

V-FOLDING CYLINDER RETROFIT FOR TINED WEEDER PRO (07014-2-781)

INSTALLATION INSTRUCTIONS



PLEASE READ CAREFULLY BEFORE INSTALLATION!

Translation of the original operating instructions

Version: 3.0 EN; item number: 00602-3-638





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1 REMOVAL OF THE CURRENT HYDRAULIC CYLINDER

1.1 SUPPORTING OF THE SIDE FRAME

To be able to install the new cylinders for V-folding on the Tined Weeder Pro, the currently installed cylinders must first be removed.

For the replacement, the harrow must be unfolded at the beginning and the folding cylinders must be relieved so that there is no weight on them and they are tension-free.

To do this, the side frames must be supported downwards; chassis stands, lifting jacks or similar can be used for this but it is also possible to support the frames with the guide wheels.

It is important that the side frames are only supported on the hollow profiles marked in Figure 1. For best results, the outer frame element should be supported on the outermost points, and the inner frame should be supported near the folding point.

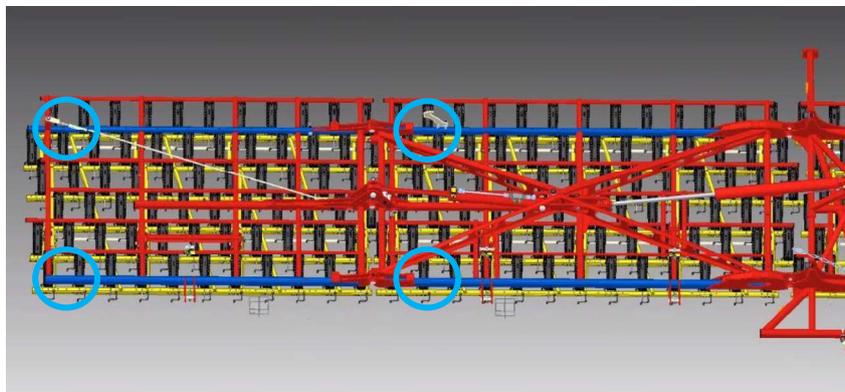


Figure 1: supporting the frame at the marked points on a VS1200

It is also recommended not to put the side frames down horizontally, but rather to align them slightly upwards, which makes it easier to install the new cylinders later.

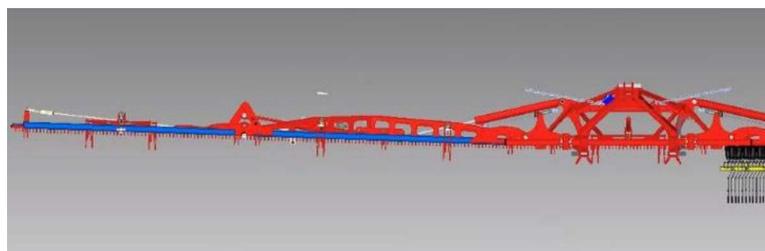


Figure 2: supporting the frame at a slight inclination

1.2 UNCOUPLING THE CYLINDERS AND THE LINES

To remove the cylinders, the pins of the fastening eyes of the piston rod must be removed first. To do so, the M8 bolts that secure the pin must be removed first. Then the pins can be removed to the side. When taking out the pins, make sure that the cylinders do not fall down!



NOTE!

Put the fastening material to the side, it will be needed again later when installing the new cylinders.

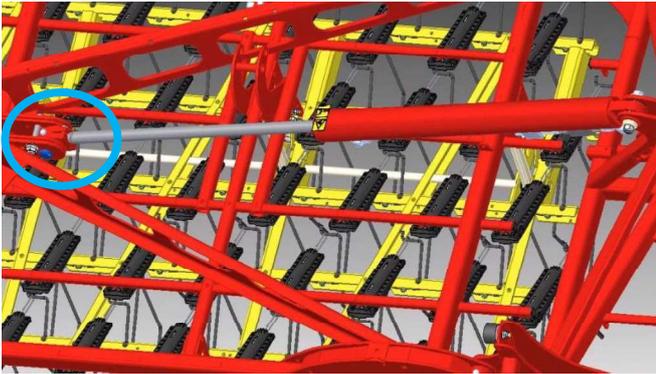


Figure 3: uncoupling the cylinder on the piston rod side 1

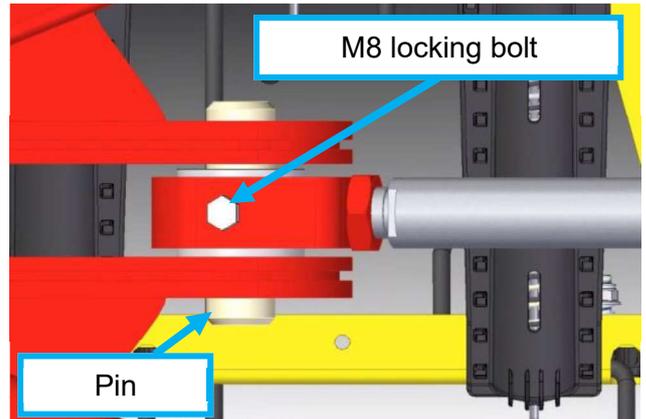


Figure 4: uncoupling the cylinder on the piston rod side 2

Now the cylinders can be retracted using the tractor hydraulic system.

When this has been done, the hydraulic lines can be uncoupled from the cylinders in the next step. Make sure that any oil leaking out of the lines is collected so that it does not pollute the environment.



NOTE!

When disconnecting the hoses, mark them so that you can tell them apart (e.g. with an L and R for left and right, as shown in the figure)

The hose that was previously connected further towards the centre of the implement must also be connected to the connection closer to the centre of the implement on the new cylinder.

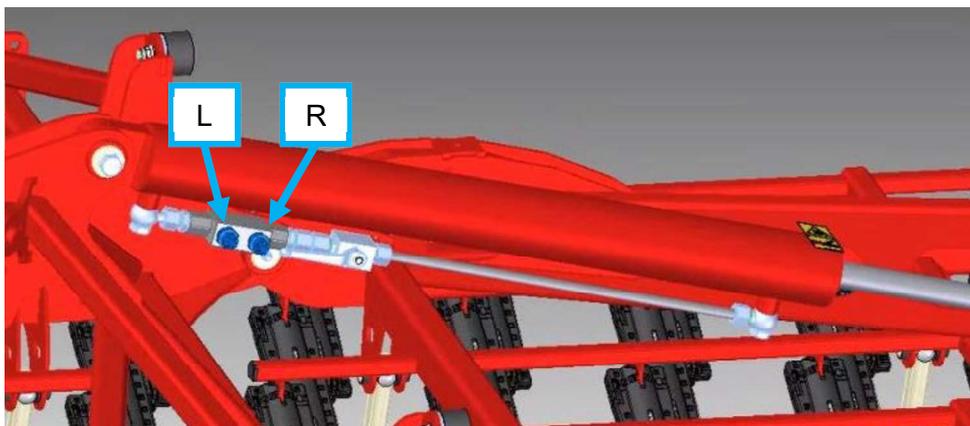


Figure 5: marking of the removed hydraulic hoses

When the hydraulic hoses are successfully uncoupled, the clamping bolts on the cylinder eyes can also be removed.



NOTE!

Put the clamping bolts and their parts to the side again, they will also be needed again when installing the new cylinders later.

You should also remember the sequence in which the parts were arranged for when you are reinstalling them.

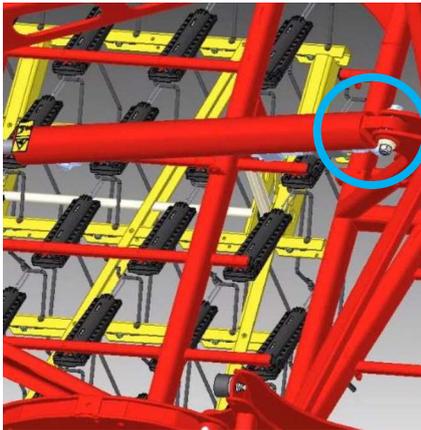


Figure 6: uncoupling the cylinder



Figure 7: structure of the clamping bolt

When the clamping bolts are removed, the cylinders are completely disconnected from the harrow and can be removed. The cylinders will no longer be required subsequently.

2 LAYOUT OF THE V-FOLDING CYLINDER KIT (07014-2-781)

2.1 INSTALLING THE NEW CYLINDERS

First, the spacer sleeves have to be placed in the cylinder eyes.

Then the cylinders can be refastened to the centre frame with the clamping bolts.

Observe the correct arrangement of the clamping bolt parts, as already shown previously in Figure 7.

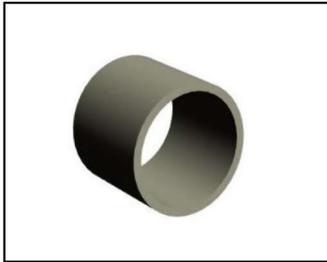


Figure 8: the spacer sleeve

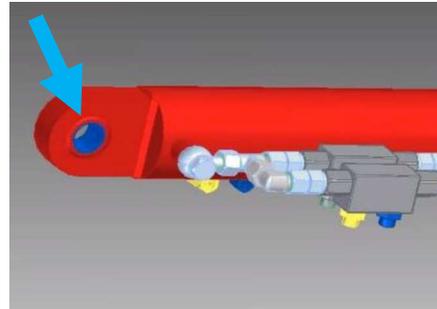


Figure 9: placing the spacer sleeves in the cylinder eyes

First, the hydraulic lines that were previously disconnected from the "old" folding cylinder must be reconnected to the new cylinders. Only the top two connections are used for this. Now make use of the marks you made on the hoses previously. As already mentioned, the hose that was previously connected further towards the centre of the implement must also be reconnected to the connection closer to the centre of the implement on the new cylinder. The tightening torque should be 45 Nm!

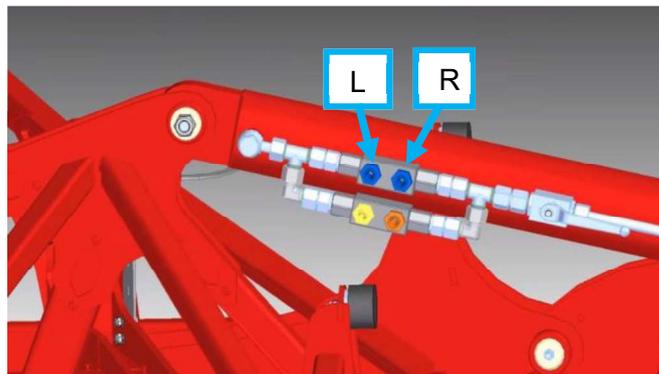


Figure 10: connecting the hydraulic lines to the new cylinders

When the hydraulic hoses are successfully connected, the piston rods can be extended using the tractor hydraulic system until the fastening eyes can be secured with the pins again.

PLEASE NOTE!

It is essential that the bolts are secured again with the M8 locking bolts.

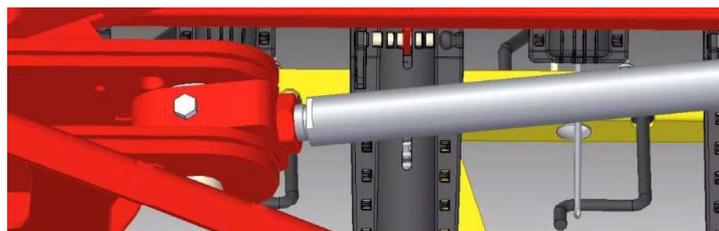


Figure 11: the fastening eyes of the cylinders

2.2 FASTENING THE LIFT LIMITERS AND THE CONTROL LINKAGE

The lift limiters are installed on the left and right of the centre frame on the two outermost hollow profiles running along the direction of travel, and on the adjacent hollow profiles on the first side frame that also run along the direction of travel.

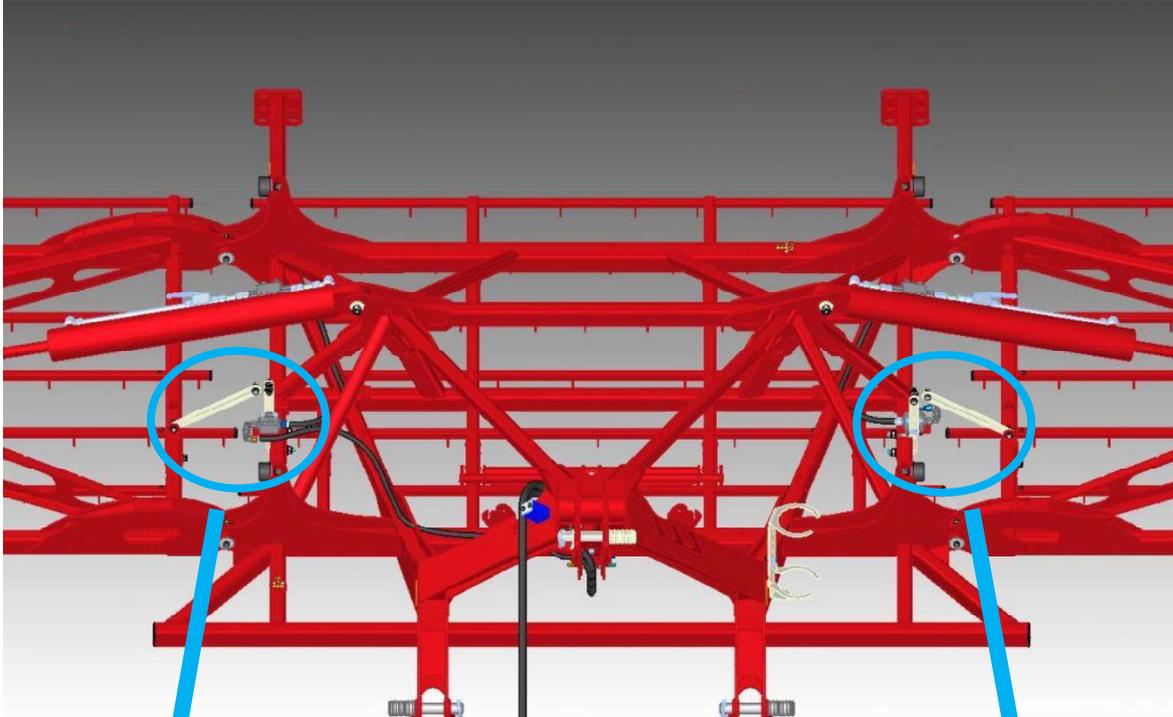


Figure 12: positioning the lift limiter on the Tined Weeder Pro

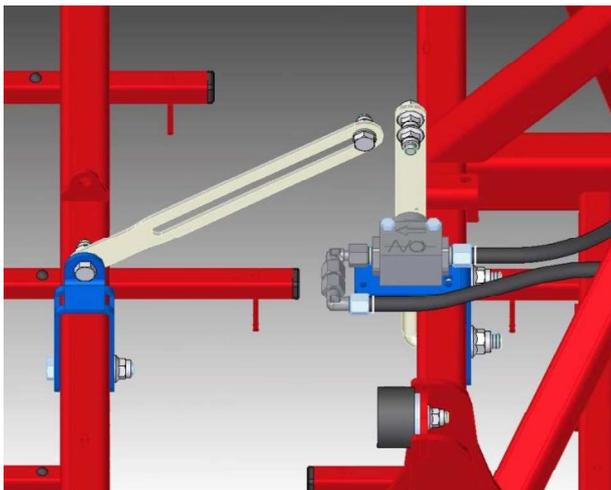


Figure 13: lift limiter installed, on the right in the direction of travel

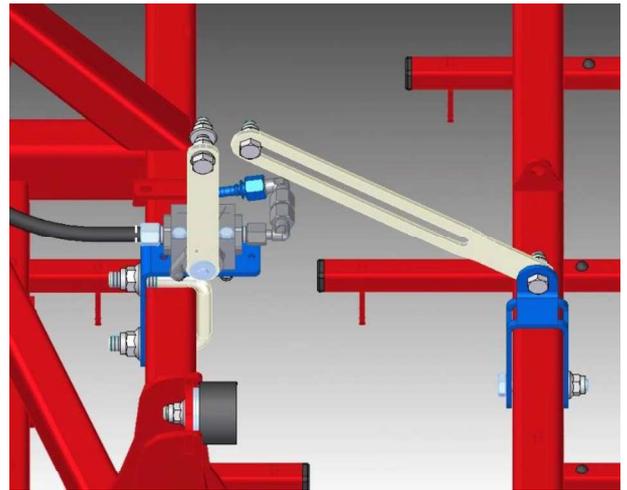


Figure 14: lift limiter installed, on the left in the direction of travel

The fastening plate of the side frame is clamped onto the hollow profile with a bolt. The bolt can go through the opening of the centre frame, as shown in the figure below. The control linkage, which has a slot, is fastened in the top hole of the fastening plate with another bolt.

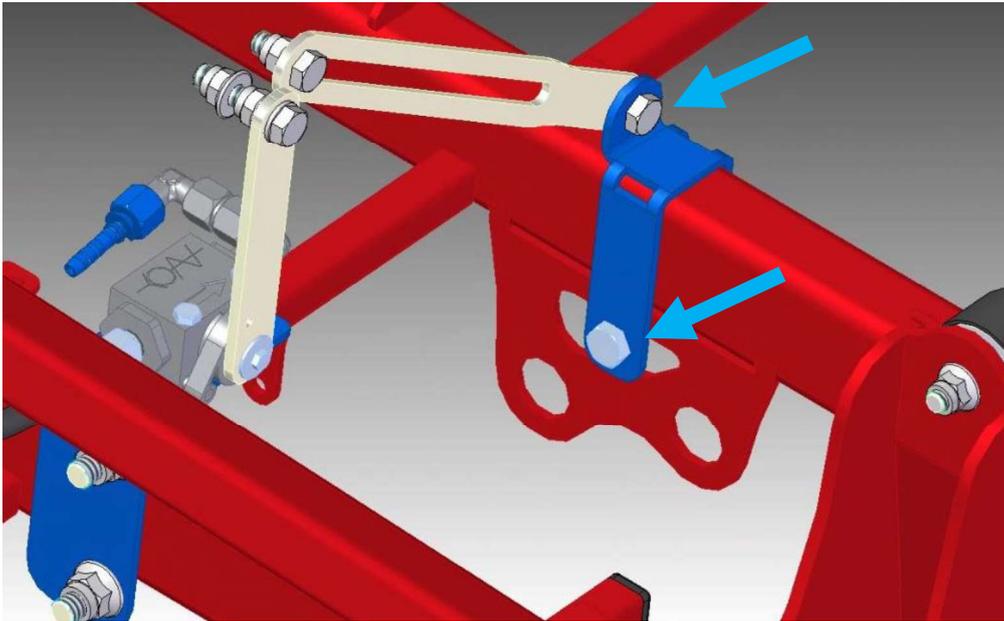


Figure 15: installing the fastening plate and control linkage on the side frame

First the lift limiter must be bolted onto the fastening plate of the centre frame. It is installed with two bolts that are inserted through the lift limiter and tightened with nuts on the underside of the sheet metal. The sheet metal itself is then bolted onto the hollow profile of the centre frame with a U-bracket.

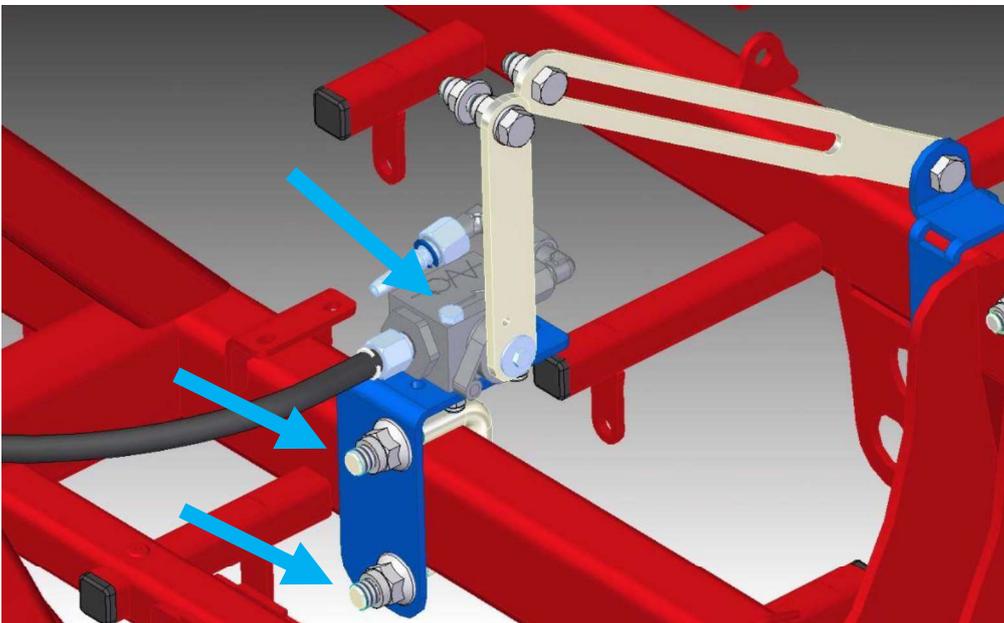


Figure 16: installing the fastening plate and lift limiter on the centre frame



NOTE!

The position of the fastening plate in a longitudinal direction is not precisely defined and can differ by a few centimetres. It is only decisive that both control linkages are aligned flush after installation and that the hydraulic lines are long enough.

When the fastening plates and therefore also the control linkages are aligned flush, they must be connected to each other in the next step. One bolt is used to connect the two linkages and one bolt is inserted in the slot as a stop; this bolt must be installed 40.7 mm from the upper end of the slot.

But because 40.7 mm is only a reference value that can differ slightly due to various tolerances, a final check is necessary, after which the stop may have to be repositioned, more detailed information can be found under Point 3 "Check".

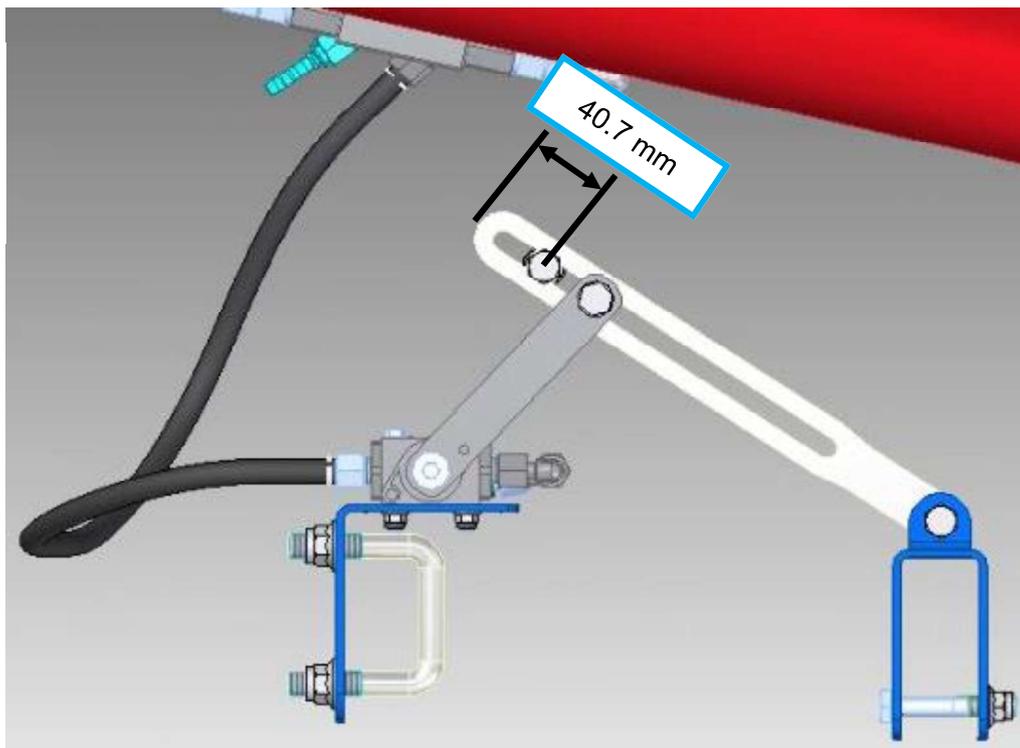


Figure 17: connecting the two control linkages and adjusting the stop

2.3 CONNECTING THE HYDRAULIC LINES AND HOSE ROUTING

The lines are connected to the folding cylinder so that the connection that is further towards the centre of the implement is intended for the hydraulic hose that runs directly towards the front to the T-piece. The connection further outwards is for the hose that leads to the lift limiter. This is the same for both sides of the harrow. The tightening torque should be 45 Nm!

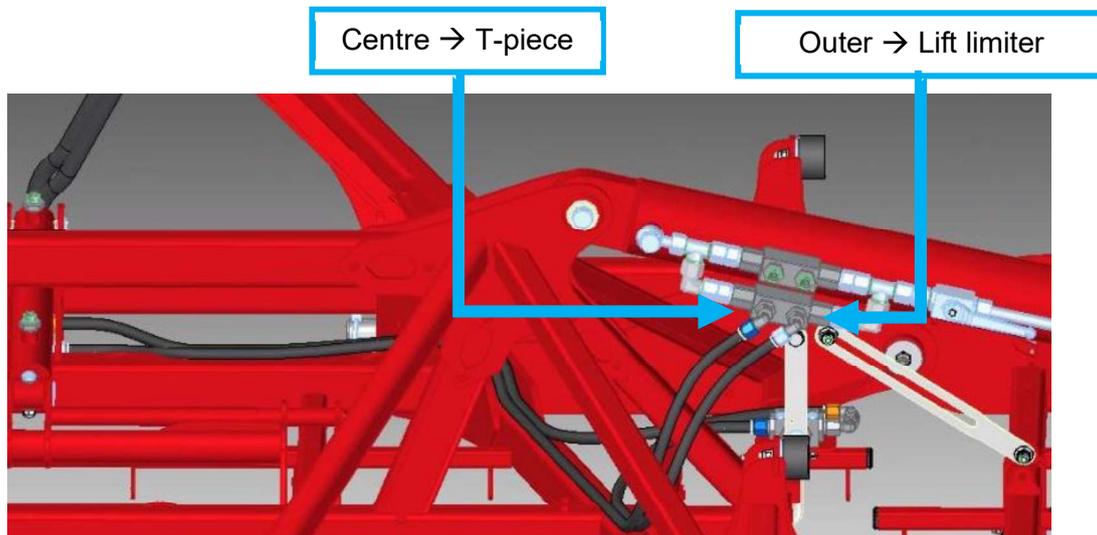


Figure 18: connection of the lines to the cylinder

There are also two connections on the lift limiter, it must be ensured that the arrow on the lift limiter points towards the side frame or in the direction of the hose that runs to the T-piece. The two 90° elbows must also be installed on this connection, while the hose coming from the folding cylinder is connected directly to the lift limiter. This is also the same for both sides of the harrow, and the tightening torque is also 45 Nm.

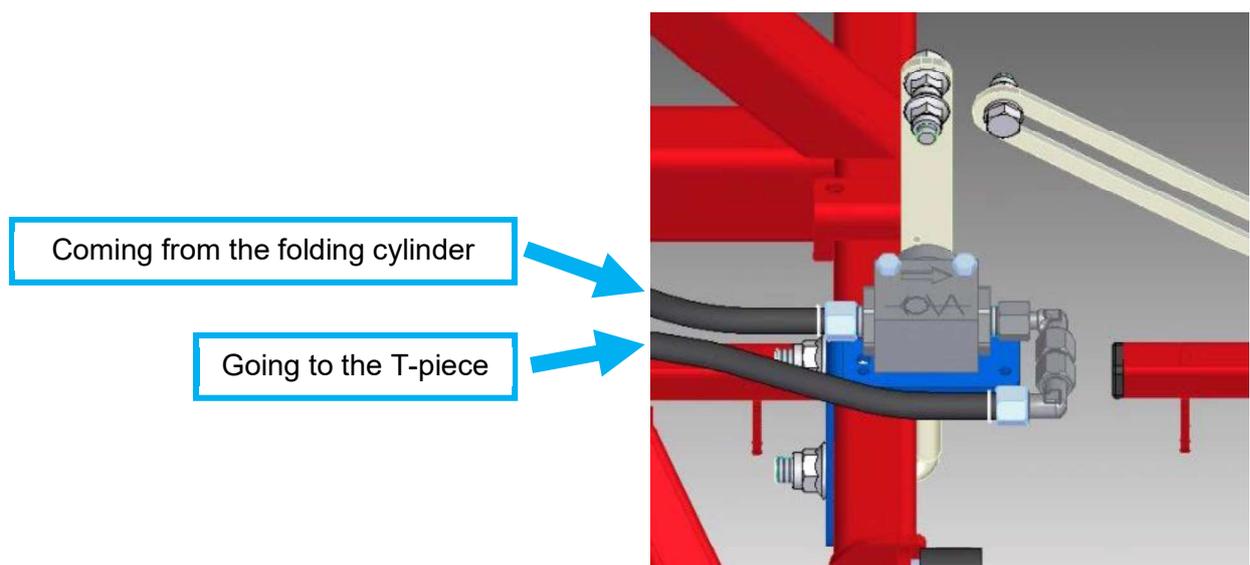


Figure 19: connection of the lines to the lift limiter

The two T-pieces are positioned in the space under the preload cylinder of the centre frame. Make sure that the lines coming from the lift limiter are connected to one T-piece and the lines coming from the cylinder are connected to the other. The tightening torque is 45 Nm again.

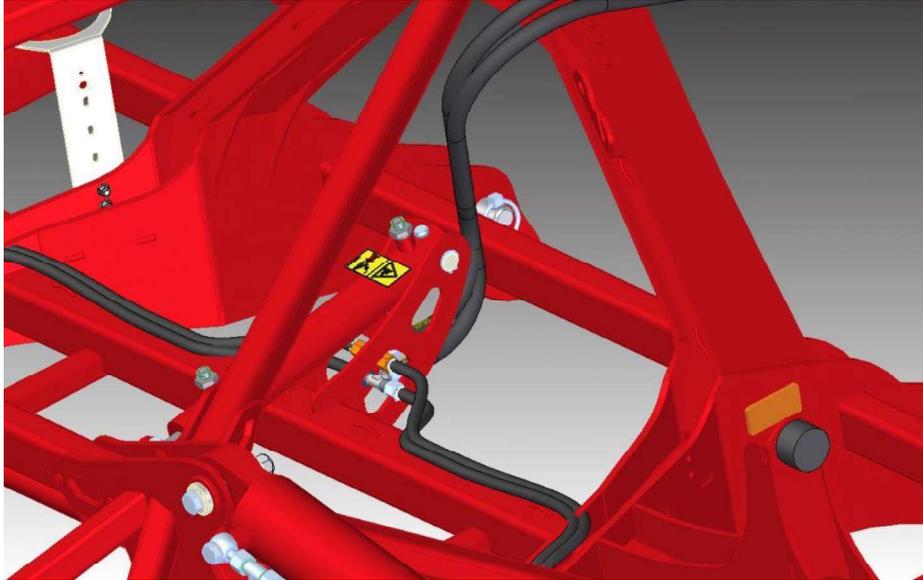


Figure 20: positioning of the two T-pieces under the preload cylinder

To finalise the hose routing, all of the lines must be fixed in their position. This can be done with cable ties at suitable points on the frame.

The lines must be fixed on the headstock with jubilee clips.

To do so, two M6 threads are required on the frame, and depending on the technical status of your Tined Weeder Pro, these fastening points are either already existing or they still need to be drilled and cut.



Figure 21: line jubilee clips on the headstock

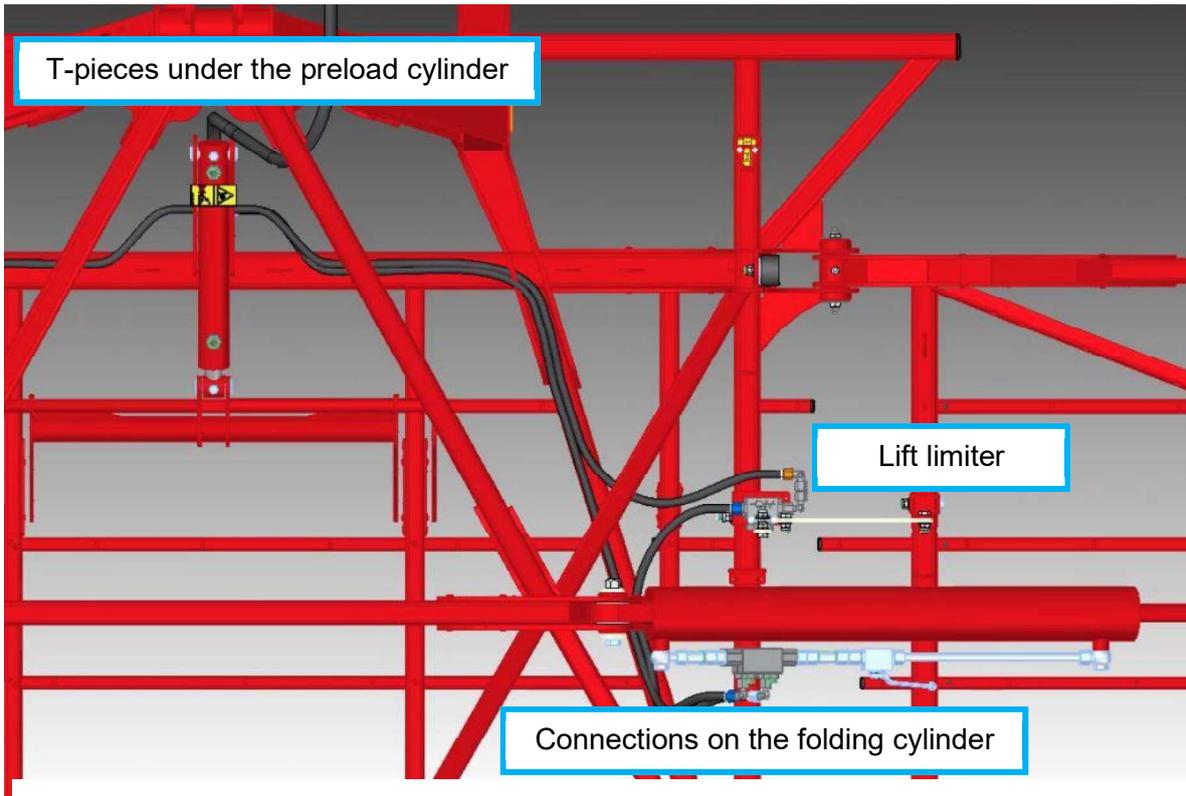


Figure 22: diagram for hose routing 1

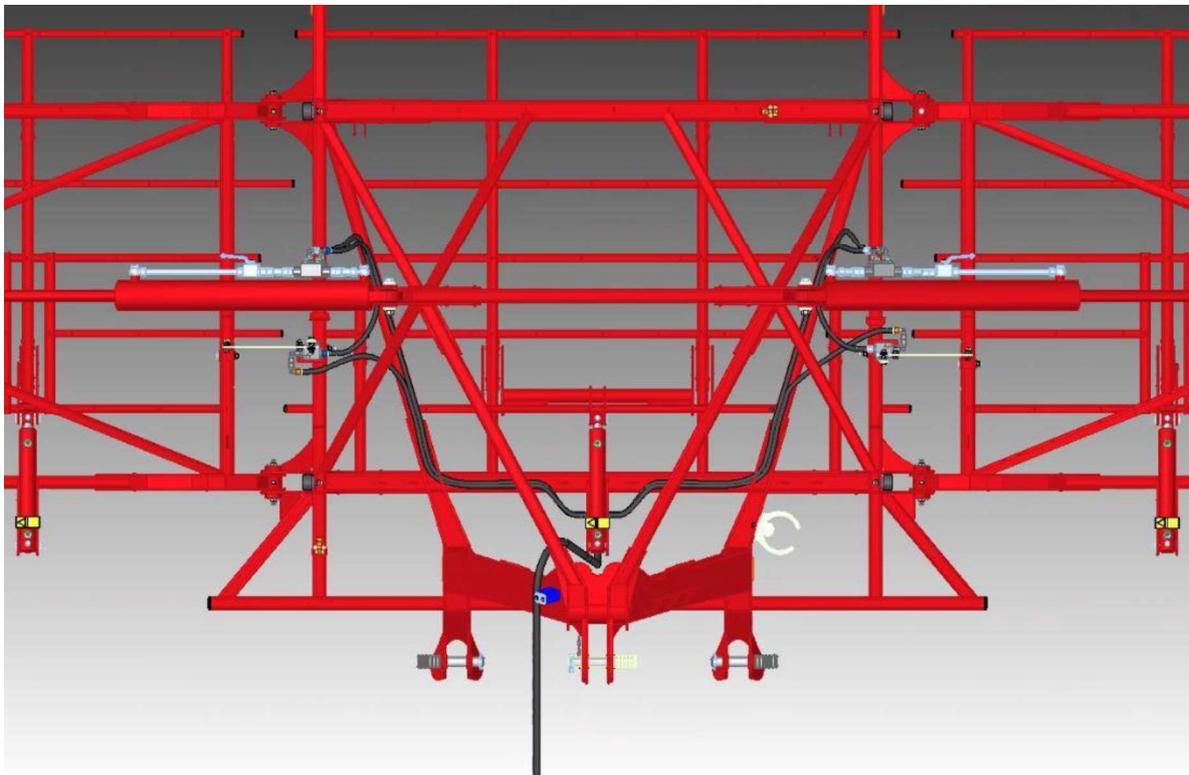


Figure 23: diagram for hose routing 2

3 CHECK

Finally, the correct setting for the stop of the control linkage of the lift limiter must be checked. Under Point 2.2, the stop bolt was fixed at 40.7 mm, but because this is only a reference value that can deviate slightly due to different revision versions and tolerances, it must still be checked and adjusted if necessary.

The lift limiter should allow for folding of 15°.

This results in different control distances for the different Tined Weeder Pro types, see Table 1 for more information. The vertical distance is measured between the red hollow profile of the centre frame to the red hollow profile of the outermost side frame in the maximum V-folded state.

If the distance measured on the harrow strongly deviates from the control values in the table, the placement of the stop bolt for the control linkage must be changed accordingly. This procedure applies for both sides of the harrow!

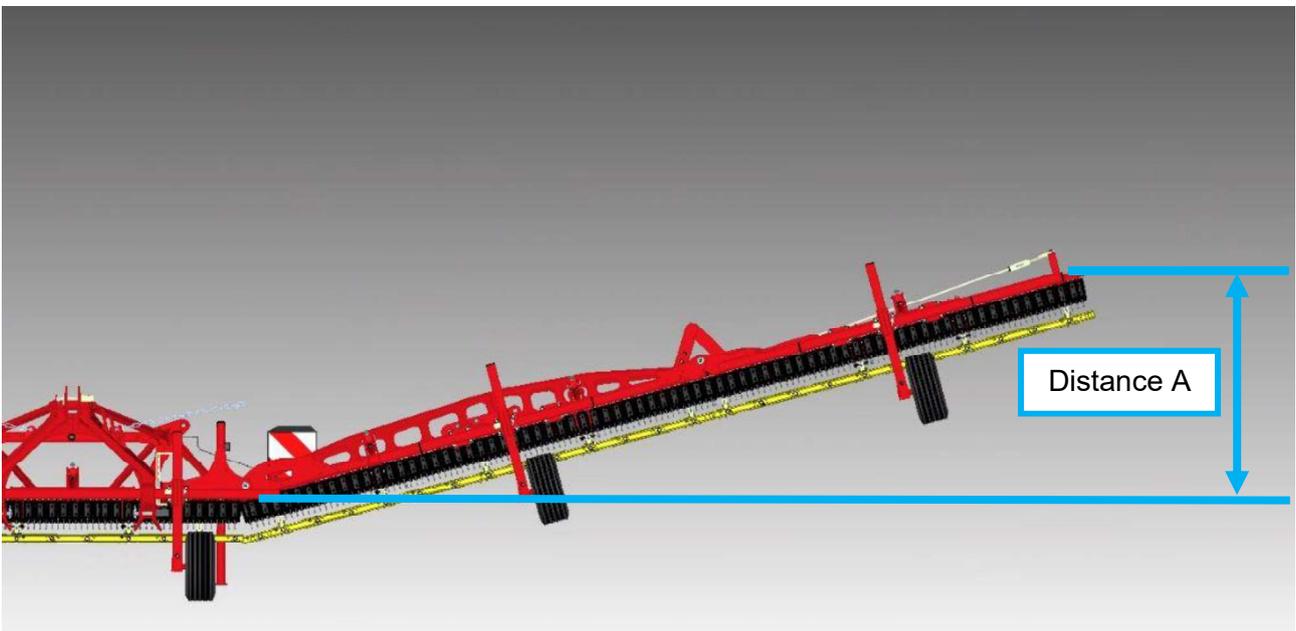
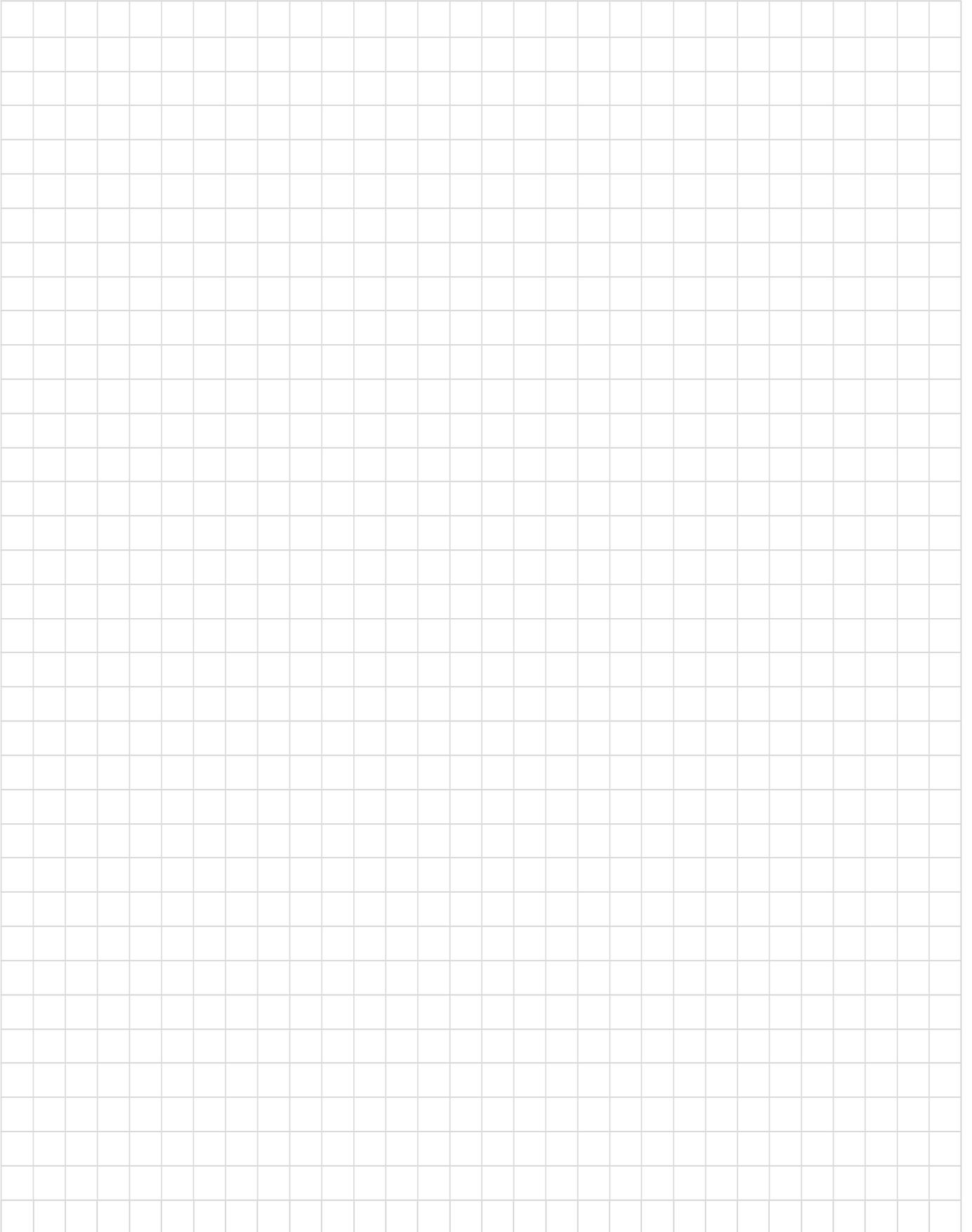


Figure 24: measuring the control distance

Harrow type	Distance A
VS900	1000 mm
VS1200	1300 mm

Table 1: control distances depending on the VS type





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