

SUPPLEMENTARY INSTRUCTION MANUAL FOR PS INSTALLATION ON VS1200

INSTALLATION INSTRUCTIONS



PLEASE READ CAREFULLY BEFORE INSTALLATION!

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1 CONVERSION OF THE HYDRAULIC SYSTEM

To retrofit the folding release and the tine pre-tensioning cylinder shut-off, stroke limiters must be installed in the hydraulic system of the Tined Weeder Pro. Depending on whether the VS1200 is equipped with standard or half-side folding (HSF), one of the conversion kits listed below is required.

Kit for standard folding: **07014-2-773 Hydraulic system conversion kit PS on VS1200**
Kit for half-side folding: **07014-2-774 Hydraulic system conversion kit PsonVS1200 HSF**

In general, the same work steps are performed for the half-side folding as for the standard folding. In any case, the tine preloading cylinder shut-off is structured in the same way for the standard and half-side folding. The only differences are with the folding release: it is double for the half-side folding with two stroke limiters, while only one stroke limiter is required for the standard folding.

1.1 CONNECTION DIAGRAM FOR STANDARD FOLDING

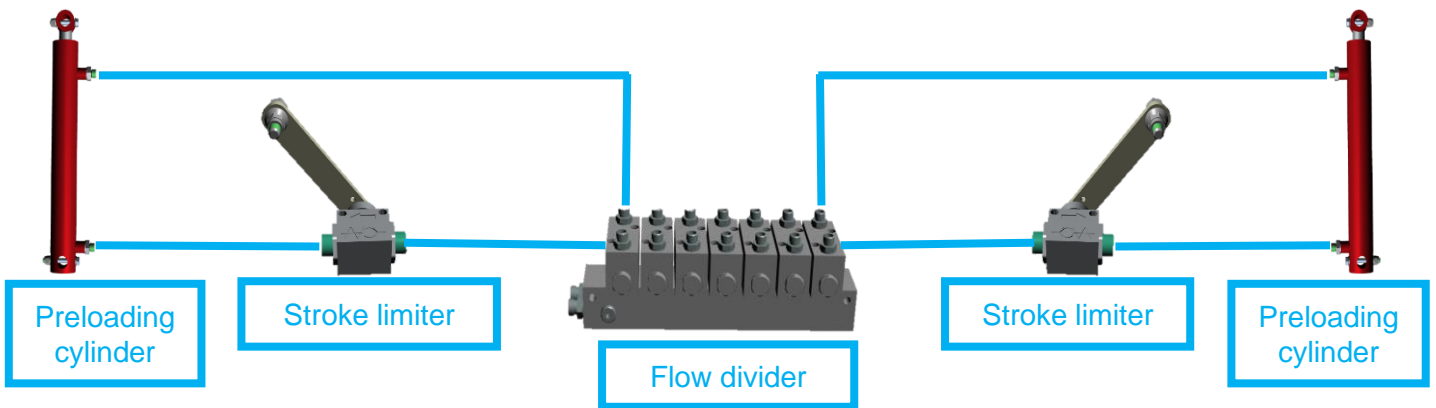


Figure 1: Tine preloading cylinder shut-off connection diagram for standard and half-side folding

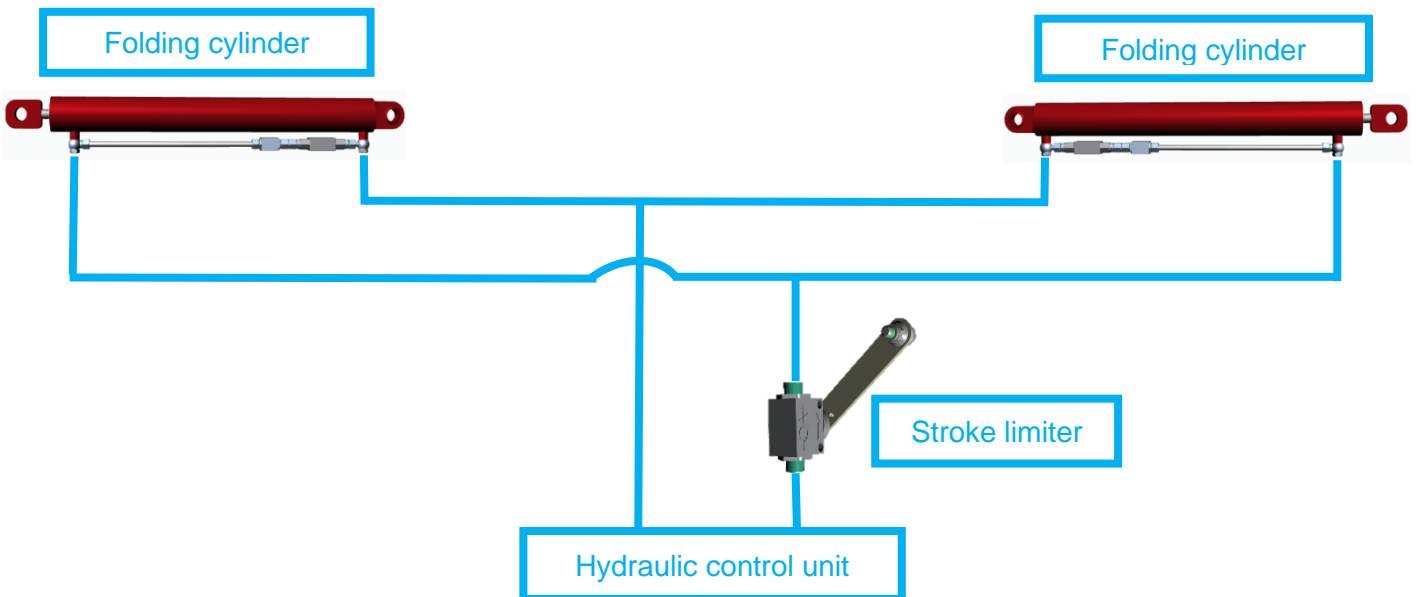


Figure 2: Folding release connection diagram for standard folding

1.2 CONNECTION DIAGRAM FOR HALF-SIDE FOLDING

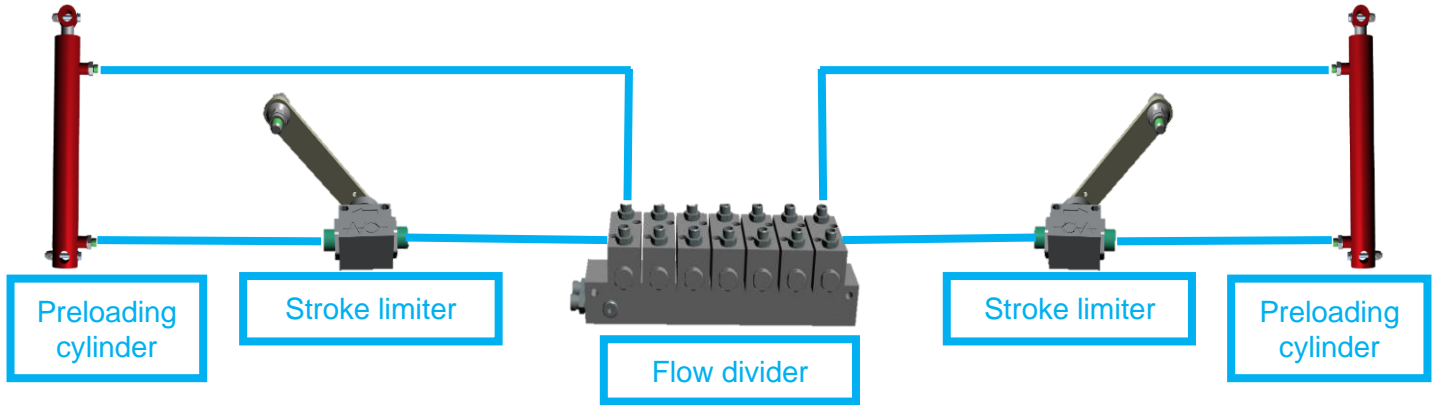


Figure 3: Tine preloading cylinder shut-off connection diagram for standard and half-side folding

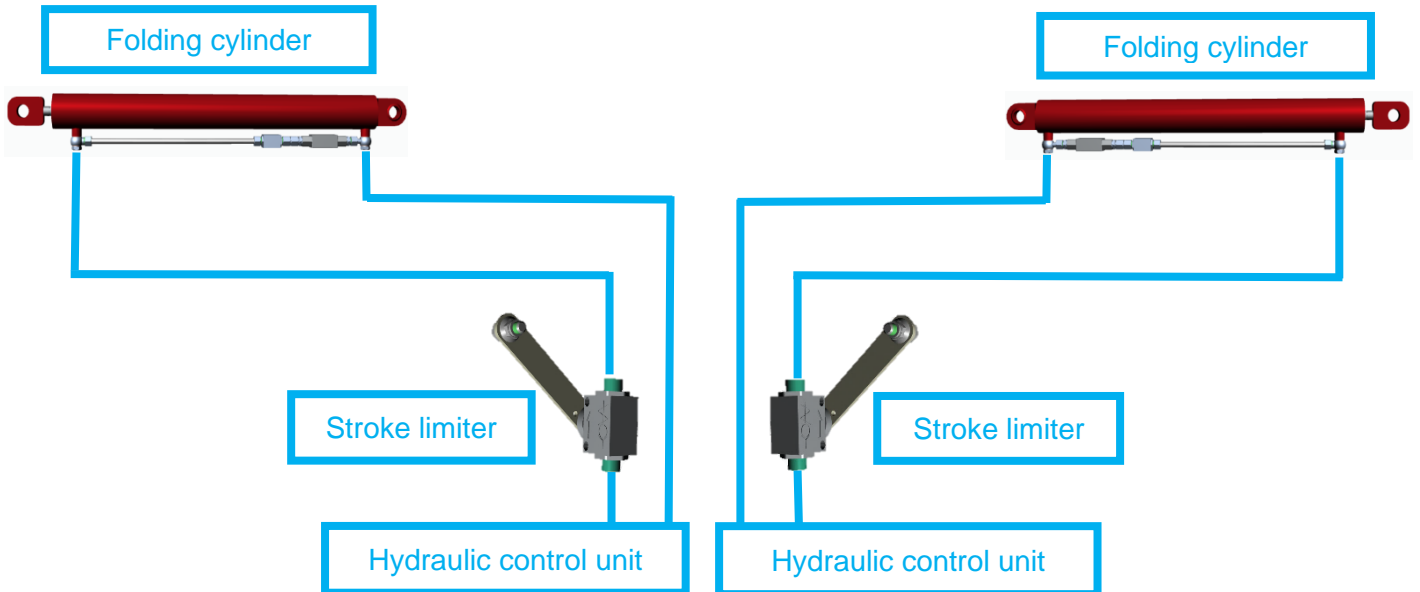


Figure 4: Folding release connection diagram for half-side folding

1.3 TINE PRELOADING CYLINDER SHUT-OFF



NOTE!

The hydraulic system conversion with regards to the tine preloading cylinder shut-off is only described in this manual for one side. However, this procedure must be performed in the same way on both sides for the standard and for the half-side folding.

The two installation sites are marked in the figure below. It is at the transition from the first to the second side frame.

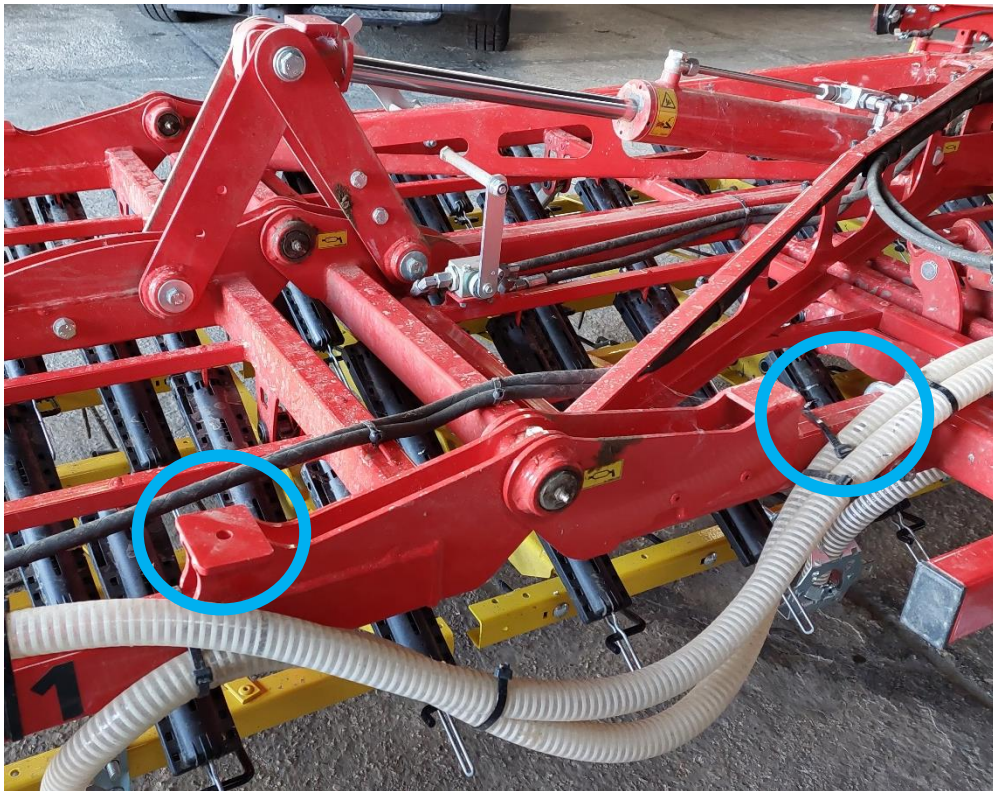


Figure 5: Installation site on the VS

Fasten the stroke limiter on the holding plate. To do so, insert the two hexagonal bolts through the stroke limiter from above, and fasten them on the underside of the plate with the nuts.

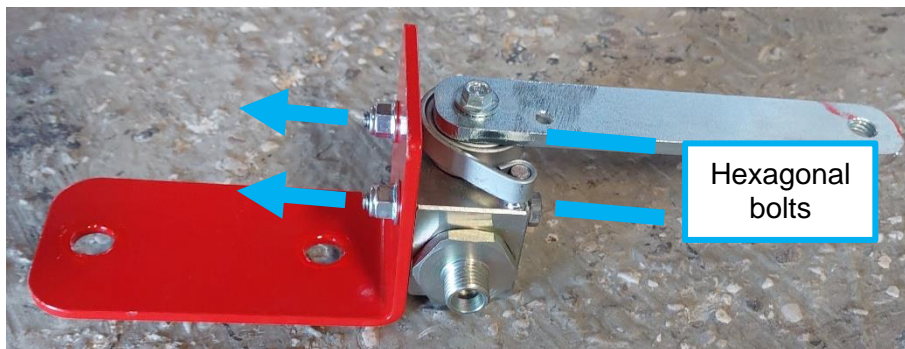


Figure 6: Stroke limiter installed on the holding plate

CAUTION!

When installing the stroke limiter, pay close attention to its installation direction!

There is a diagram with a check valve and a direction arrow on the stroke limiter. The arrow must be pointing in the direction of the line of the flow divider, as shown in the figure below. The check valve must allow the oil flow continuously from the pre-load cylinder to the flow divider as indicated by the symbol, but in the opposite direction, only when the spring opens the passage due to the position of the stroke limiter. As a result, retracting of the tines is possible at any time, but extending is only possible when the implement is unfolded. The diagram does not absolutely need to be aligned upwards, it can also be on the underside, it is only important that the lever is installed accordingly.

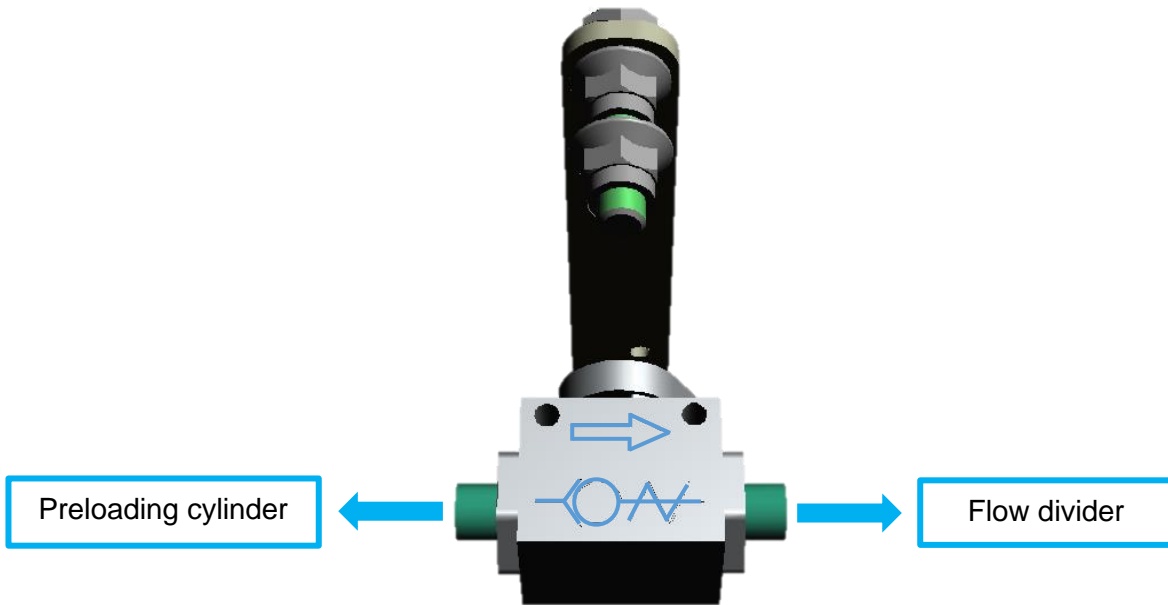


Figure 7: Installation direction of the stroke limiter

The holding plate with the stroke limiter must then be attached to the harrow frame of the Tined Weeder Pro with a U-bolt.

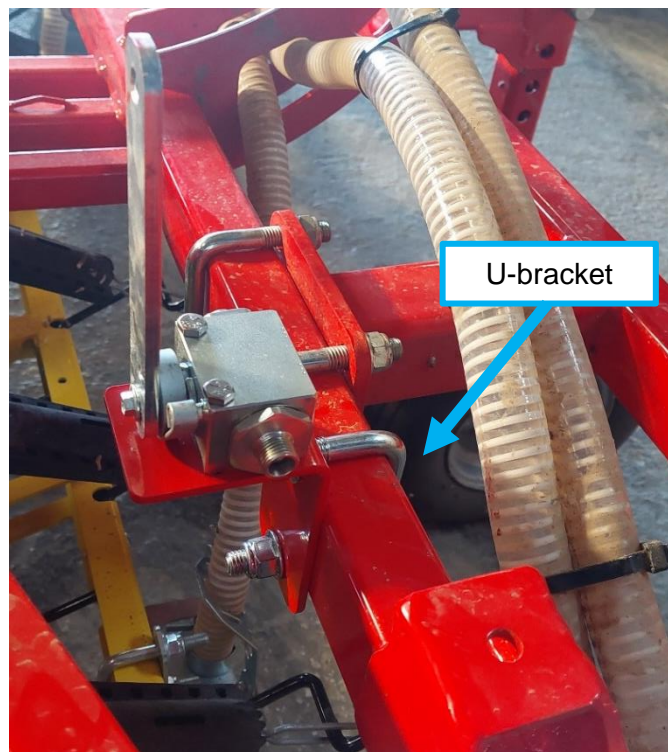


Figure 8: Holding plate fastened onto the frame with a U-bolt

Now hook the rope onto the linkage of the stroke limiter and make sure that the nuts are arranged exactly as shown in the figure. Fasten the rope with wire rope clamps and thimbles.

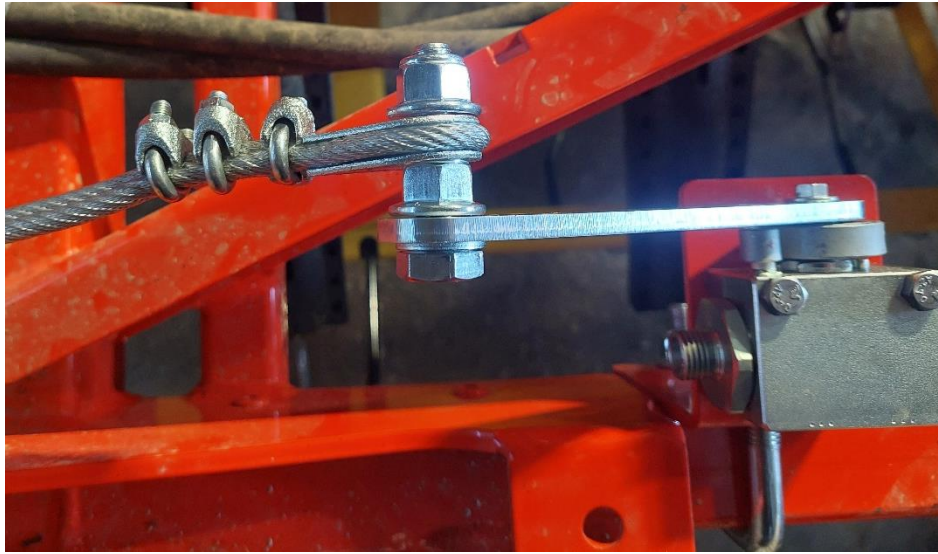


Figure 9: Attaching the rope to the linkage of the stroke limiter

Install the sheet metal profile in the intended hole. The bolt, onto which the rope is then fastened, must be in the hole that is closest to the centre of the implement. Here also, the rope is fastened with wire rope clamps and thimbles. The rope length (from thimble to thimble) should be approx. 480mm. However, it must be mentioned that this is only a reference value, the optimum length of the rope can differ slightly from one harrow to another. It is important to make sure that the rope is tensioned in an unfolded state, and relaxed in a folded state.

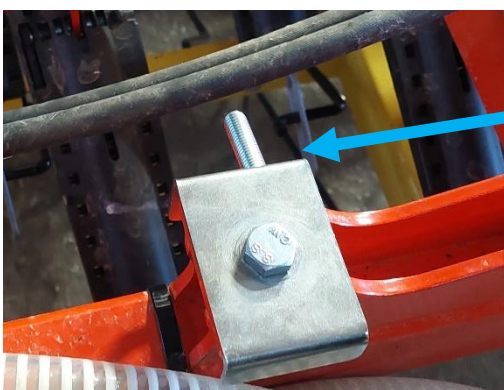


Figure 10: Sheet metal profile installation 1

Use the hole that is closest to the centre of the implement

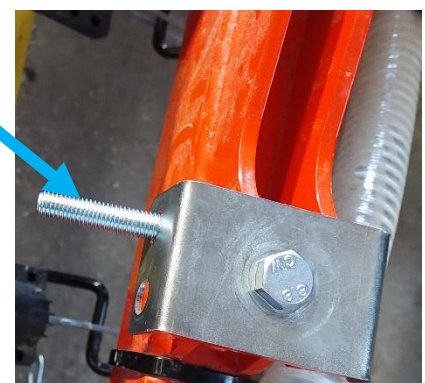


Figure 11: Sheet metal profile installation 2

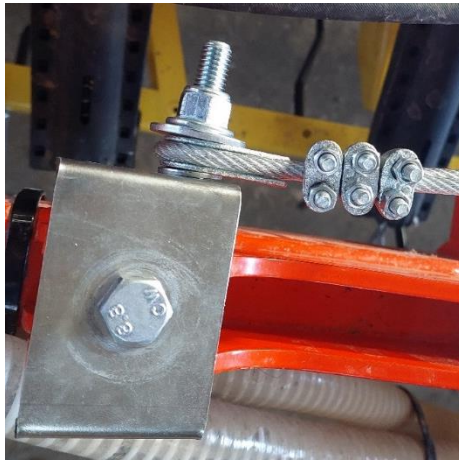


Figure 12: Attaching the rope to the bolt of the sheet metal profile



Figure 13: Stroke limiter and sheet metal profile connected with rope

Now the stroke limiter must also be integrated into the hydraulic system. To do so, the hydraulic line that was originally on the harrow between the piston side of the outermost preloading cylinder and the flow divider must be disconnected and removed. The former line is replaced by two shorter lines to integrate the stroke limiter in the hydraulic circuit.

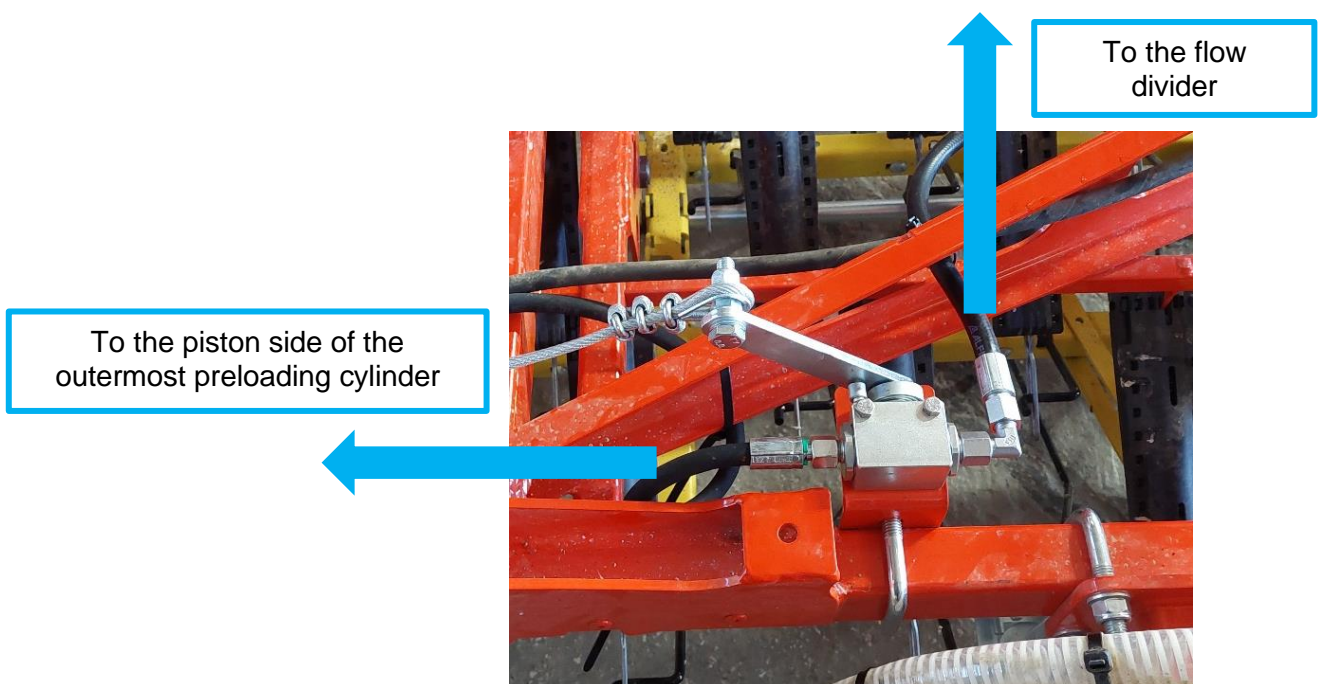


Figure 14: Connection of the hydraulic lines on the stroke limiter

The new hydraulic lines must be laid along the other lines and fastened with cable ties, so that the lines cannot be damaged. The lines in the following four figures represent the path of the new hydraulic lines along the harrow, one from the stroke limiter to the piston side of the outermost preloading cylinder and one from the stroke limiter to the flow divider.

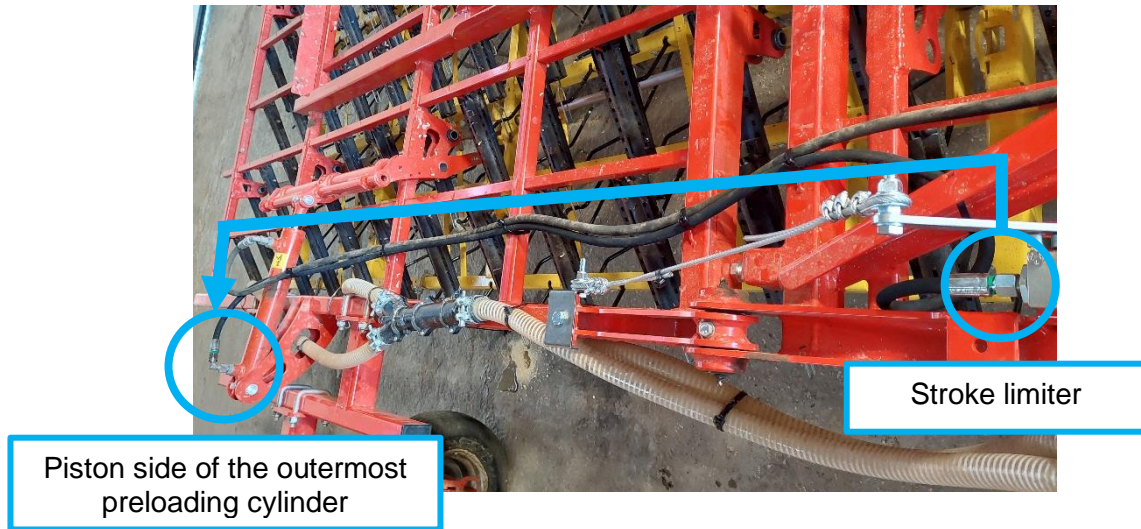


Figure 15: Hose laying from the stroke limiter to the preloading cylinder



Figure 16: Hose laying from the stroke limiter to the flow divider 1



Figure 17: Hose laying from the stroke limiter to the flow divider 2

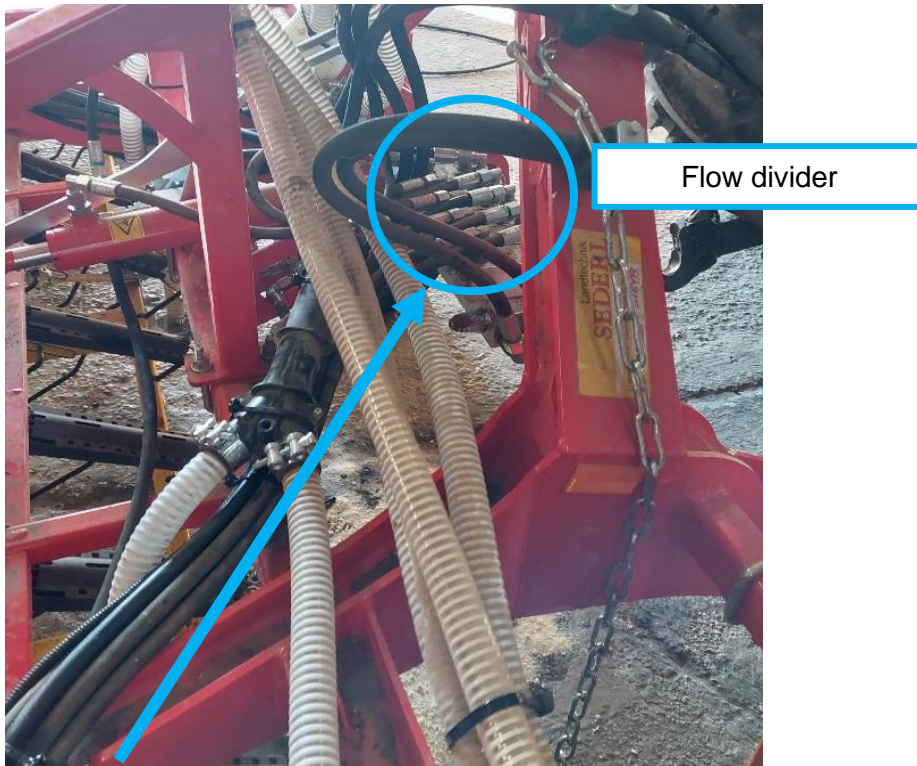


Figure 18: Hose laying from the stroke limiter to the flow divider 3

1.4 FOLDING RELEASE



NOTE!

The hydraulic conversion with regards to the folding release is described in these instructions based on a harrow with half-side folding. This means that one stroke limiter is installed in each of the two hydraulic circuits, and with the standard folding, this would only be one circuit with one stroke limiter, otherwise the installation is identical.

The elbow unions of the hydraulic lines to the folding cylinders must be opened (for the standard folding, it is a T-piece). Here, the stroke limiters are integrated in the system. The elbow unions or T-pieces are located at the centre of the implement under the headstock. Be sure to collect any leaking oil.



Figure 19: Location of the elbow union



Figure 20: Opening of the unions

Fasten the stroke limiters onto the holding plate. To do so, insert two hexagonal bolts through each stroke limiter from the top and fasten them on the underside of the plate with the nuts.

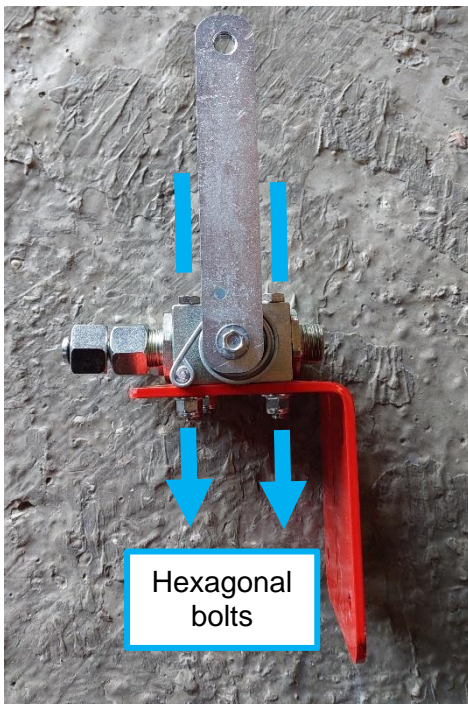


Figure 21: Stroke limiter fastening on holding plate 1



Figure 22: Stroke limiter fastening on holding plate 2

CAUTION!

When installing the stroke limiter, pay close attention to its installation direction!

There is the symbol of a check valve and a direction arrow on the stroke limiter. The arrow must be pointing in the direction of the line of the tractor's hydraulic control unit, as shown in the figure below. The check valve must permanently release the oil flow from the folding cylinder to the hydraulic control unit according to the symbol, so that unfolding is possible at any time. In the opposite direction, thanks to the position of the stroke limiter, the spring only releases the path for the oil when the tines are not preloaded, preventing folding when the tines are preloaded. The diagram does not absolutely need to be aligned upwards, it can also be on the underside, it is only important that the lever is installed accordingly.

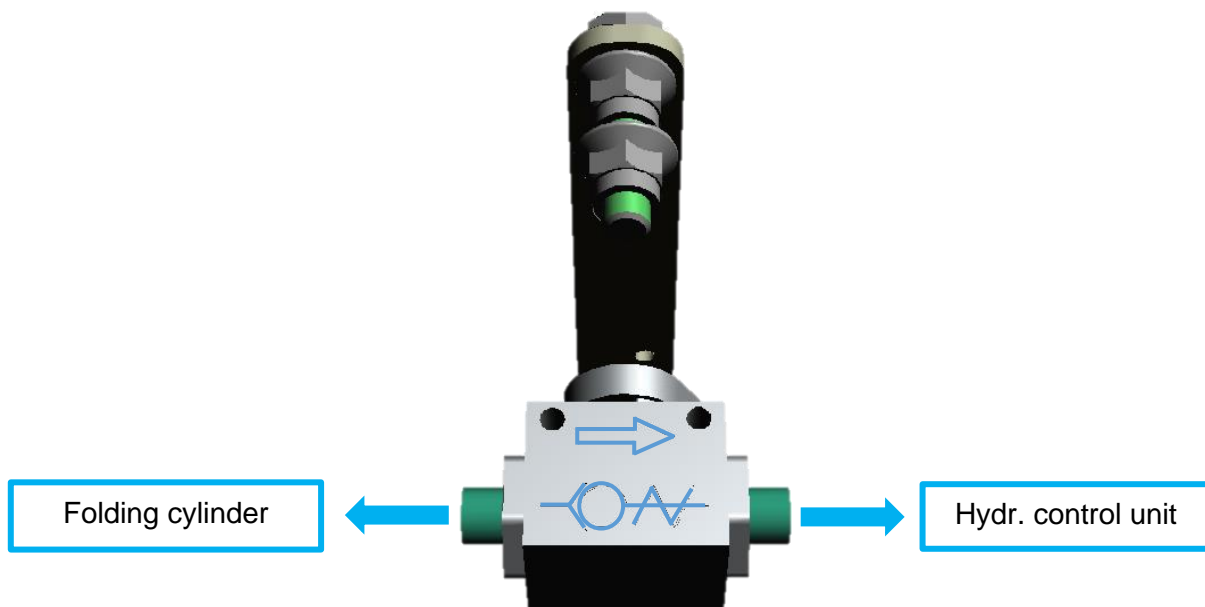


Figure 23: Installation direction of the stroke limiter

Now attach the holding plate with the stroke limiters using a U-bolt on the square tube beside the preloading cylinder at the centre of the implement near the headstock.

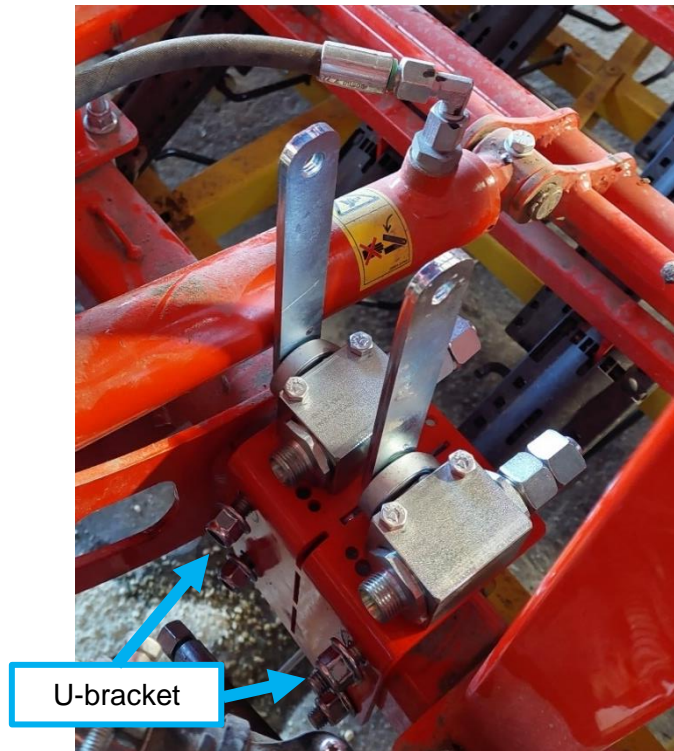


Figure 24: Holding plate installation on the square tube

Now start by removing the locking screw and then the pin of the preloading cylinder, the locking screw will be reused afterwards, but the pin is no longer required. When taking out the pin, make sure that the cylinder does not fall down and get damaged



Figure 25: Pin with locking screw



Figure 26: Removed locking screw

When the old pin has been removed, the new pin with an internal thread can now be inserted. Be sure to also secure this pin with the locking screw.



Figure 27: Old pin without internal thread



Figure 28: New pin with internal thread

Now the control linkage can be attached, it is fastened with a bolt that is screwed into the thread of the pin. It is important not to tighten the bolt too tight, there must still be space for the linkage to move. A nut must still be placed as a spacer between the pin and the control linkage.

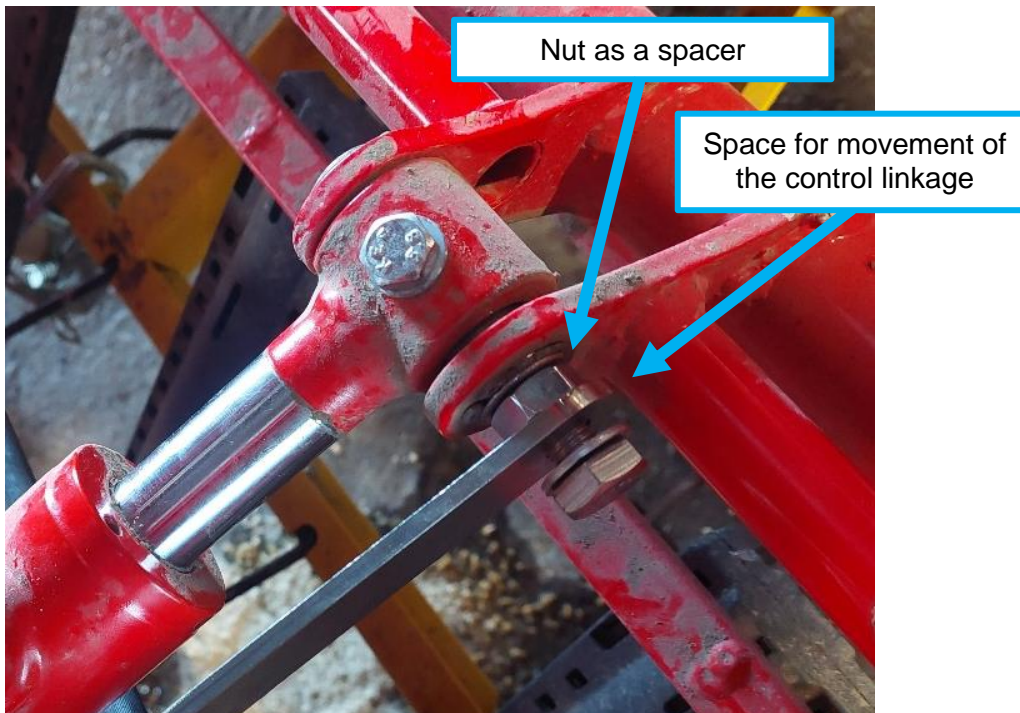


Figure 29: Control linkage fastened on the pin

The control linkage is connected to the stroke limiters with a bolt, here also, space must be left for movement of the linkage. It is also important that the linkage moves as parallel as possible to the cylinder, so that the movement of the linkage and the stroke limiter runs in a straight line. Finally, the hydraulic lines must be reconnected.



Figure 30: Control linkage connected to the stroke limiters



Figure 31: Completely installed control linkage

2 ADJUSTING THE FOLDING LOCK

If a Tined Weeder Pro VS1200 is equipped with a pneumatic seeder, it is necessary to make adjustments to the folding lock, the kit **07014-2-488 MK folding lock VS1200 1** must be installed.

2.1 ATTACHING THE RUBBER BUMP STOPS

To enable the side frames to be folded closer together without causing damage to the paintwork or frame, additional rubber bump stops must be installed. These are to be mounted at the centres of the two reinforcement crosses on the first side frames, as shown in the two figures below. Pre-cut threads are already on the harrow for this purpose. The correct installation depth of the rubber bump stops must be set by the customer and must be selected in such a way that no collisions occur during the folding process.

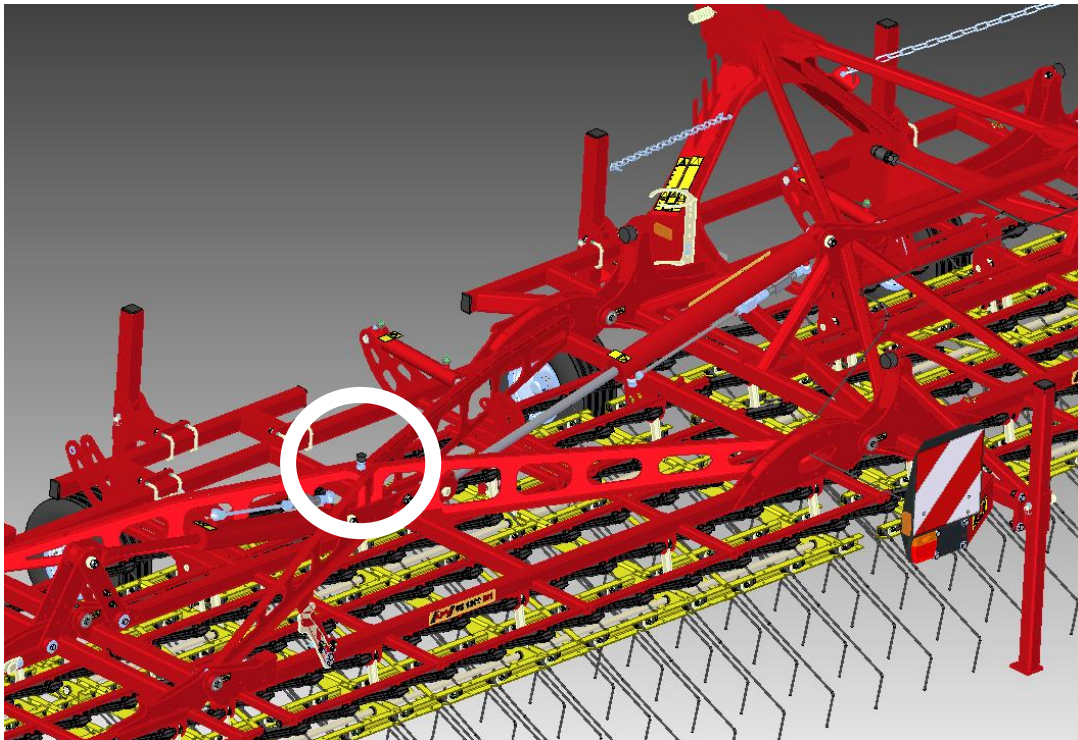


Figure 32: Location of rubber buffer installation

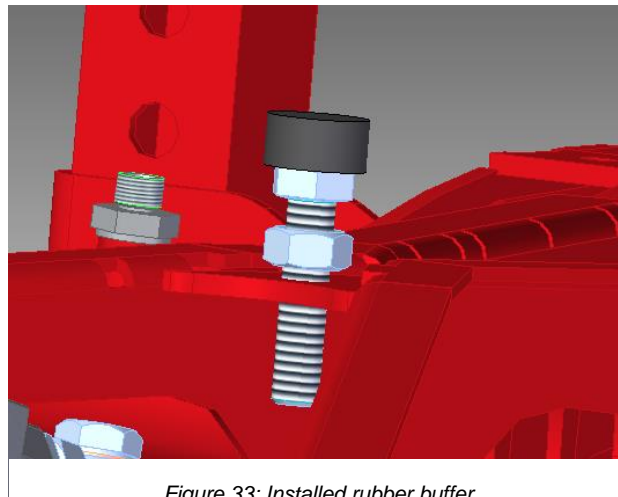


Figure 33: Installed rubber buffer

2.2 REPLACING THE SHEET METAL PROFILES OF THE FOLDING SAFETY DEVICE

Replacing the sheet metal profiles of the folding safety device is also required in order to be able to fold the side frames closer together. The profiles are located on the outside of the 1st side frame in the area of the folding points at the rear of the harrow. The standard sheet metal profile must be removed and a new, somewhat shorter one installed. Visually, however, the two sheet metal profiles can be distinguished not only by their length, but also by the fact that the new one is galvanised, while the standard one has a red paint finish.

The new sheet metal profile is mounted in the same way as the old one, by means of an M12 hexagonal bolt through the hollow profile of the harrow. It is also important to ensure that the two M8 hexagonal bolts of the new profile are also covered again with plastic hoses, so that paint damage to the frame can be prevented.

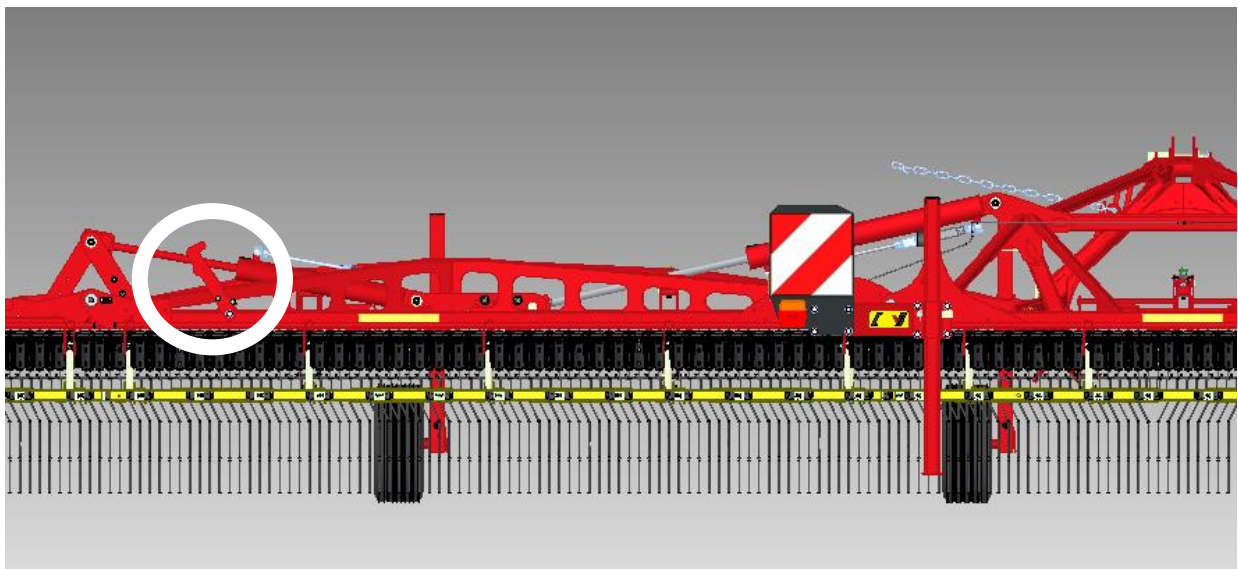


Figure 34: Position of the sheet metal profile on the harrow

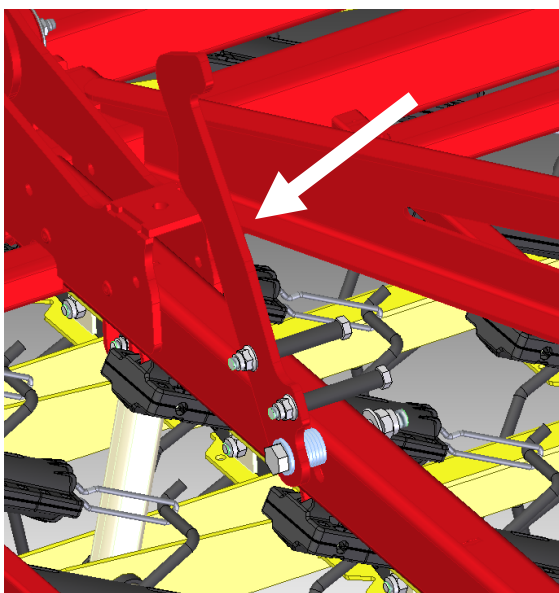


Figure 35: The sheet metal profile installed as standard

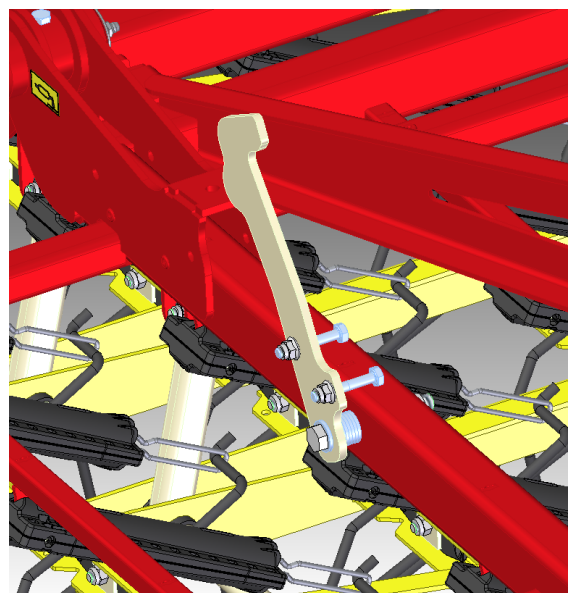


Figure 36: Newly galvanised sheet metal profile

2.3 REMOVING THE LIMITATION OF THE FOLDING CYLINDERS

To mount a seeder on the VS1200, the limitation of the two folding cylinders must also be removed. To do this, first remove the pin from the cylinder eye.



NOTE!

To remove the bolt, it must be free of tension, i.e. loose in the hole. Also secure the cylinder from falling down when you remove the bolt, so that no damage can occur to the cylinder.

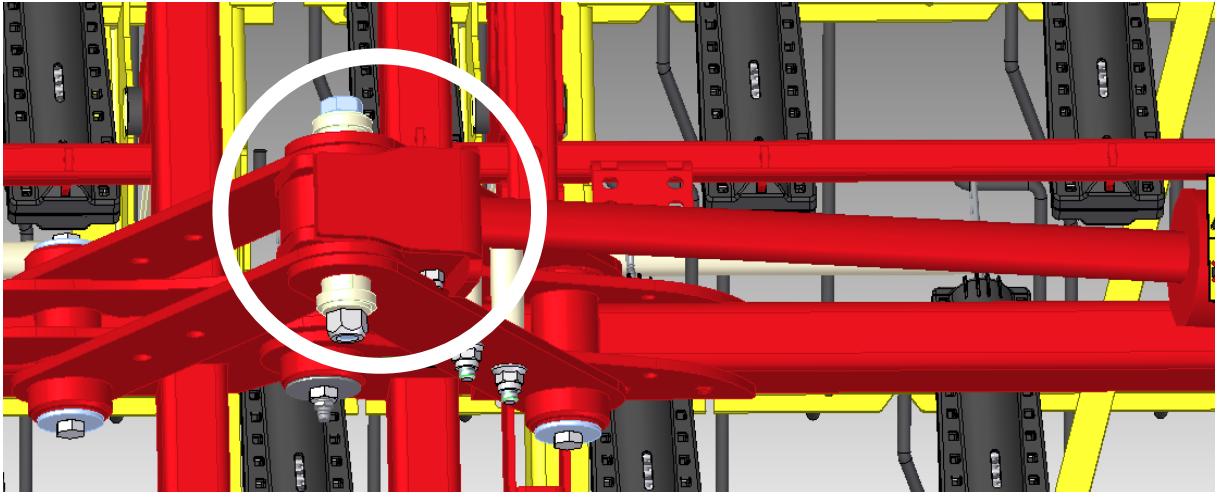


Figure 37: The limitation is mounted on the cylinder eye by means of bolts

After the pin has been removed, the locking screw must still be removed, after which the limiting plate can simply be removed from the cylinder eye. The limiting plate can be put aside, it is no longer needed.

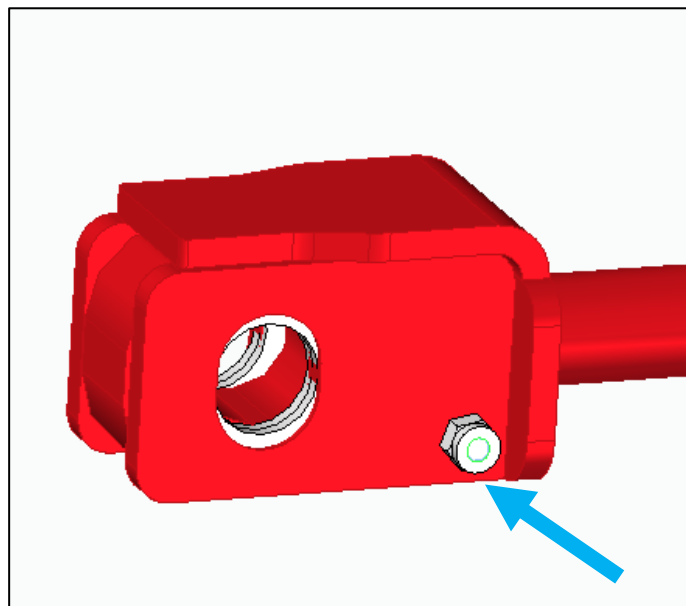


Figure 38: Removal of the locking screw is required

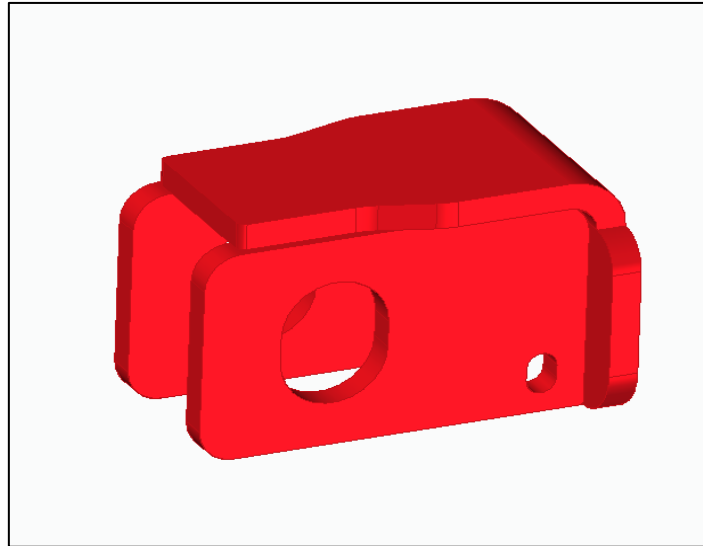


Figure 39: The removed limiter

The cylinder must then be secured back in the frame using the bolt. Make sure that the bolt components are installed exactly as they were mounted beforehand; a picture of the installation is also provided below.

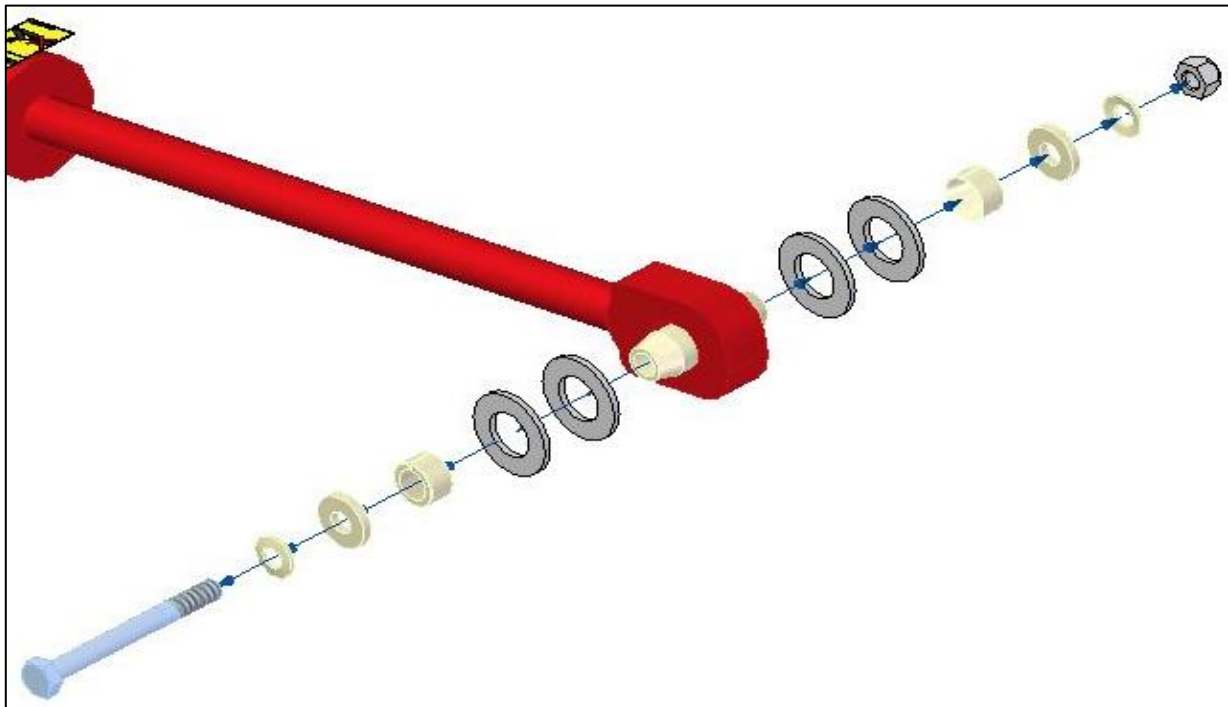


Figure 40: Arrangement of the bolt components

3 PROTECTIVE STRIPS

If a PS500 M2 is installed on an VS1200 M1, there is also a separate kit containing anti-slip protective stickers which must be applied to the tank for protection.

07014-2-646

ABK PS500 on VS1200

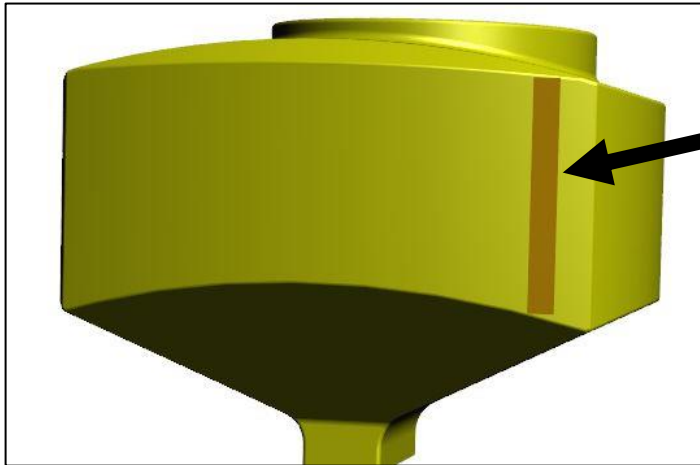
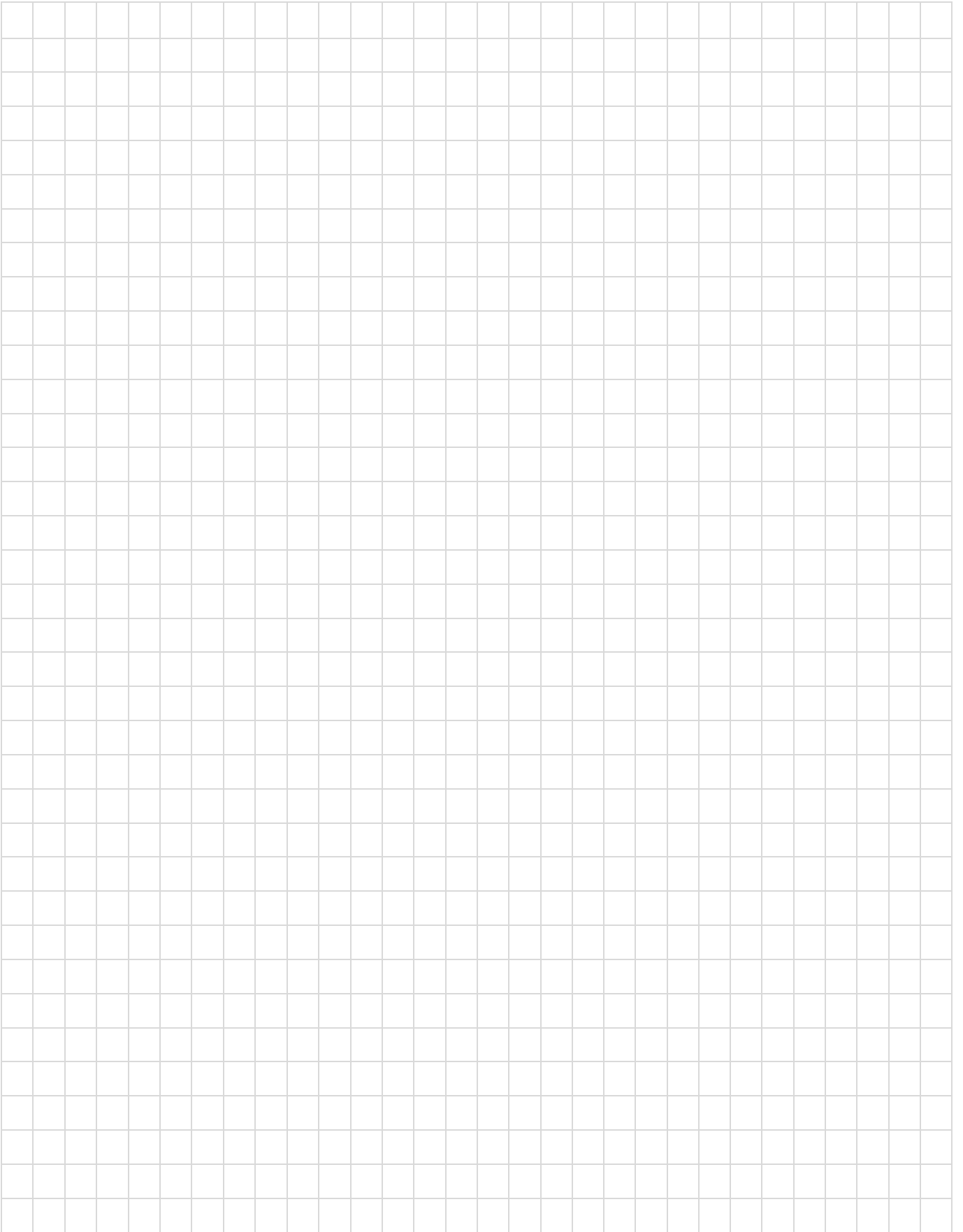
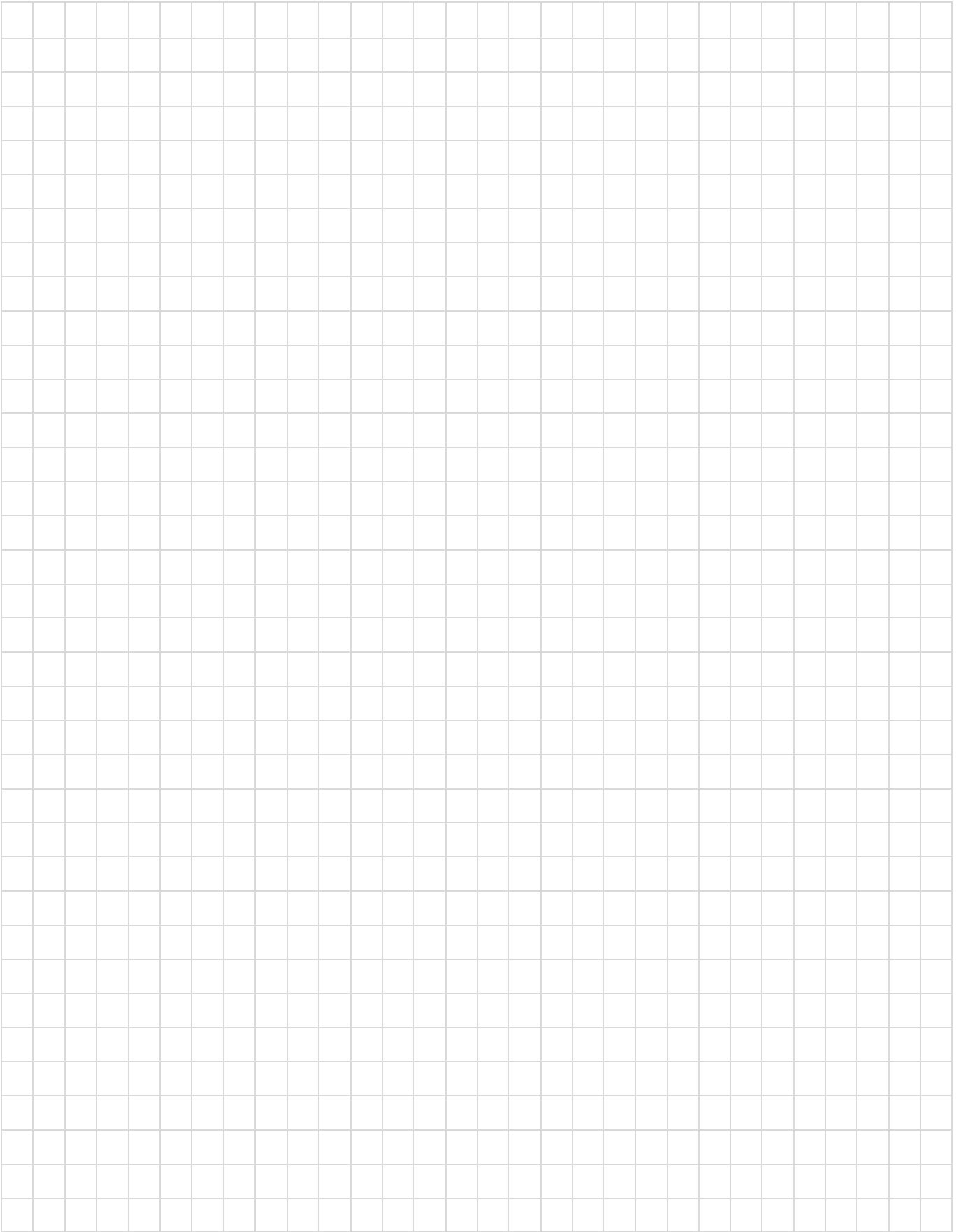


Figure 41: Protective sticker on the hopper of the PS500 M2







APV – Technische Produkte GmbH

Zentrale: Dallein 15
AT - 3753 Hötzelndorf

Tel.: +43 2913 8001
office@apv.at
www.apv.at

