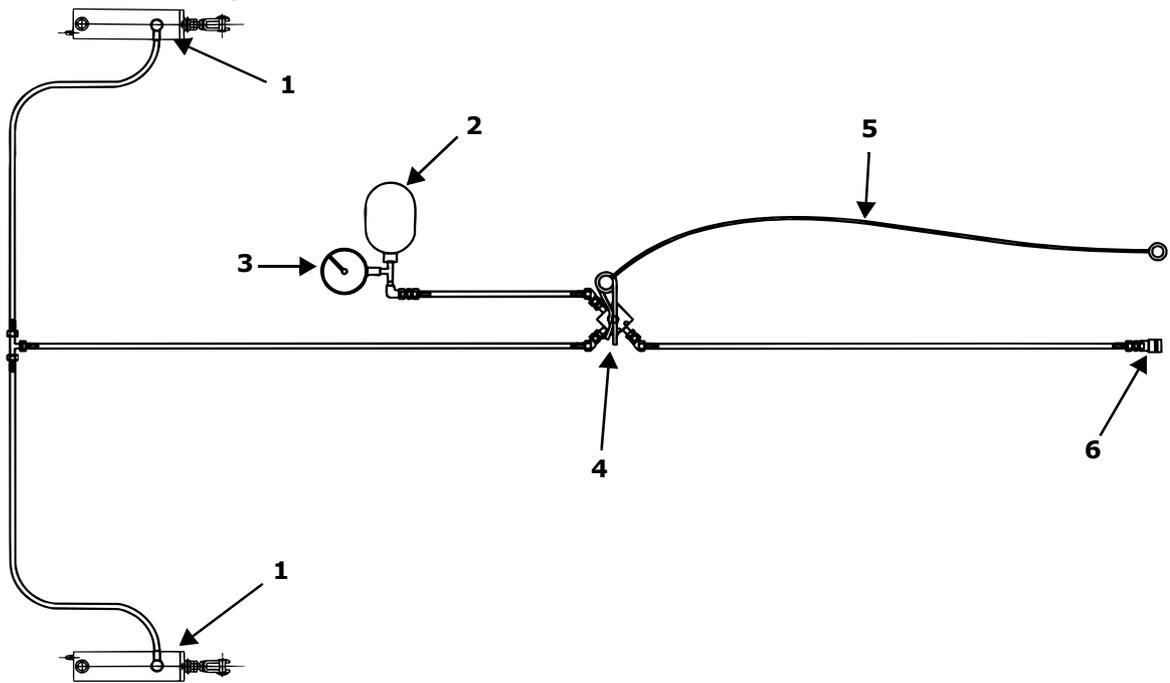
Hitch the implement to the tractor when making this adjustment. Measure the stroke (C) of the brake cylinders in unbraked and braked condition. When performing this measurement, be sure that the rod (D) is at its bottom position when the brake is released.

If the stroke (C) exceeds 30 mm, the brake should be adjusted.

Loosen the counter-nut and unscrew the fork (E) until a stroke of 15 mm is achieved. Tighten the counter-nut.

Following this adjustment, if the thread (F) extends more than 40 mm, then the lifting arm (E) must be moved one step closer to the brake cylinder on the camshaft (G).

The distance (H) between the camshaft (G) and the centre in the fork hole (E) must be 125 mm.

3.12.5 Connection diagram*Figure 3.23*

- 1 Brake cylinder
- 2 Accumulator
- 3 Manometer
- 4 Emergency brake valve
- 5 Emergency brake wire
- 6 Quick coupling

3.13 Pneumatic brakes (accessories)

3.13.1 Instructions

General

These instructions apply to pneumatic brakes. Brakes cannot be fitted after delivery. The brakes are drum brakes without self-adjustment.

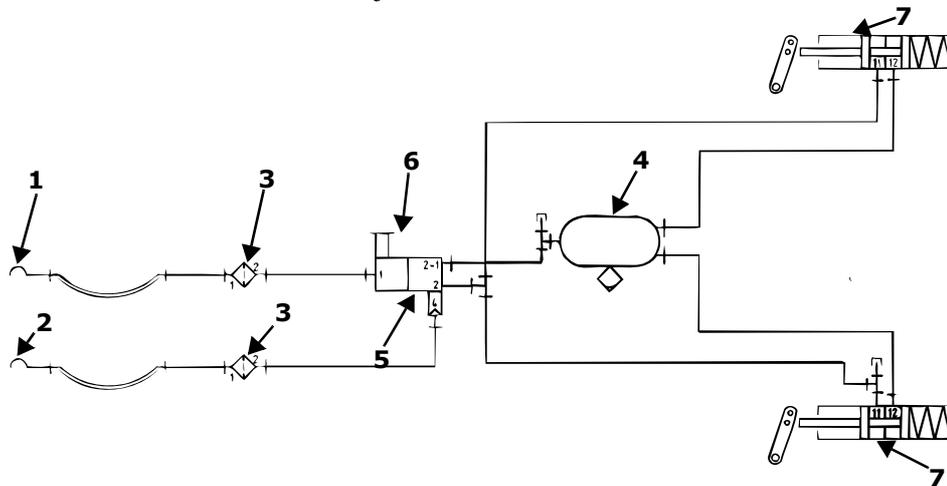


Figure 3.24

Connection diagram: Coupling device, red, pressure line (1), coupling device, yellow, control line (2), line filter (3), tank (4), brake valve (5), retarder valve (6), spring brake cylinders (7) and diaphragm valves (8).

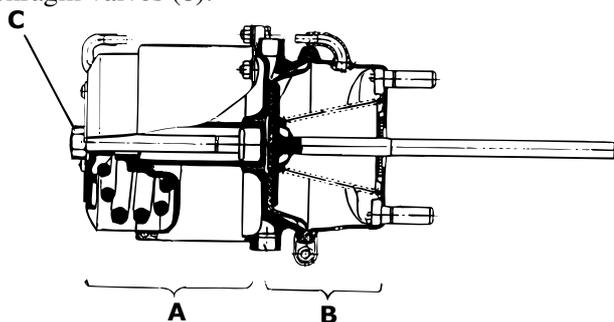


Figure 3.25

The spring brake cylinders use a diaphragm valve (A) for the travel brake / parking brake and a spring brake device (B) for "emergency braking".

Note! Before using the machine: To make sure the emergency brake is operational, verify that all the screws (C) are completely tightened.

Hitching to the tractor

Connect the red pressure line to the red pressure coupling on the tractor. Then connect the yellow pressure line to the yellow control coupling on the tractor. The brake system is designed for the following air pressures:

Tabell 3.1

| | |
|--------------------|-----------|
| Pressure coupling: | 6-10 bars |
| Control coupling: | 0-10 bars |

Operation

The braking force is controlled by the pressure applied on the tractor's brake pedal. The brake cylinders and the brake lever stroke have been designed to afford sufficient braking power without locking the wheels.

Parking

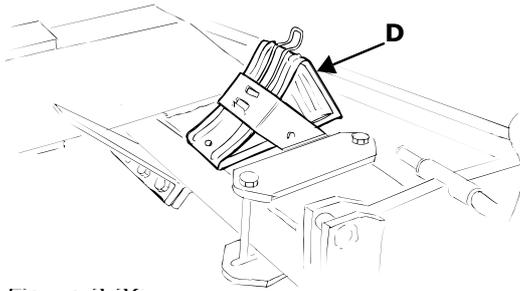


Figure 3.26

The brakes are automatically applied when the implement is unhitched from the tractor. When parking the implement on or close to a public road, be sure to put chocks (D) under the wheels.

Moving the implement

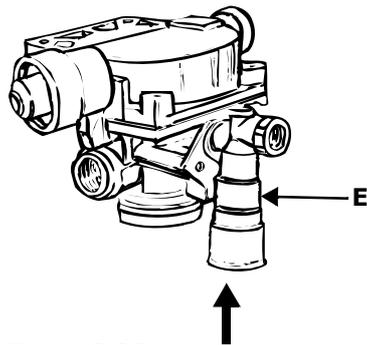


Figure 3.27

These instructions apply if the brakes need to be disengaged, such as when moving the implement in a closed-off area without connecting it to a tractor with brake couplings.

If the tank is under pressure (min. 5 bars), the brakes can be disengaged by pressing down on the retarder valve (E).

When the tank is empty, completely unscrew both screws (C) on the spring brake cylinders.

Note! Prior to road transport, these screws (C) must be completely tightened.

3.13.2 Service and maintenance

Draining condensing water

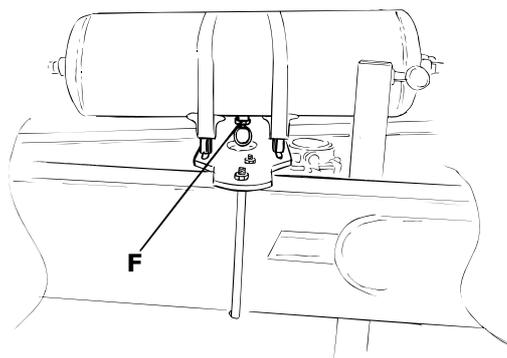


Figure 3.28

If required, drain the air tank of condensing water before driving. Do this by pressing in the drain valve (F) on the bottom of the tank when the tank is under pressure.

Instructions and adjustments

Adjusting the brakes

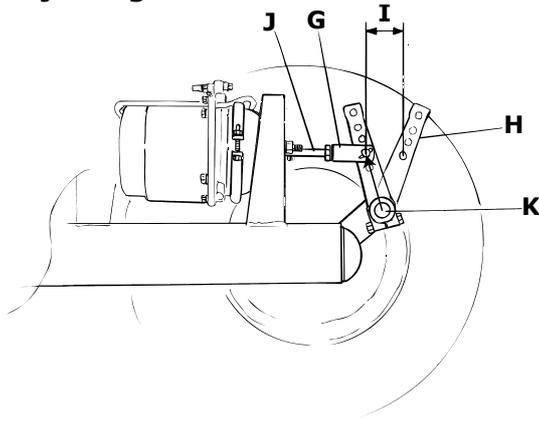


Figure 3.29

It is imperative that the correct brake adjustment is verified when the machine is new and then twice a year.

Note! Unless the brakes are adjusted, the brake action will wear off over time. In the end the brakes will not operate at all.

Hitch the implement to the tractor when making this adjustment. Measure the stroke (I) of the brake cylinders in unbraked and braked condition. When performing this measurement, be sure that the rod (J) is at its bottom position when the brake is released.

If the stroke (I) exceeds 55 mm, the brake should be adjusted.

Remove the fork (G) from the brake lever (H).

Note! Make a note of in which direction the fork is fitted. Unscrew the fork on the rod (J) until a stroke of 50 mm is achieved. Assemble the fork and brake lever again.

If this adjustment is insufficient, the lever (H) should be moved one step closer to the brake cylinder on the camshaft (K).

Cleaning the line filters

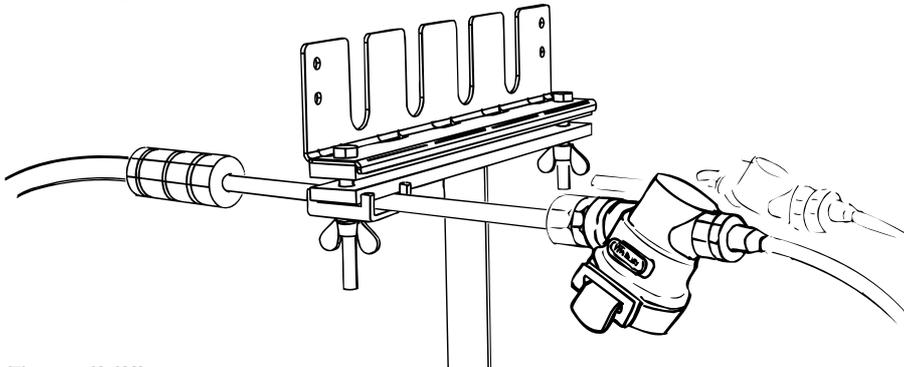


Figure 3.30

If the brake action is lagging, disassemble, wash and dry the filters if required.

4 Service and maintenance

4.1 Regular maintenance

Table 4.1

| Lubrication points | 100 ha |
|--------------------|--------|
| Roller bearings | X |
| Wheel hubs | X |
| Pivot bolts | X |
| Opening device | X |

- ! Please note that implements fitted with brakes do not have grease nipples in the wheel hubs. To lubricate these hubs, remove the hub cap, put grease in the hub, and then reassemble the hub cap.
- ! Grease the piston rod(s) prior to putting away the implement for the winter.

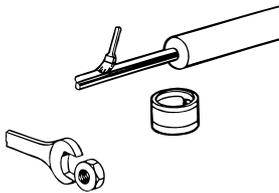


Figure 4.1

- ! Check the tyre pressures continually, see “5 Technical data” on page 43.
- ! Before driving, ensure that all bolts and nuts have been tightened (not applicable to bolts in flexible joints). During the season, make it a habit to regularly check that all bolts and nuts are tightened.
- ! Following 10-15 km of transport on the road, retighten the wheel nuts. Retighten the nuts similarly after changing wheels. Tighten the nuts using a torque wrench. Tightening torque: 330 Nm (33 kpm).



Figure 4.2

- ! At the end of each season, check to see that the broad roller rings (not the breaker rings) have not moved in relation to each other. If there has been movement, add cup springs 401444 accordingly.

For the correct number of washers, refer to the following:

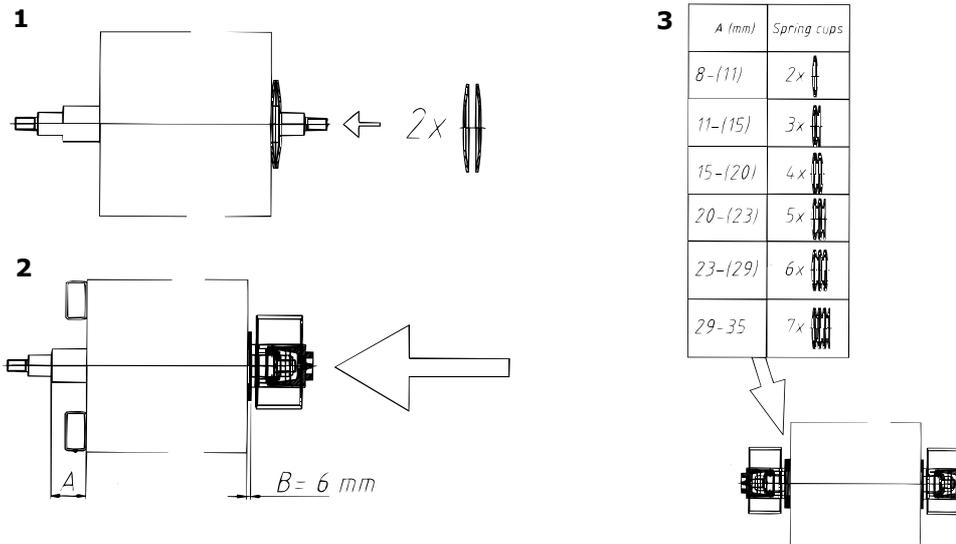


Figure 4.3

- 1 Disassemble the roller ring unit from the frame. Remove the bearings, see “4.2.1 Removing and refitting the roller assembly's locknut, mftg. no. -1199” on page 39. Make sure two spring washers have been fitted on one side of the roller ring unit.
- 2 Assemble the roller bearings. Press the roller ring unit against a supporting surface in order to make sure the installation of the spring washers becomes perfectly flat.
- 3 Measure the A measurement. Install the correct number of spring washers according to the table.

4.1.1 Check the wheel play

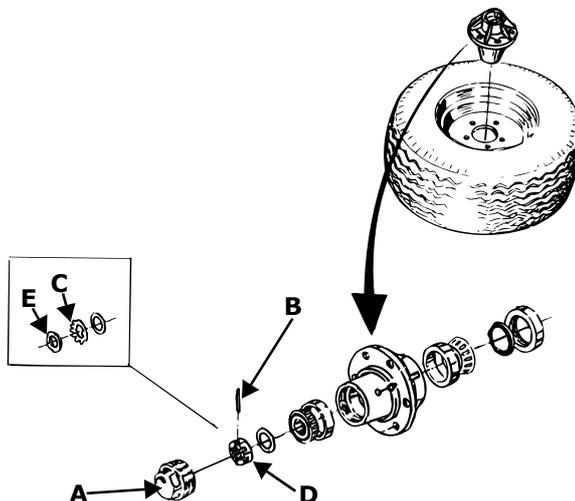


Figure 4.4

It is vital to check the free play in the wheels after the first season. Unfold the machine to its work position. Touch the wheels and tighten the bearings if you can feel any play in the wheels.

Disassemble the hubcap (A) and loosen the roll pin (B) or the folding washer (C). Tighten the turret nut (D) or the hook nut (E) using a hand tool. Make sure the wheel turns easily and that there is no play. Then lock it using the roll pin or the folding washer.

Fit the hub cap and grease until the grease becomes visible.

4.2 Servicing the roller assembly, e.g. changing a roller ring

4.2.1 Removing and refitting the roller assembly's locknut, mftg. no. -1199

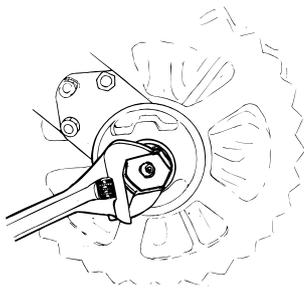


Figure 4.5

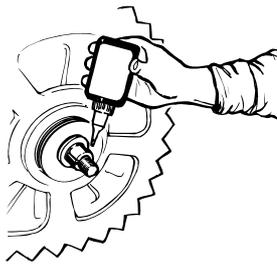


Figure 4.6

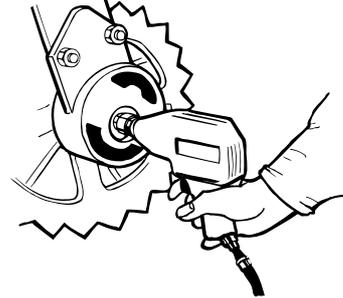


Figure 4.7

- 1 Remove the bearing cover.
- 2 First loosen the Allen screw using a socket and ratchet handle or preferably a nut runner. If necessary, block the nut on the other side of the roller unit. Certain types of rollers are fitted with Flex-Lock nuts instead of Allen screws. It is recommended that lock nuts (part no. 411276) be fitted instead of Flex-Lock nuts.
- 3 Clean the threads thoroughly and apply a few drops of *Loctite Normal* before refitting the nut.
- 4 Reinstall the special nut and tighten to a torque of 40 Nm. Use of an air gun is recommended.

4.2.2 Disassembly and reassembly of the roller ring unit castle nut, mftg. no. 1200-

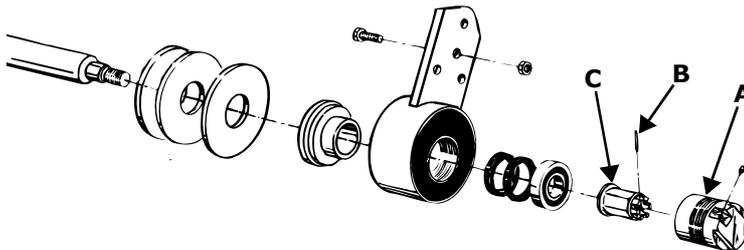


Figure 4.8

- 1 Undo the bearing bush (A).
- 2 First undo the tension pin (B) in the castle nut (C). Then undo the castle nut preferably using a nut runner or, if not available, a socket and cross handle. If necessary, hold the nut on the other side of the roller ring unit in place.
- 3 Reassemble the castle nut and tighten it to a torque of 40 kpm. Use of a nut runner is recommended. Lock using the roll pin. Replace the bearing bush.

4.3 Service of roller ring unit with steel rings (RS 500-650 P)

Apart from greasing of the bearings, the roller ring units usually do not require any maintenance. The roller ring units feature auto tensioners.



NOTE! Never dismantle a roller ring unit. The unit has been pressed together with a force of 4 tons and there is a high risk of injury in case of attempts to disassemble the unit. If there should ever be a need for disassembly, please contact the dealer.

4.4 Replacing the seals of the Crossboard ram

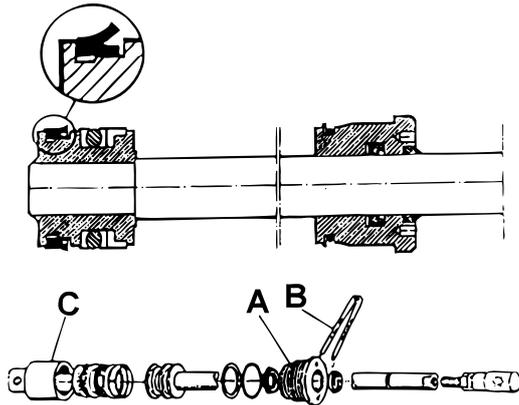


Figure 4.9

A Loosen and unscrew the piston rod guide (A) using the hook spanner (B).

B Pull out the piston rod. Replace the seal.

NOTE! Be very sure that the seals face the correct way.

C Check that the jacket tube (C) is free from scratches.

D Assemble the parts in the reverse order.

Check with your finger that the spill holes do not have any sharp edges. If necessary work the edges with an abrasive cloth.

Carefully flush the ram prior to assembly. Fit the ram on the roller and bleed the hydraulic system, see "4.6 Bleeding the hydraulic Crossboard system" on page 42.

4.5 Replacement of the seal in the hydraulic ram used for folding s/n 3203-



NOTE! Observe extreme caution. The hydraulic ram for folding may have its hydraulic pressure even when it's not connected to the tractor.

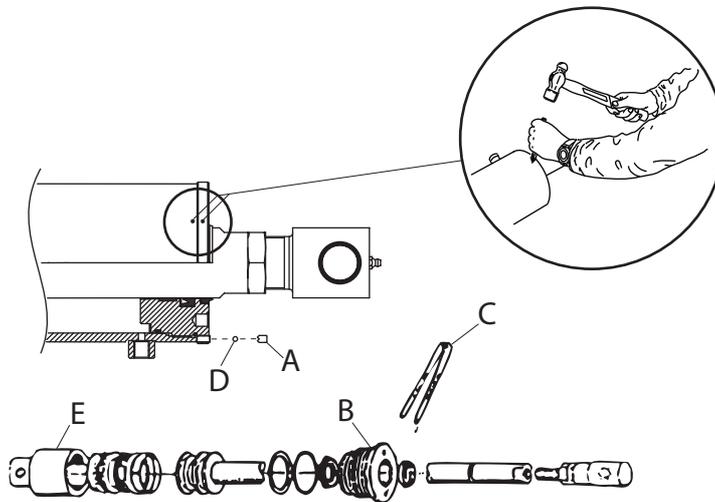


Figure 4.10

NOTE! Piston rod guide is tightened by 700 Nm and equipped with a mechanical spin-lock.

NOTE! Carefully clean the hydraulic ram before starting the job.

- 1 Make a mark on the ram tube and piston rod guide to enable same position at assembly, see "Figure 4.10".
- 2 Loosen the screw (A) M6x8 completely and make sure to save the steel ball (D) forming the spin-lock.
- 3 Mount the tool (C) on the piston rod guide (B). Undo and remove the piston rod guide.
- 4 Pull out the piston rod. Replace the seal.

NOTE! Be very careful not to damage the seal or surface surrounding the seal.

- 5 Check that there are no scratches on the jacket lining (E).
 - 6 Assemble in reverse.
- ! Be careful to tighten the piston rod guide to 700 Nm to the previous made markings. To refit the spin-lock put back the steel ball (D) in the hole and refit and tighten screw (A).

Carefully flush the ram prior to assembly. Install the ram on the roller.

4.6 Bleeding the hydraulic Crossboard system

When bleeding the hydraulic system, it is not necessary to undo any couplings, instead the tractor hydraulics are used for this purpose.

- ! Extend the rams. Keep the hydraulic lever on the tractor in position in order that oil is continuously pressed into the rams (for approx. 10-15 seconds during daily bleeding; approx. 1-2 minutes following service on the hydraulic system). When the first ram has been completely filled with oil, the oil will enter the next ram through the overflow channel.

5 Technical data

Table 5.1

| Implement, RS | 650 | 820 | 940 | 1020 | 1230 |
|--|------------------|------------------|------------------|------------------|------------------|
| Working width (m) | 6.5 | 8.2 | 9.4 | 10.2 | 12.3 |
| Transport width (m) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Number of sections | 3 | 5 | 5 | 5 | 5 |
| Weight, without accessories Camb/CK (kg) | 3150 | 3950 | 4300 | 4500 | 5560 |
| Weight, without accessories HD (kg) | 4100 | 5400 | 5950 | 6250 | - |
| Trailer weight, tractor* (kg) | 360 | 330 | 350 | 260 | 500 |
| Weight, Crossboard (kg) | 520 | 690 | 760 | 790 | - |
| Tyre | 400/60x 15,5" | 400/60x 15,5" | 400/60x 15,5" | 400/60x 15,5" | 400/60x 15,5" |
| Ply rating | 14-ply | 14- ply | 14- ply | 14- ply | 14- ply |
| Air pressure BAR | 3.5 | 3.5 | 3.5 | 3.5 | 3,5 |
| Air pressure kPa | 340 | 340 | 340 | 340 | 340 |

* With Camb.- or CK rings without accessories

Camb= Cambridge rings

CK= Cross Kill rings

HD= Heavy Duty rings

Table 5.2

| Implement, RS Packer | 500 | 650 |
|------------------------------|---------------|--------------|
| Working width (m) | 5,0 | 6,5 |
| Transport width (m) | 2,5 | 2,5 |
| Number of sections | 3 | 3 |
| Weight (kg) | 3150 | 3950 |
| Trailer weight, tractor (kg) | 360 | 330 |
| Tyre | 11.5/80x15,3" | 400/60x15,5" |
| Ply rating | 14-ply | 14-ply |
| Air pressure BAR | 6,25 | 3,5 |
| Air pressure kPa | 625 | 340 |



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