

English



Service manual

Replace height sensor



Valetudo Horse Products BV

FeedingMaster Pro

The FeedingMaster Pro is produced by:

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Dear customer,

We are sorry that your FeedingMaster Pro has malfunctioned. Fortunately, it is easy to repair with the parts provided and this service manual. This manual explains how to do this, so please read the manual carefully.

Pay extra attention to sentences preceded by one of the following words:

WARNING: If the indicated instructions are not followed, there is a risk of serious injury to you or your horse.

TIP: Useful information that helps you perform certain steps more easily or check them in another way.

We would like to see you satisfied. If you have any questions about certain steps, please feel free to contact us at Service@VHProducts.eu. We will do our best to answer your question within 24 hours.

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1. Safety Instructions

Before starting the repair, you should be aware of the risks involved if you do not fully follow the instructions in this manual.

The following important safety precautions must be observed when working on a FeedingMaster Pro:

- Certain parts in the controller carry the mains voltage. Never open the housing of the controller when the FeedingMaster Pro is connected to the mains.
- During a fault, the FeedingMaster Pro may suddenly switch on or off parts of the drive. Therefore, never execute maintenance when the FeedingMaster Pro is connected to the mains.
- Never make any adjustments to the FeedingMaster Pro other than described in this manual.

WARNING: Remove the mains plug from the wall socket and wait at least 10 seconds before starting any service work.

2. Introduction

This service manual describes step by step how the malfunction can be repaired. A checkbox is placed before each step. It is advisable to check this off when the step has been completed. This prevents a step being swapped or skipped.

Is a certain step not clear or do you have other questions? Then you can always contact us, we are happy to help you.

TIP: It is advisable to place a blanket or piece of cardboard in and in front of the FeedingMaster Pro. If small parts accidentally fall, you will not lose them in the sawdust or other bedding.

3. Replace height sensor

- [] Switch off the FeedingMaster Pro by removing the mains plug. Wait 10 seconds for the display to turn off.



- [] Open the grid



- [] Remove the two allen bolts holding the controller using a 5mm allen key.



- [] Grab the controller and tilt it forward as far as possible.



- [] Lift the controller between the mounting brackets.



- [] Tilt the controller 90 degrees clockwise and place it on the right mounting bracket.



- [] Close the grid and place the controller on the grid.



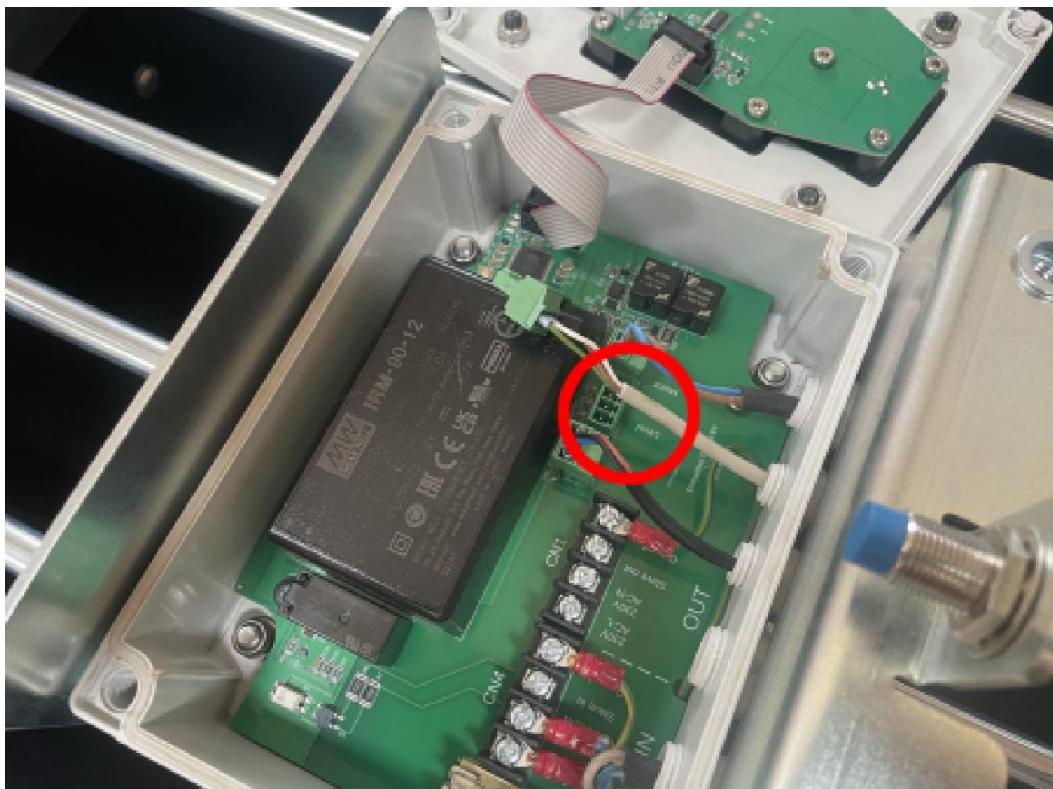
- [] Unscrew the 4 bolts from the front of the controller housing with a Phillips screwdriver. The bolts are secured to the front of the housing. These can only be unscrewed, but not removed.



- [] Lift the front of the housing and place it to the left of the controller.

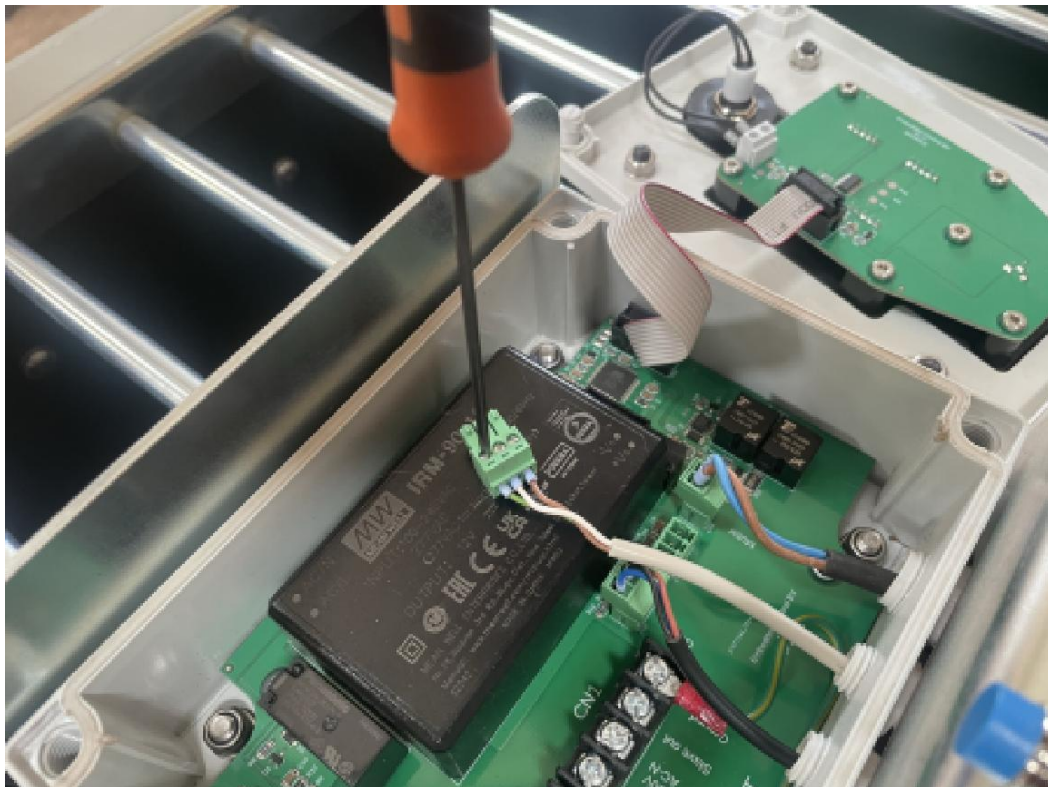


- [] Remove the plug from the connector labeled "Level".

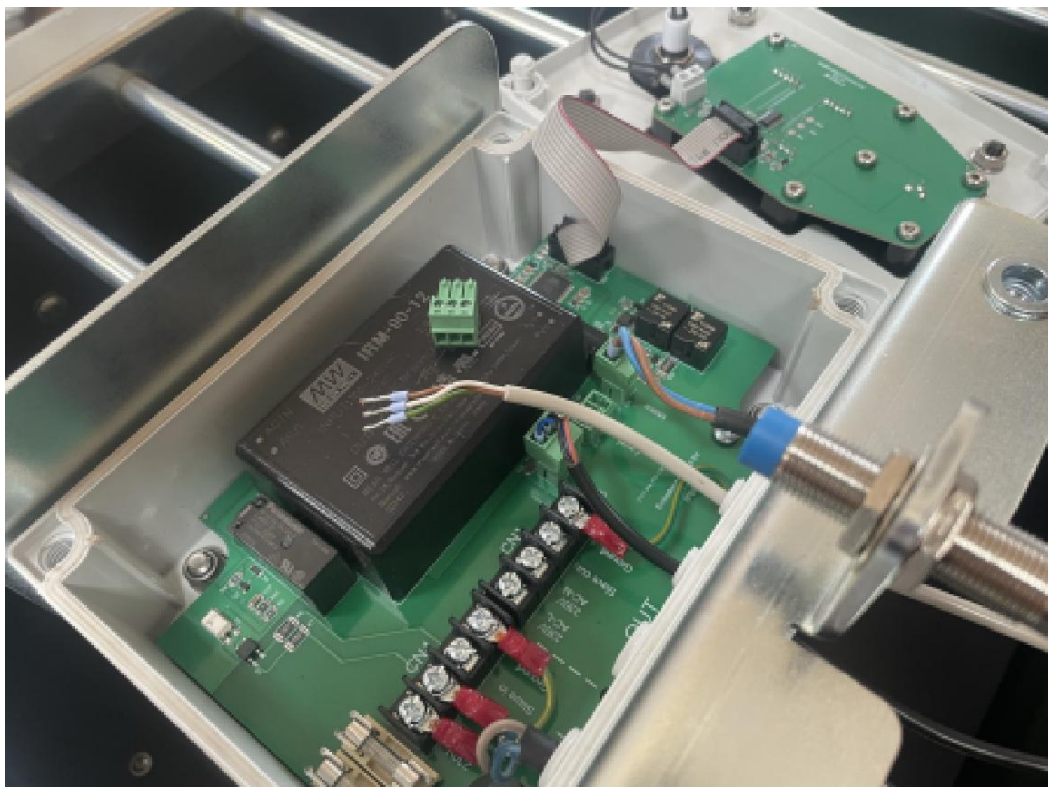


[] Loosen the terminals of the plug with a small flat screwdriver.

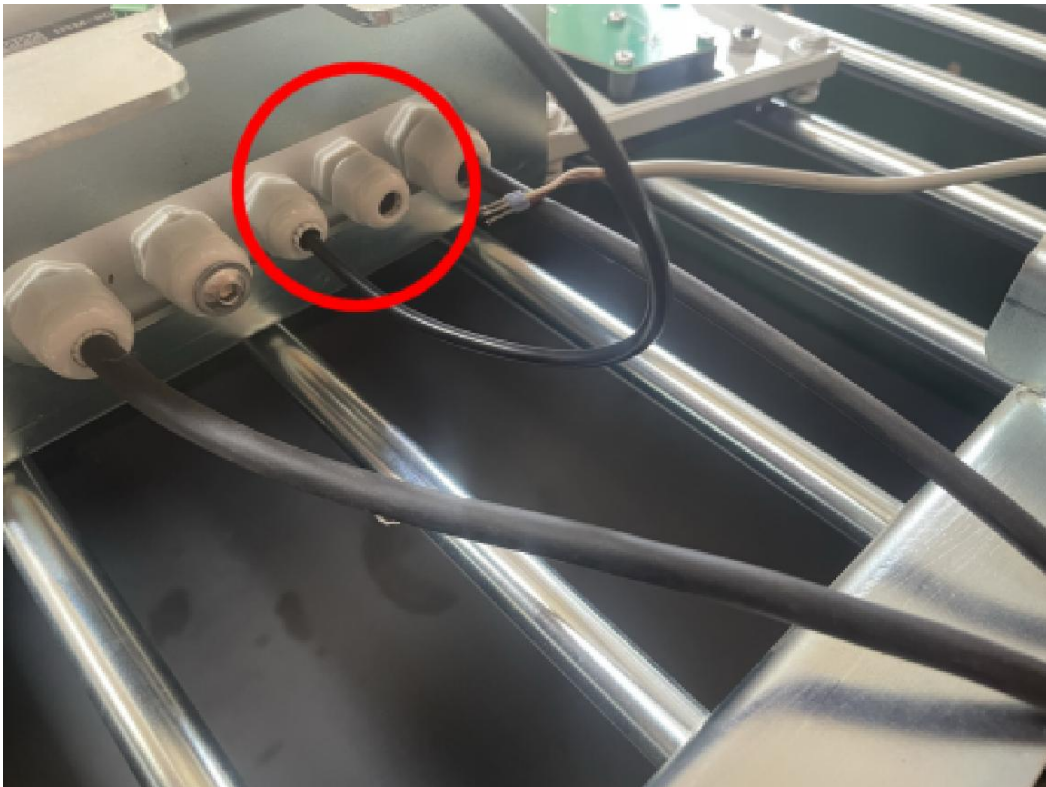
TIP: Take a photo of the plug so that it is clear which color wire is in which connection of the plug. Then this can be used later if there is doubt about on how connections were made.



[] Remove the wires from the plug.



- [] Unscrew the last part of the strain relief on the back of the controller that feeds the cable from the height sensor into the controller. Remove the cable of the height sensor from the strain relief. Place the loosened part of the strain relief back half a turn so that it is not forgotten later.



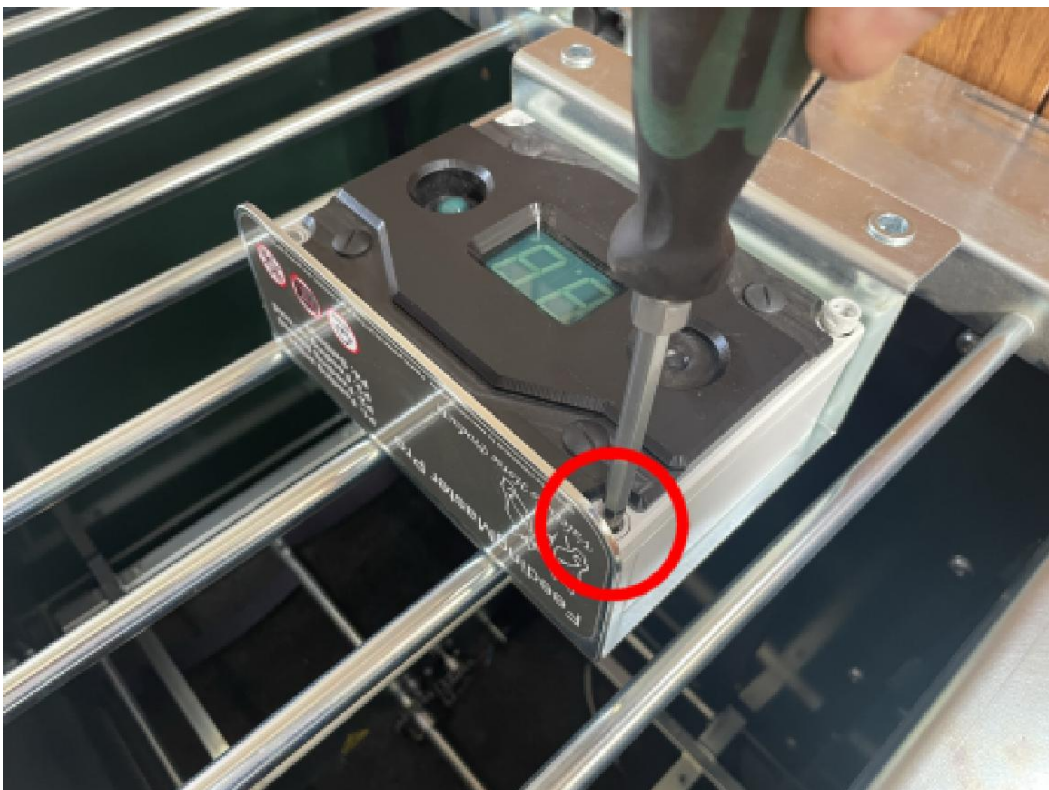
- [] Place the front of the housing above the housing. Carefully press the cable of the display into the corner of the housing.



- [] Place the front of the housing on the controller housing. Check that there are no wires between the parts and that the front of the housing rests neatly on the back of the housing.



- [] Secure the front of the housing by lightly tightening one of the nuts.



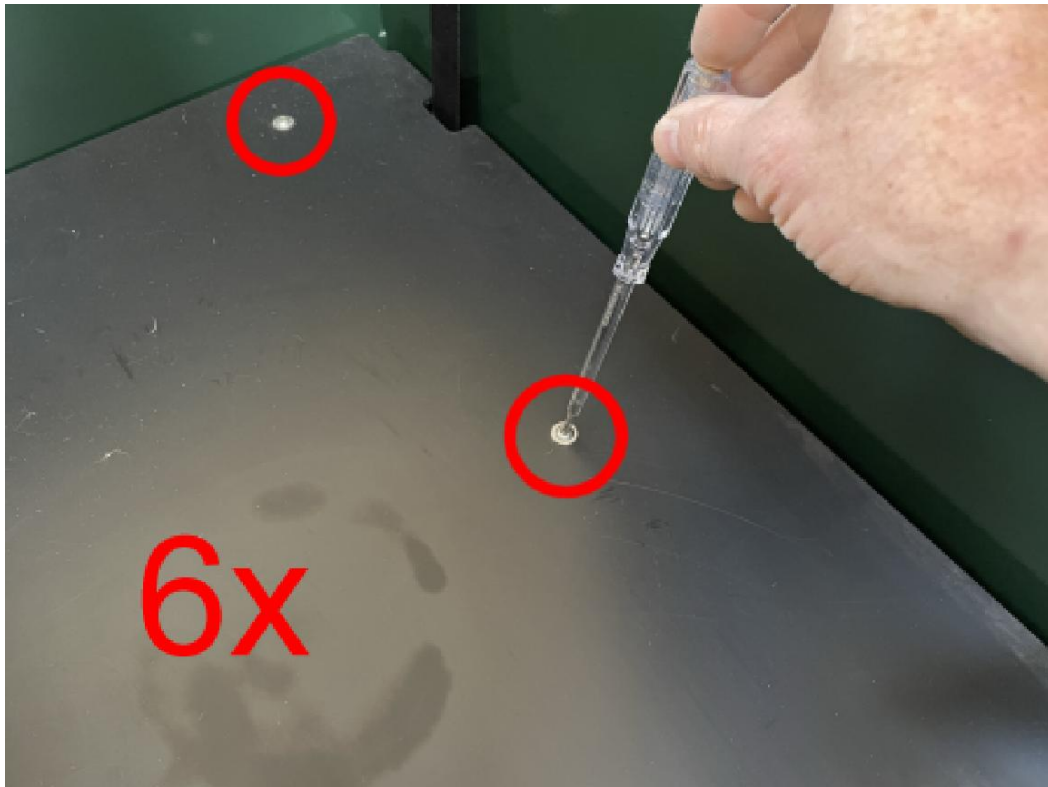
- [] Place the controller back on the right mounting bracket.



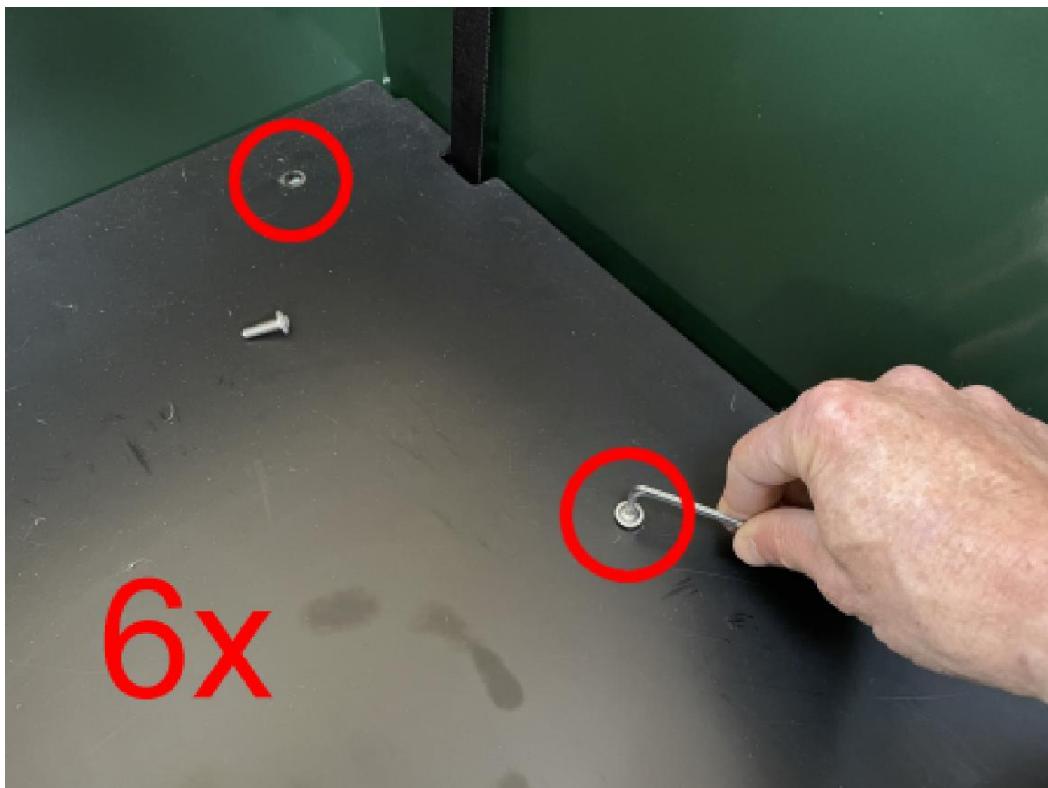
- [] Open the grid. To prevent the grid from touching the grid sensor, it may be necessary to lift the controller slightly while opening the grid.



- [] Remove the dust from the allen bolts of the feed floor by loosening the dust with a small screwdriver and then blowing it away.



- [] Unscrew the 6 allen bolts from the feed floor with a 4mm allen key.



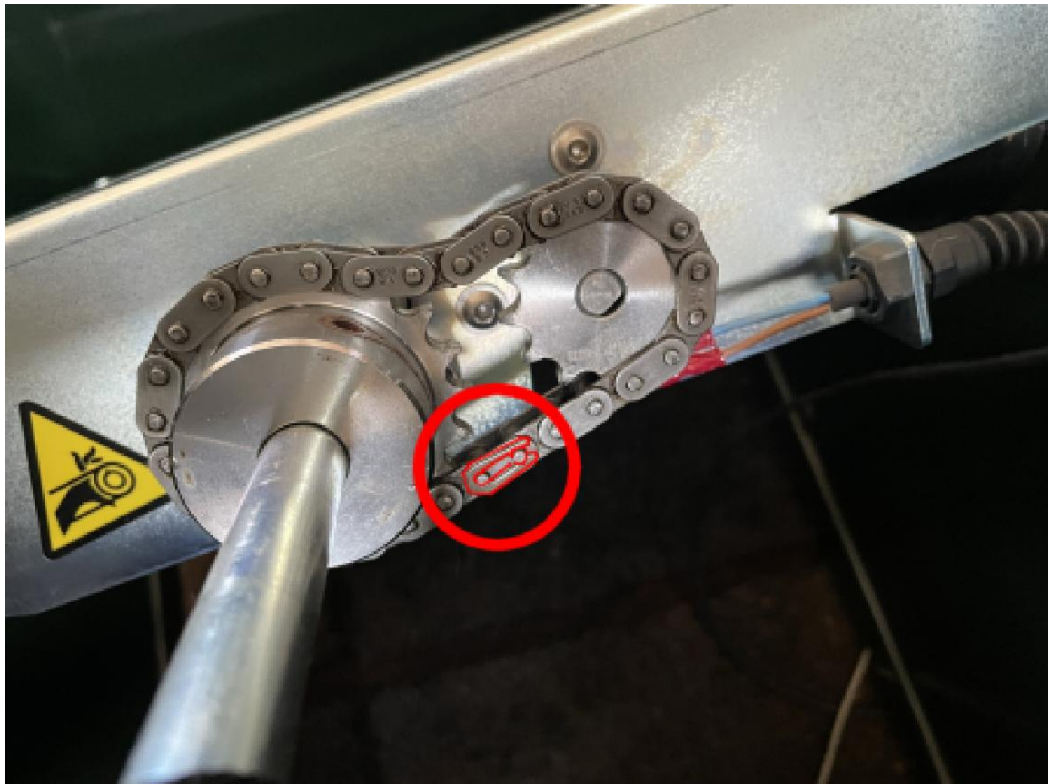
- [] Remove the feed floor from the FeedingMaster Pro.



- [] Tilt the feed mechanism so that the chain is clearly visible.



[] Look for the coupling part in the chain.



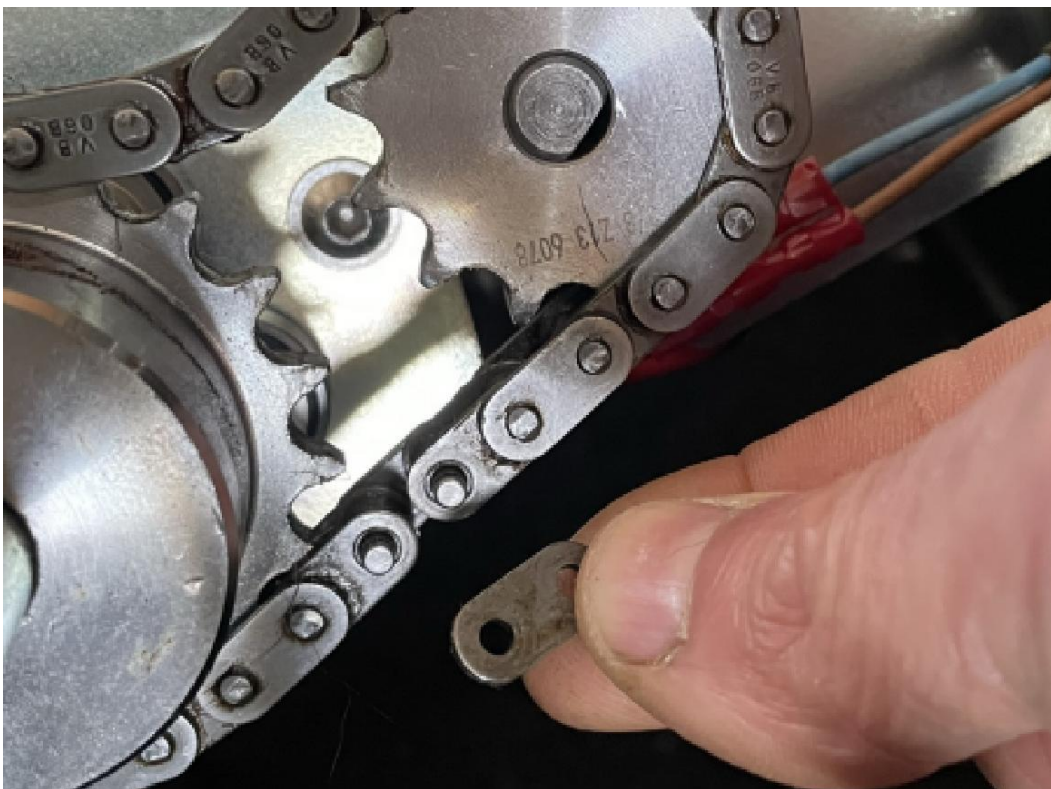
[] Using needle-nose pliers, squeeze the retaining clip backwards.



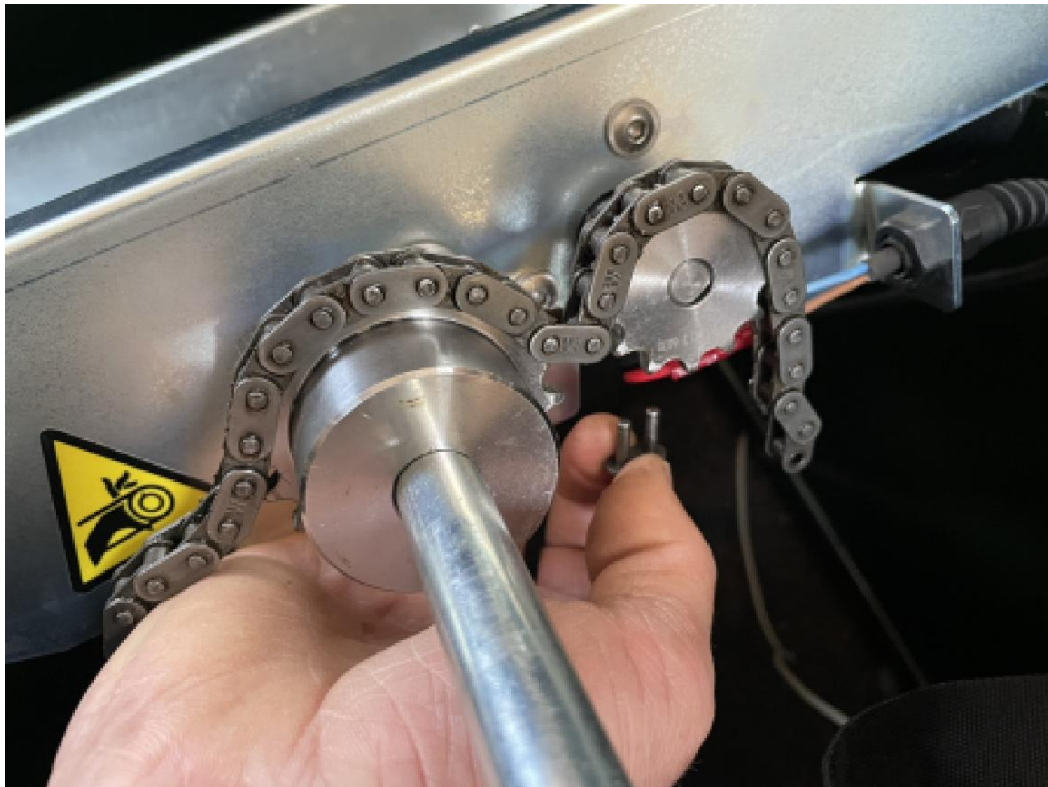
- [] Remove the retaining clip from the retaining plate.



- [] Remove the retaining plate from the coupling part.



- [] Remove the coupling part from the chain. Hold the feed mechanism securely so that it does not fall once the chain has been released.



- [] Lift the feeding mechanism out of the FeedingMaster Pro. Rotate it 90 degrees clockwise and place it on the top edge of the FeedingMaster Pro. The blue height sensor is then located at the front of the FeedingMaster Pro.



- [] Unscrew the last part of the strain relief that feeds the cable of the height sensor through the feeding mechanism.



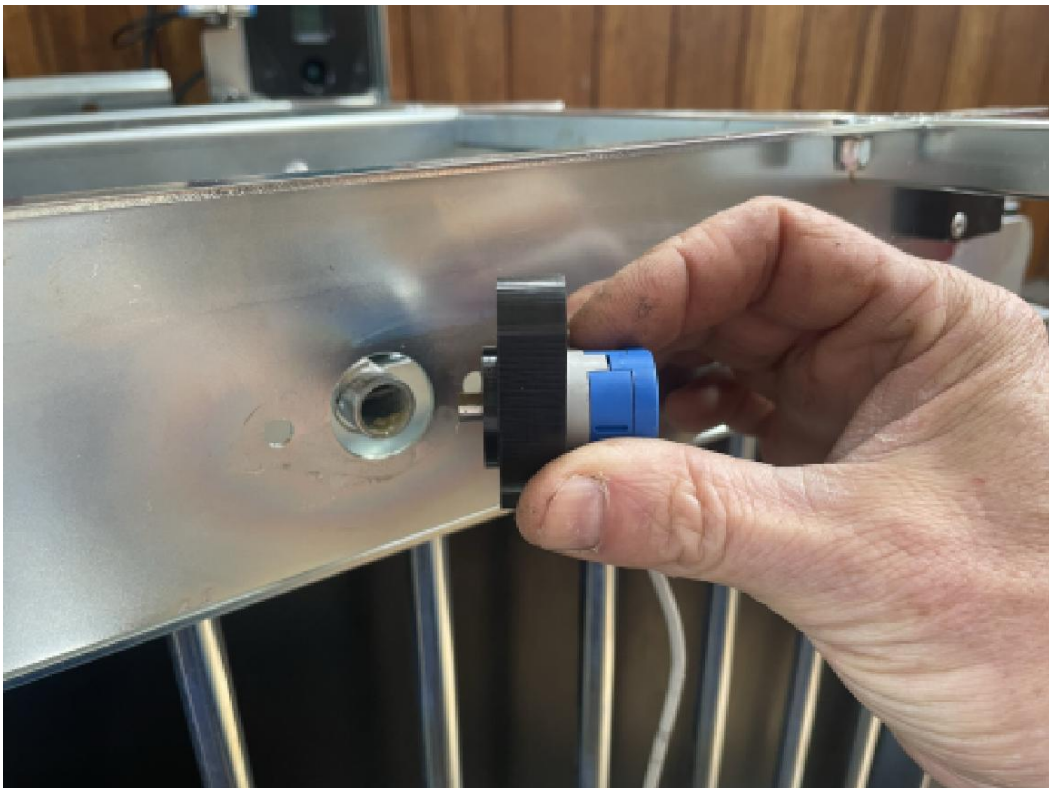
- [] Remove the cable of the height sensor from the strain relief. Place the loosened part of the strain relief back half a turn so that it is not forgotten later.



- [] Unscrew the two nuts from the bolts that secure the height sensor to the feed mechanism. Use a 4mm allen key and a 10mm spanner for this.



- [] Remove the height sensor from the drive shaft.



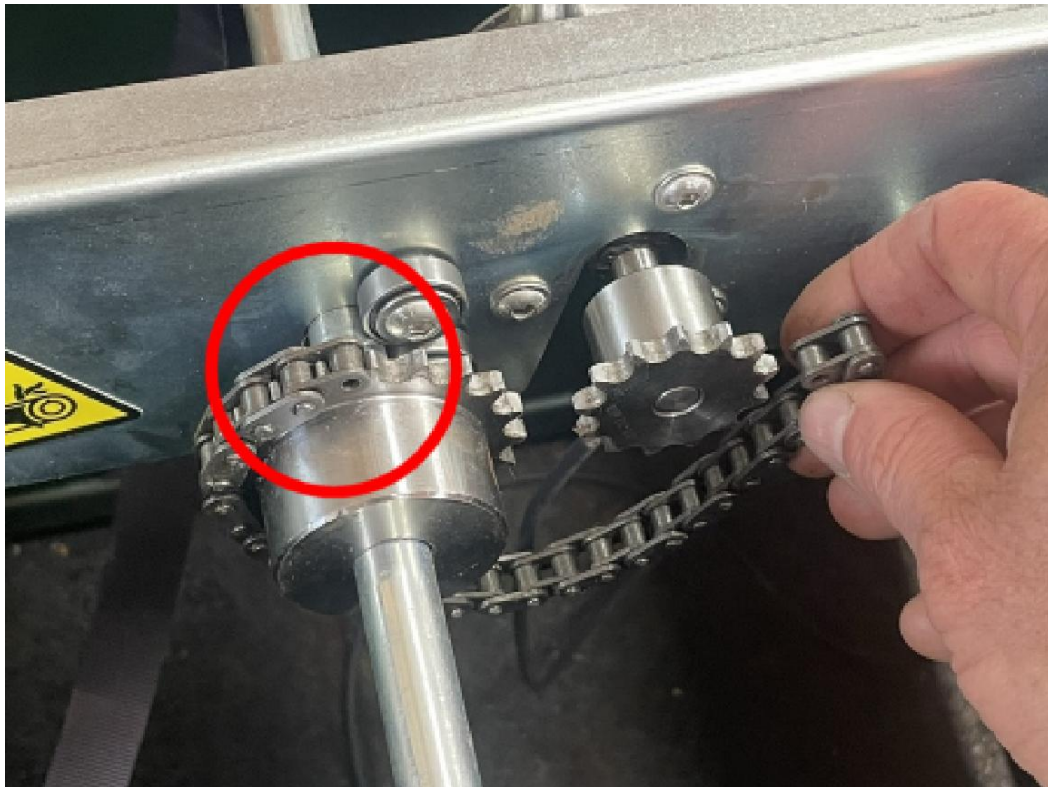
- [] Rotate the drive shaft so that the suspension straps are completely unwound. The suspension strap closest to the height sensor should be on top of the drive shaft.



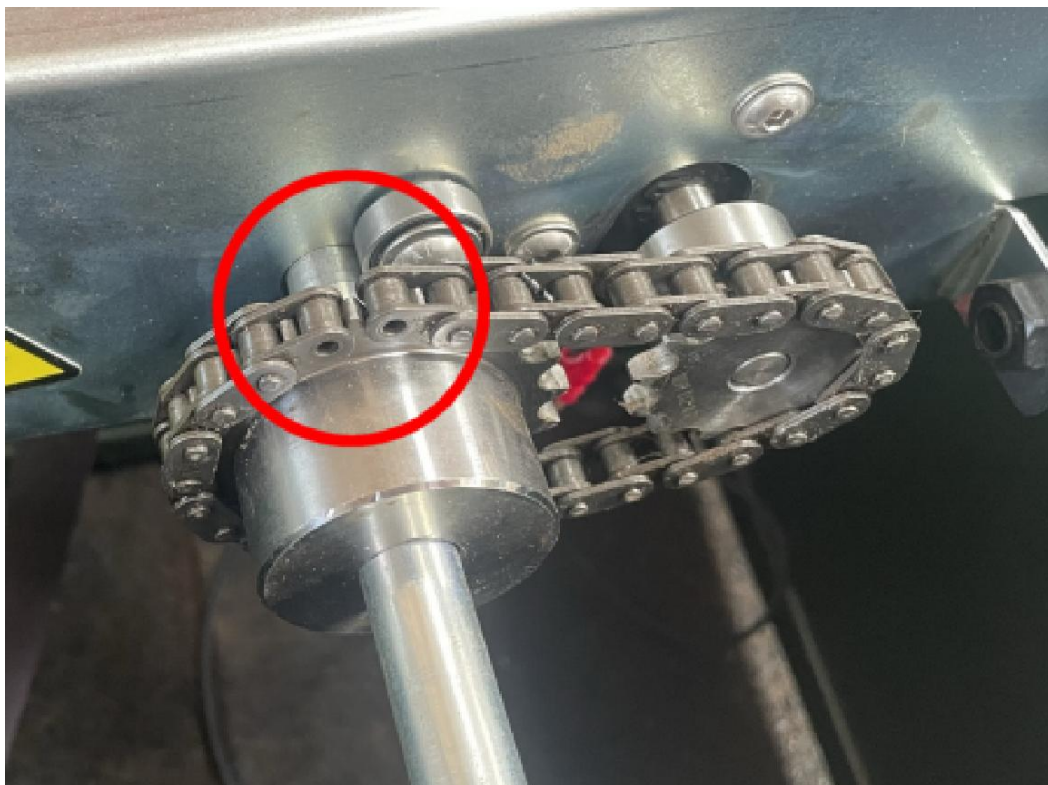
- [] Check that the locking pin in the drive shaft is vertical.



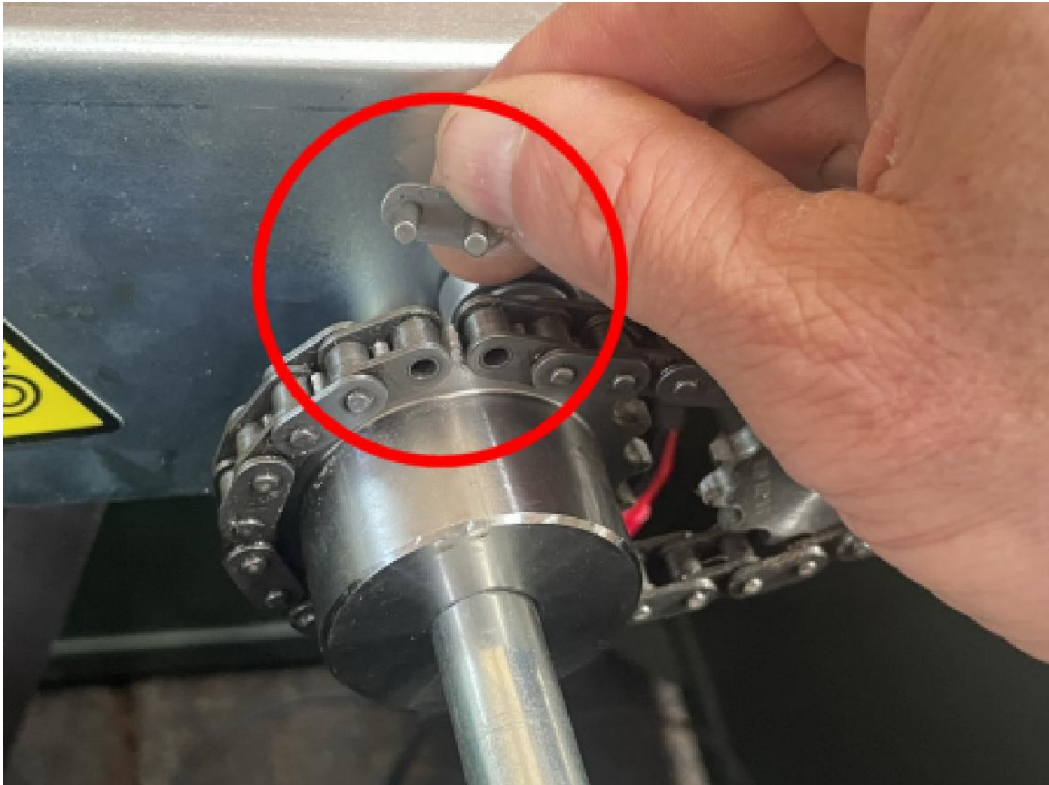
- [] Hold the drive shaft to prevent it from rotating when installing the chain. Place the chain with one link in the top tooth of the large sprocket on the drive shaft.



- [] Hold the drive shaft to prevent it from rotating when installing the chain. Pull the chain around the motor sprocket and place the end in the tooth next to the top tooth of the large sprocket.



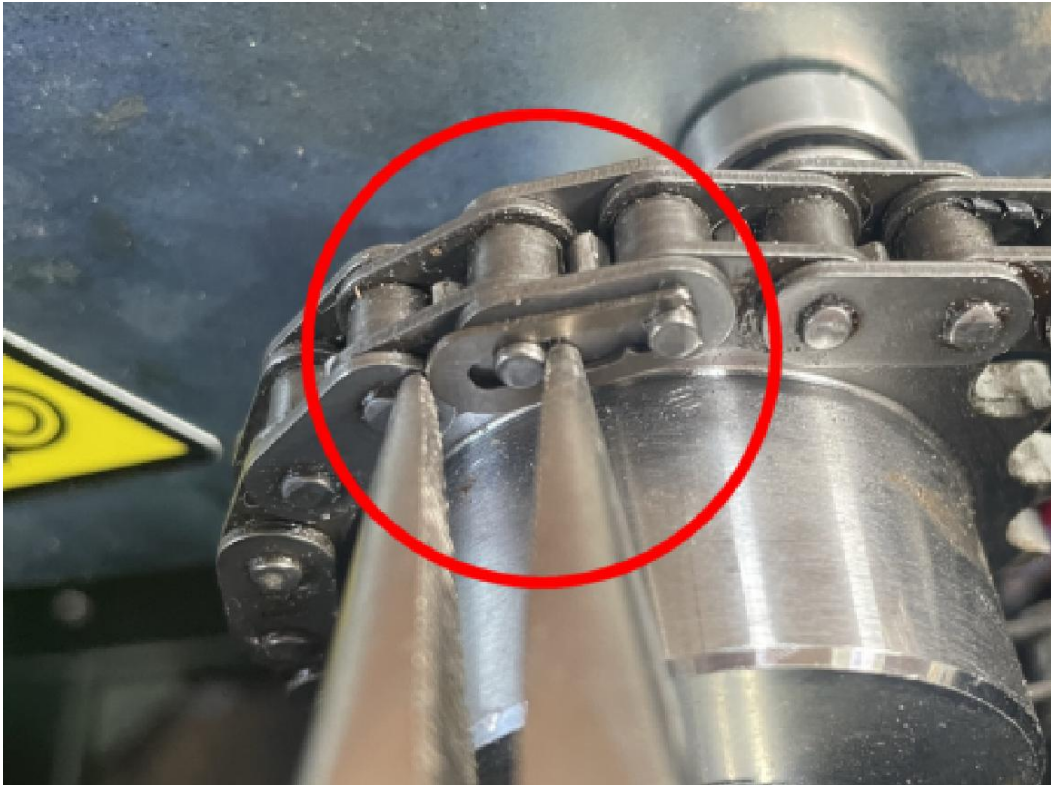
- [] Slide the coupling part through both ends of the chain.



- [] Place the retaining plate over the coupling part.



[] Place the retaining clip over the retaining plate.



[] Press it with needle-nose pliers.



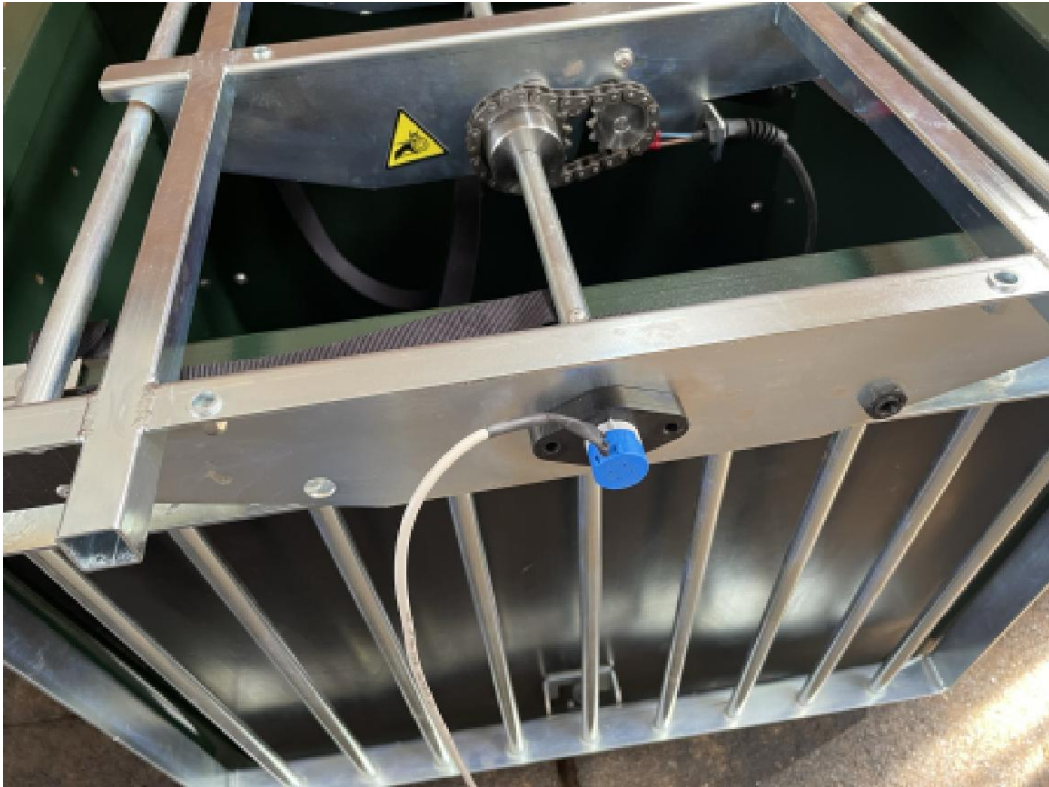
- [] Turn the height sensor shaft fully counterclockwise until it stops.



- [] Then turn it clockwise until the slot in the height sensor is vertical. Then turn the shaft clockwise an additional half turn.



- [] Slide the height sensor onto the drive shaft until it rests against the feed mechanism. If that does not fit, check that the slot in the height sensor is in the same direction as the locking pin in the drive shaft. The cable of the height sensor must point upwards.



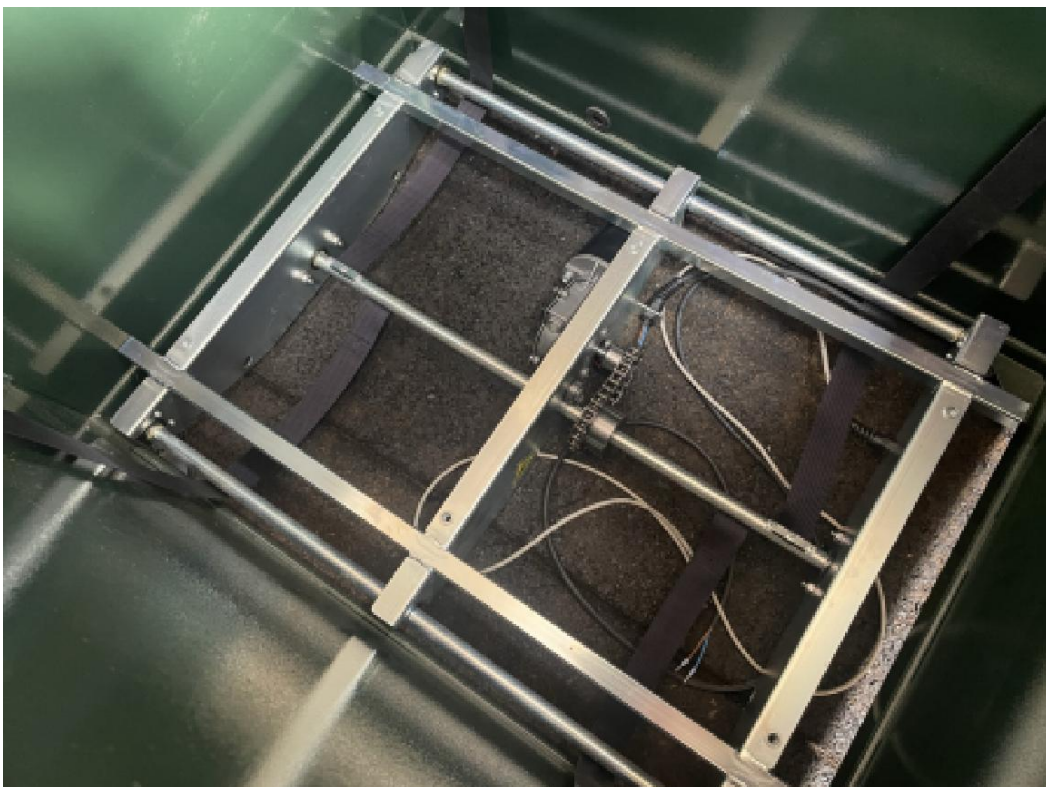
- [] Secure the height sensor with the two M6x25 flange bolts. Place the M6 washer between the feed mechanism and the M6 locknuts.



- [] Feed the cable of the height sensor through the strain relief. Make sure that the cable lies in a nice smooth arc. Tighten the strain relief completely by hand.



- [] Pick up the feeding mechanism and turn it 90 degrees counterclockwise and gently lower it into the FeedingMaster Pro on the floor. Check that no cables are trapped between the feeding mechanism and the ground. Check that the suspension straps are not twisted.



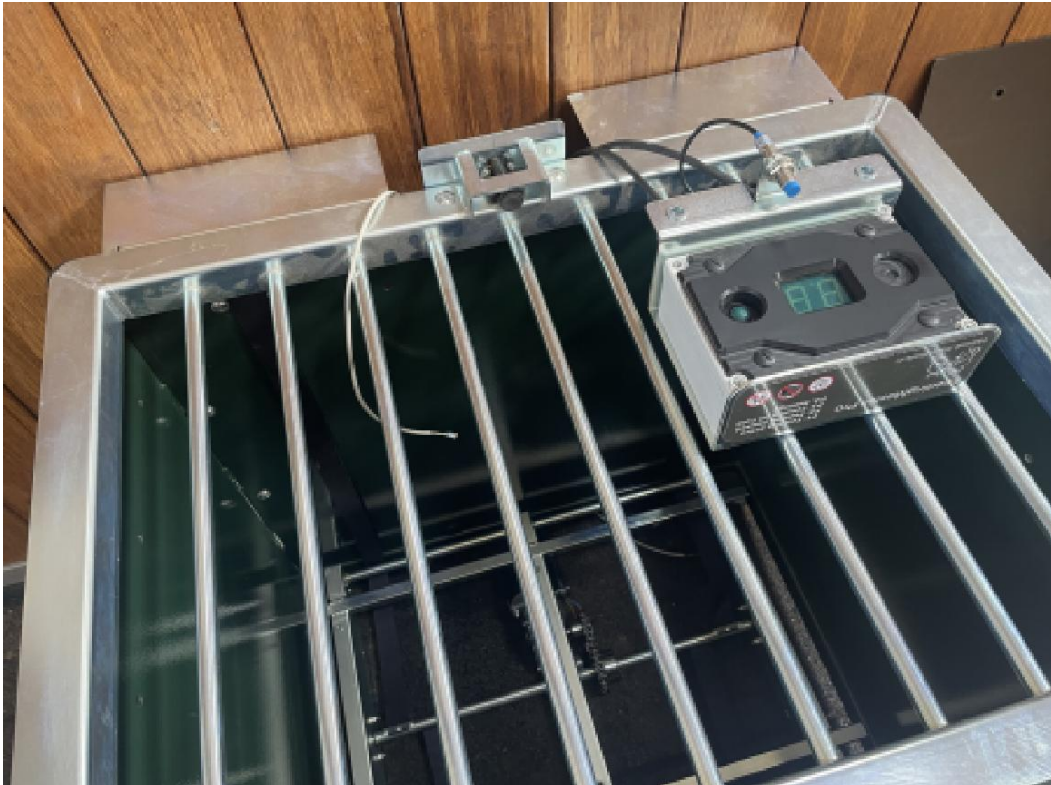
- [] Check **carefully** if the cable of the height sensor exists **below** the suspension straps.



- [] Slide the cable of the height sensor under the rear wall of the FeedingMaster Pro. Pick up the cable of the height sensor through the gap between the mounting brackets and gently pull it upwards.



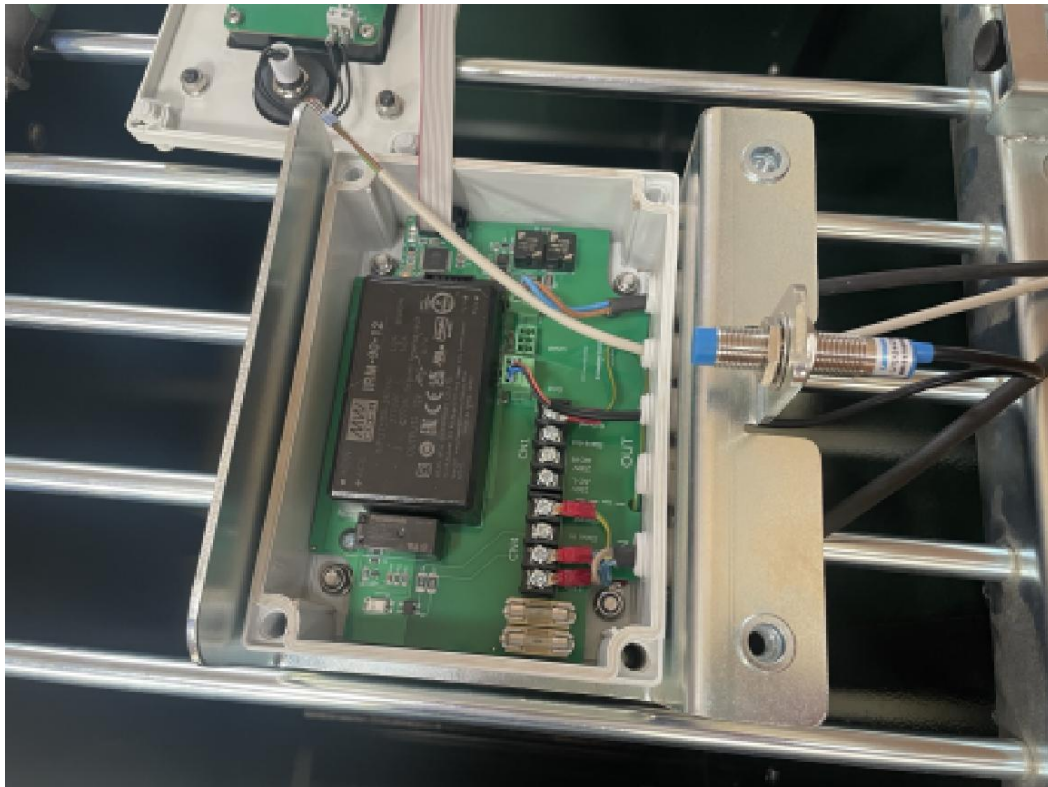
[] Close the grid and place the controller on the grid.



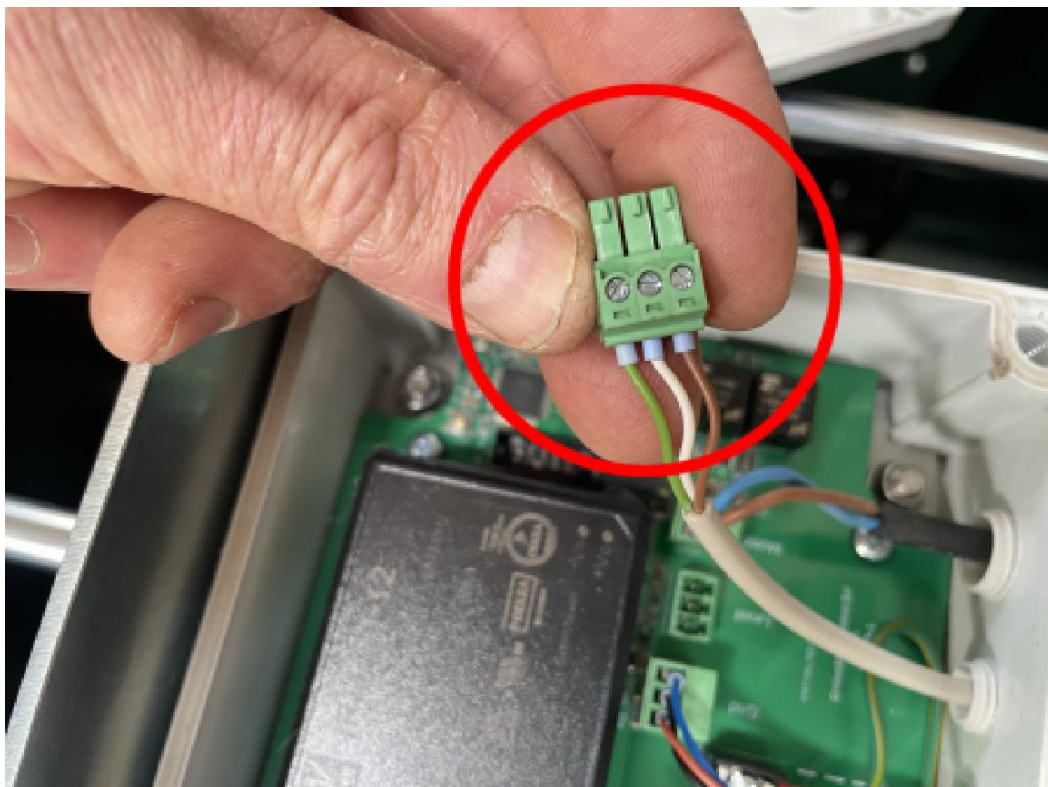
[] Unscrew the nut in the front of the controller housing.



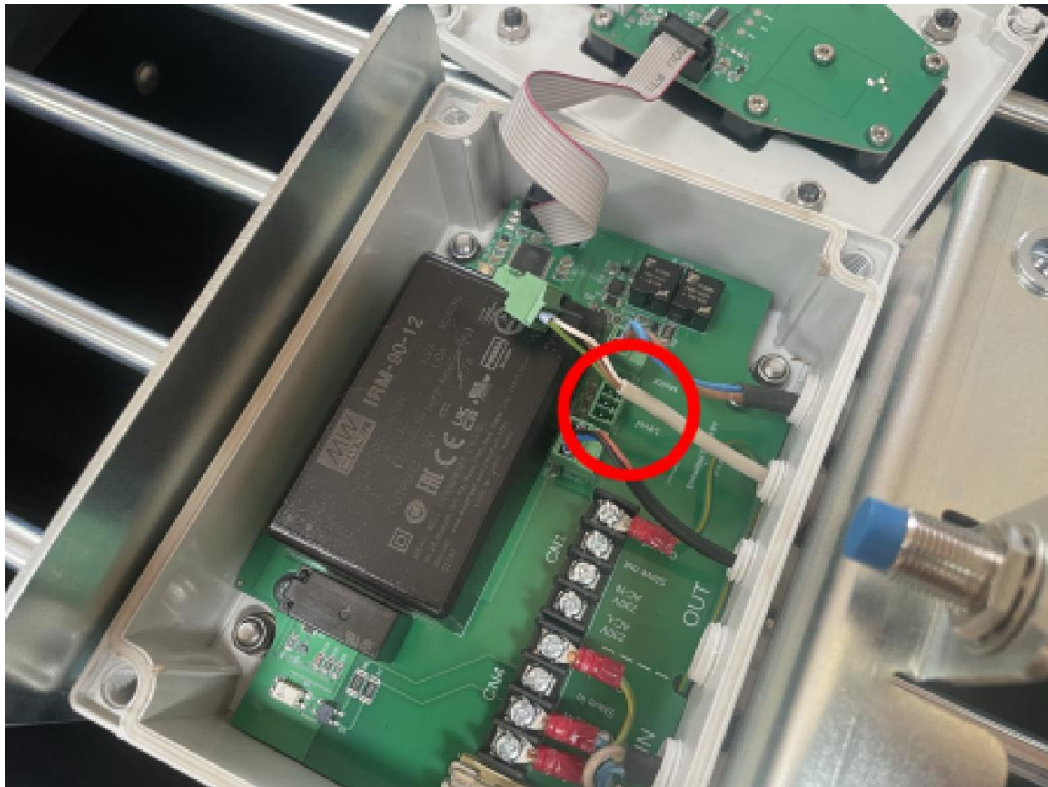
- [] Place the front of the controller housing next to the controller. Feed the cable of the height sensor through the strain relief into the housing of the controller unit. Do not tighten it yet.



- [] Place the wires in the plug and screw it hand tight. Check whether the colors of the wires are connected correctly. Then tighten them 1/8 to 1/4 turn of the screwdriver.



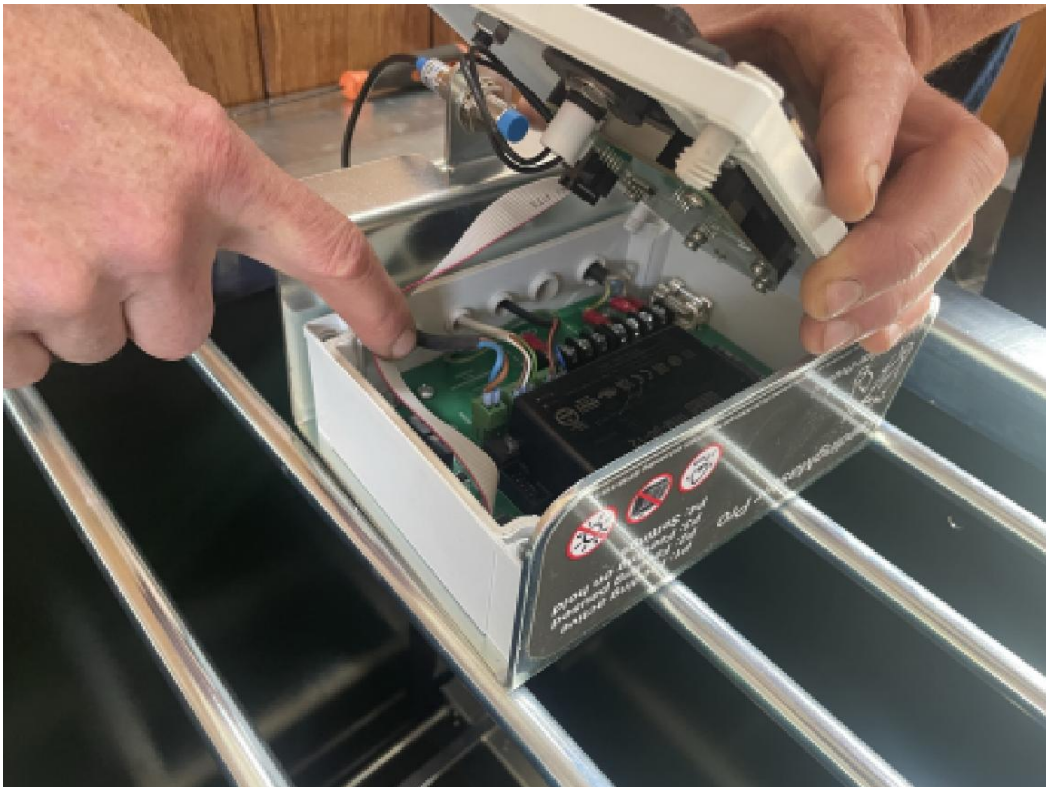
- [] Push the height sensor plug into the plug on the controller labeled "Level".



- [] Gently pull the cable of the height sensor out of the strain relief until it is as short as possible but not yet under tension. Tighten the strain relief of the height sensor fully by hand.



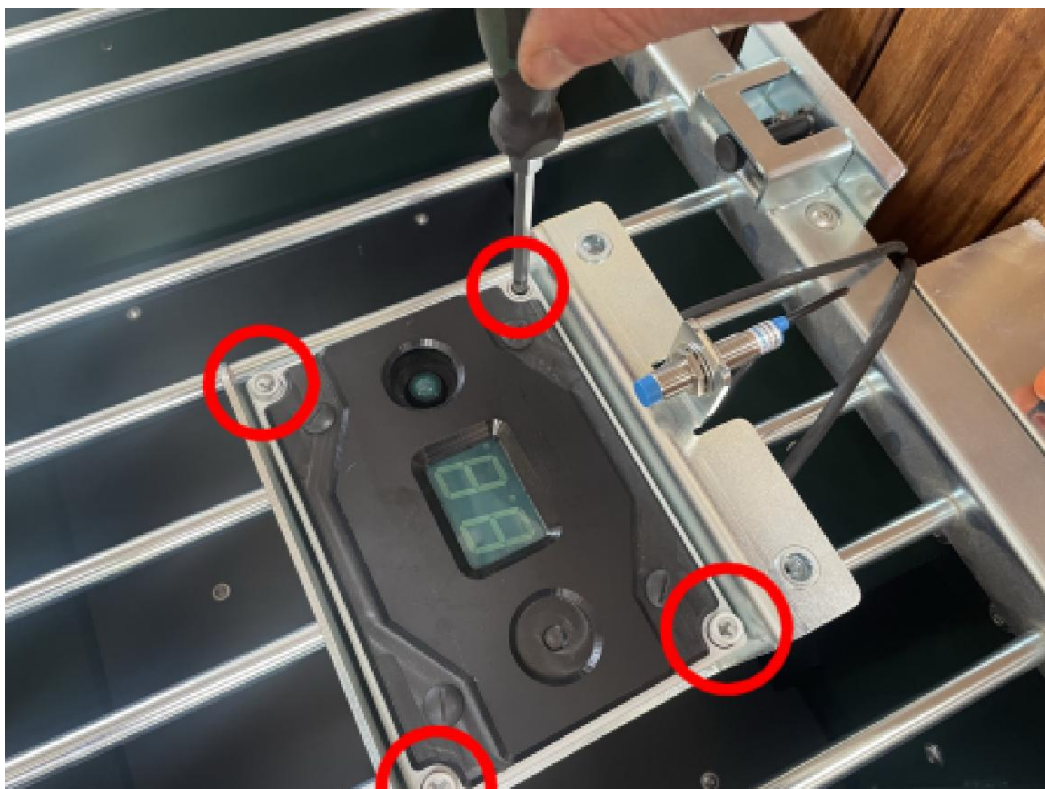
- [] Place the front of the housing above the housing. Carefully press the cable of the display into the corner of the housing.



- [] Place the front of the housing on the controller housing. Check that there are no wires between the parts and that the front of the housing rests neatly on the back of the housing.

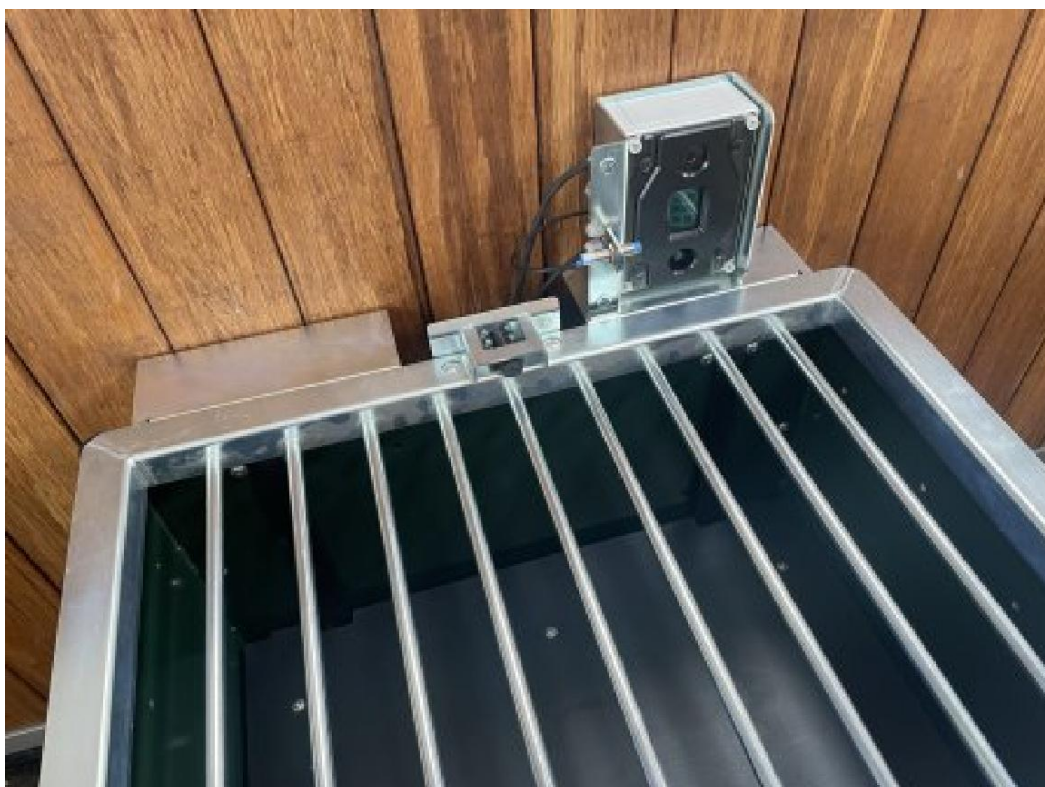


- [] Secure the front of the housing by finger-tightening the four nuts. Then tighten the nuts 1/8 turn of the screwdriver.



WARNING: If the nuts are tightened too hard, the silicone gasket between the front and back of the housing will be crushed and the two parts will no longer be watertight. Moisture can then condense in the housing, causing the controller to malfunction.

- [] Place the controller on the right mounting bracket.



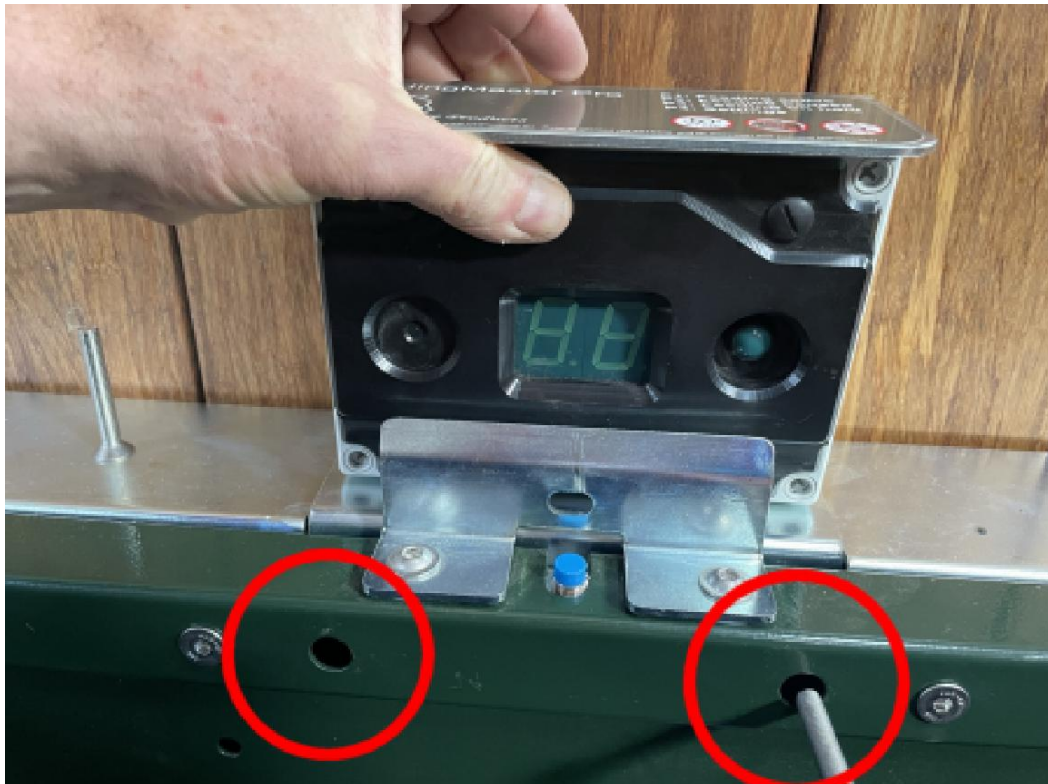
- [] Open the grid.



- [] Grab the control and tilt it forward. Lower the controller between the mounting brackets. Hook the grid sensor into the recess under the grid closure bracket.



- [] Tilt the controller back. Secure the controller with two M8x60 countersunk bolts.



- [] Slowly pull the wires of the motor and the height sensor as far as possible into the FeedingMaster Pro.



4. Calibrate

After replacing the height sensor, the feed floor must be calibrated. The calibration method depends on the software version.

4.1 Calibrating in software version 1.2

- [] The grid must be **open** before the FeedingMaster Pro is switched on. This ensures that the extra option in the settings menu becomes visible to recalibrate the FeedingMaster Pro. Switch on the FM by inserting the plug into the earthed socket. Wait for the FM to boot up and two dashes to appear on the display.



- [] Press the green control button and select program P4.



- [] Choose setting 6 to calibrate the FeedingMaster.



- [] After selecting S6, a 0 appears in the display. Change this to a 1 to confirm that the calibration routine should be started, then release the control button.



With

- [] C1 appears on the display to indicate that the lower feed floor position has been calibrated. Then close the grid.



- [] C2 appears on the display to indicate that the highest position of the feed floor is about to be calibrated. Wait until the feed floor has risen completely. After finding the highest position, the feed floor will lower a little bit.



If an error is found while executing the calibration routine, the routine will be stopped and the error message E6 will be shown on the display. This can be due to the following reasons:

- If C1 is not displayed, but E6 appears immediately, the grid is closed when selecting S6 in the settings menu. Make sure the grid is open before starting the calibration routine. It is also possible that the grid sensor is defective and gives a false message that the grid has been placed.
- If C1 is shown but immediately followed by E6 then the axis of the height sensor has been rotated too little or too much during mounting. Check that it has been completely turned back counterclockwise and then turned clockwise between a minimum of half and a maximum of a full turn for mounting on the drive shaft. It is also possible that the grid sensor gives false values if the wires in the plug have been reversed.
- If C2 is displayed but the feed floor is not pressed completely against the grid, after which E6 appears, it is possible that the motor has difficulty turning. Lubricate it as directed in the owner's manual.

4.2 Calibrate in software version 1.3 or higher

- [] The grid must be **closed** before switching on the FeedingMaster Pro. Turn on the FeedingMaster Pro by plugging it into a grounded outlet. Wait until the FeedingMaster Pro boots up and the active program is displayed. This will alternate with the error message E6 to indicate that the FeedingMaster Pro is not calibrated. Press the green control button and select program P4.



- [] Select setting 7 to calibrate the FeedingMaster Pro.



- [] CA will appear on the display to indicate that the bottom position has been calibrated and the feed floor will begin to rise. Wait until the feed floor has fully risen. After reaching the highest position, the feed floor will lower slightly.



If an error is detected during the calibration routine, the routine will be stopped and an error message will be displayed. This can be caused by the following:

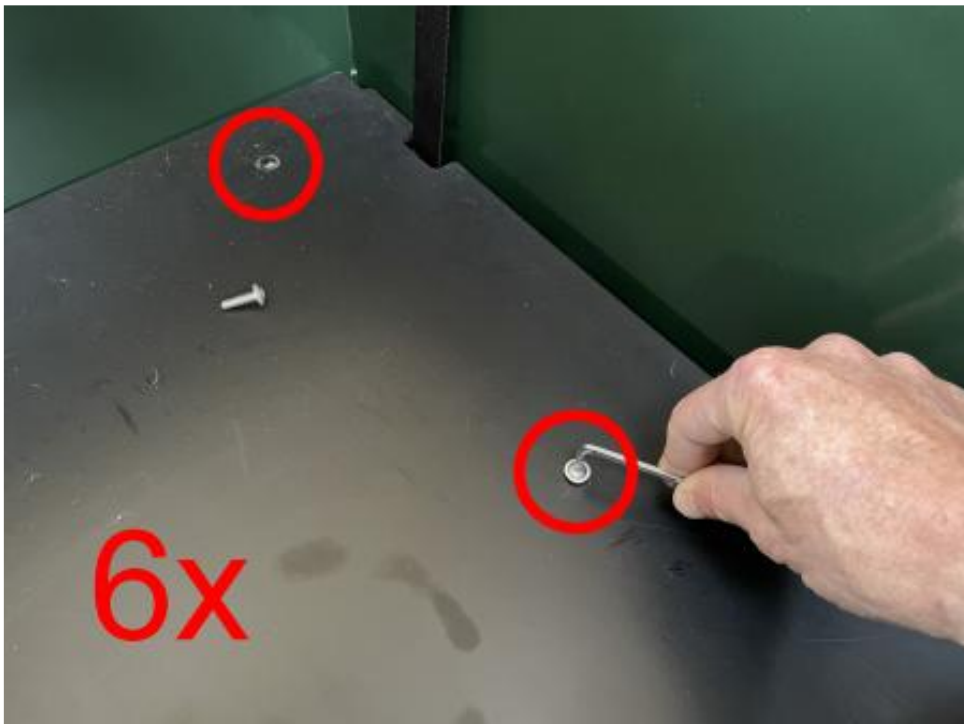
- E11, the grid is not closed when starting the calibration. Close the grid and restart the calibration.
- E12, the height sensor position is out of range. During installation of the height sensor, the sensor's shaft was rotated too little or too much. Check that it was fully turned counterclockwise and then rotated clockwise between a half and a full turn before mounting it on the drive shaft. The sensor may also provide false readings if the connecting wires in the connector are reversed.
- E13, the top position of the feed floor was not found.

5. Mounting the feed floor

- [] Open the grid. The feed floor drive mechanism will lower to the filling position. Wait until the mechanism stops moving. Place the feed floor on the drive mechanism. The dull side faces up, and the recesses on the front for the lifting belts are as close together as possible. There are recesses in the corners at the back for the bolts that attach the mounting brackets to the FeedingMaster Pro.



- [] Secure the feed bottom with six M6x20 flange bolts.



Your FeedingMaster Pro is now ready for use again.