

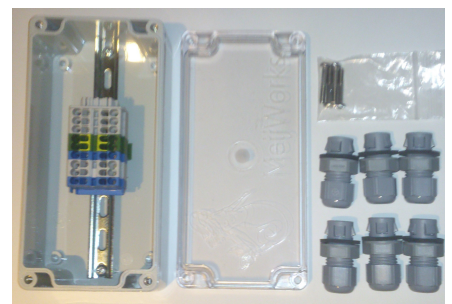
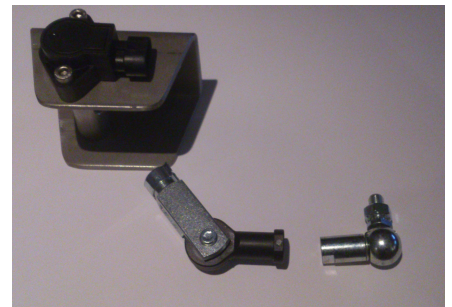


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## Installation manual for the MeijWorks ploughcontrol

### 1. Installation package

- Ploughcontrol (1x)
- Angular position sensor + bracket + linkages (1x)
- Sensor for detection of ploughside (1x)  
(shown with connector and cable)
- Waterproof connector box (1x)  
+ waterproof cable glands (6x)
- Cabling + connectors (6x)  
(solenoid cables in hydraulics picture)





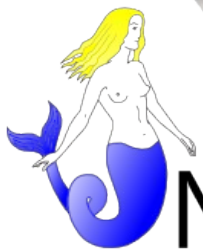
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## Installation manual for the MeijWorks ploughcontrol

### 1. Installation package

- Hydraulics unit(1x)  
(shown with connectors and cables)





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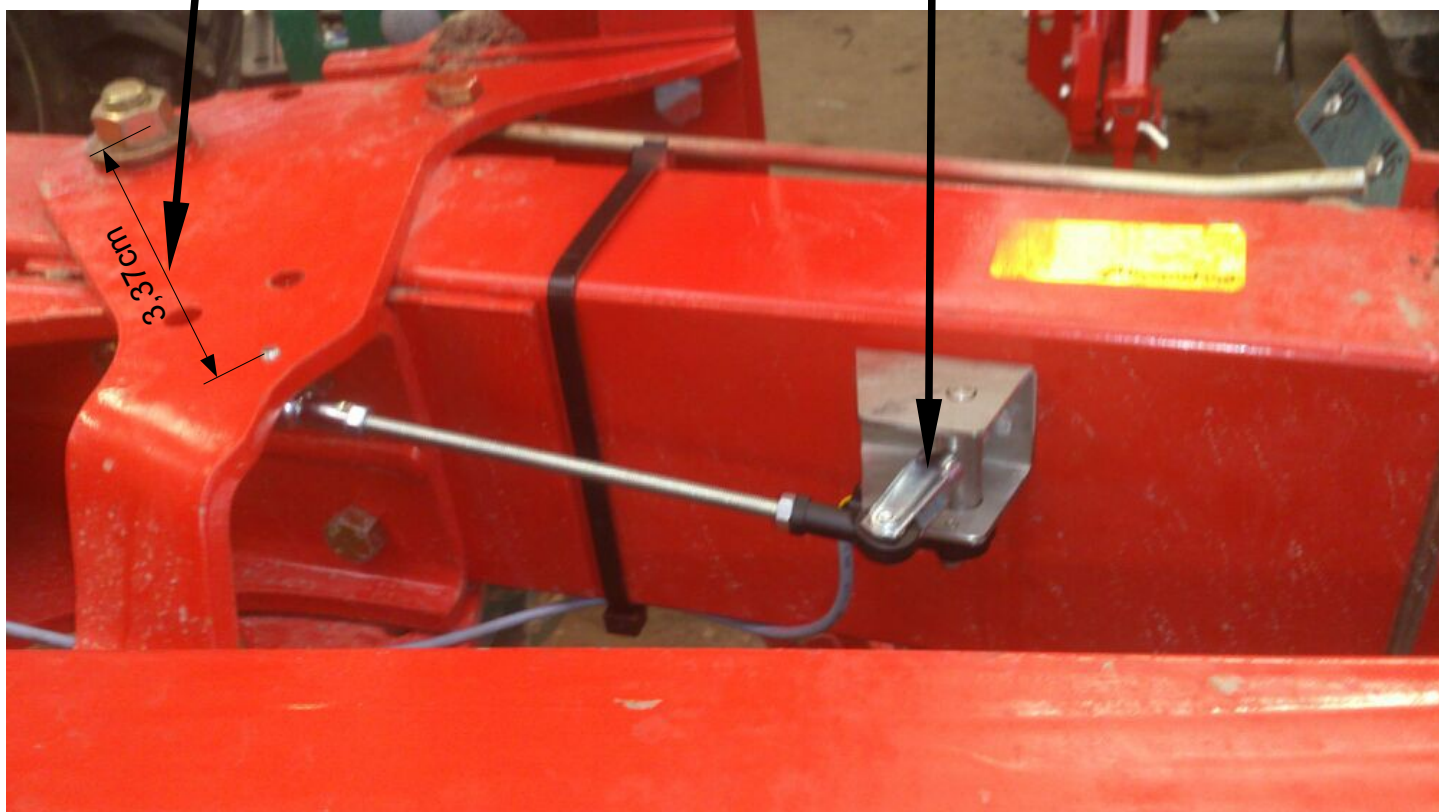
## Installation manual for the MeijWorks ploughcontrol

### 2. Mounting the angular position sensor

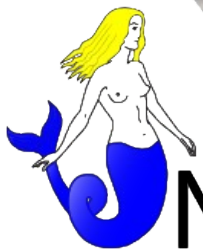
- Mount sensor bracket to the plough, preferably between the second and third share.
- Mount the linkage as shown in the image below, make sure the clevis has a short arm towards the sensor bracket (gives more angular motion).  
Also make sure the link to the second share is a good distance from the main beam.

Try to maximise this distance

Keep this link short







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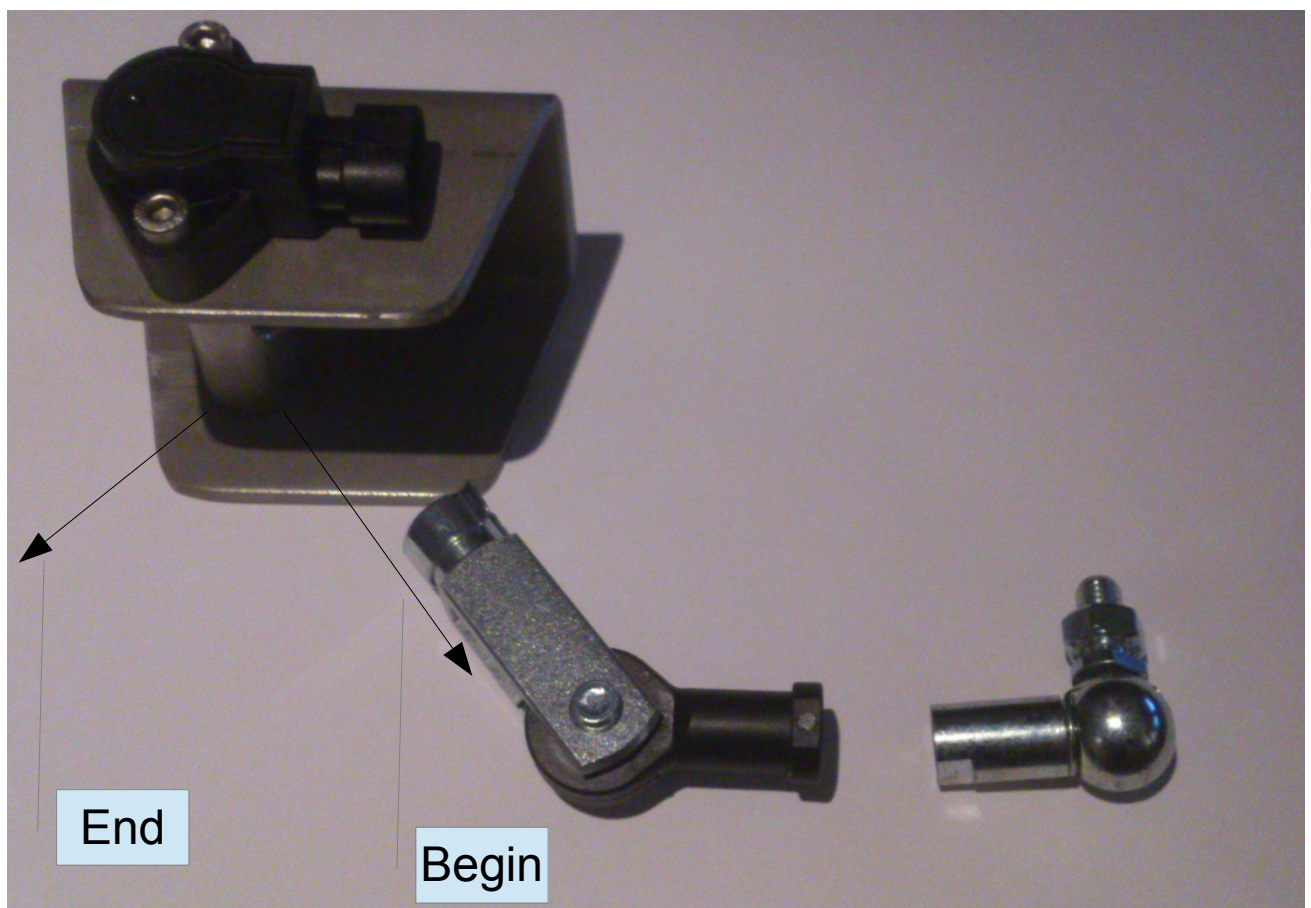
### 2. Mounting the angular position sensor

#### NOTES:

When adjusting the linkage for the sensor, keep in mind that the sensor has just a 90 degree measuring angle.

Starting from the initial position (when nothing attached, and the spring holds the shaft in place) to 90 degrees. Beyond that (till 120 degrees) the sensor does not function properly.

Make sure the mechanical travel does not go into this region, and also make sure the it cannot be forced beyond it's starting position, otherwise the sensor will be damaged.





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### 3. Mounting the position sensor

- Mount the position sensor to a bracket in a way that it can "see" the turnover cylinder of the plough.

Bracket for connector box  
and position sensor

Sensor detecting  
the turnover cylinder







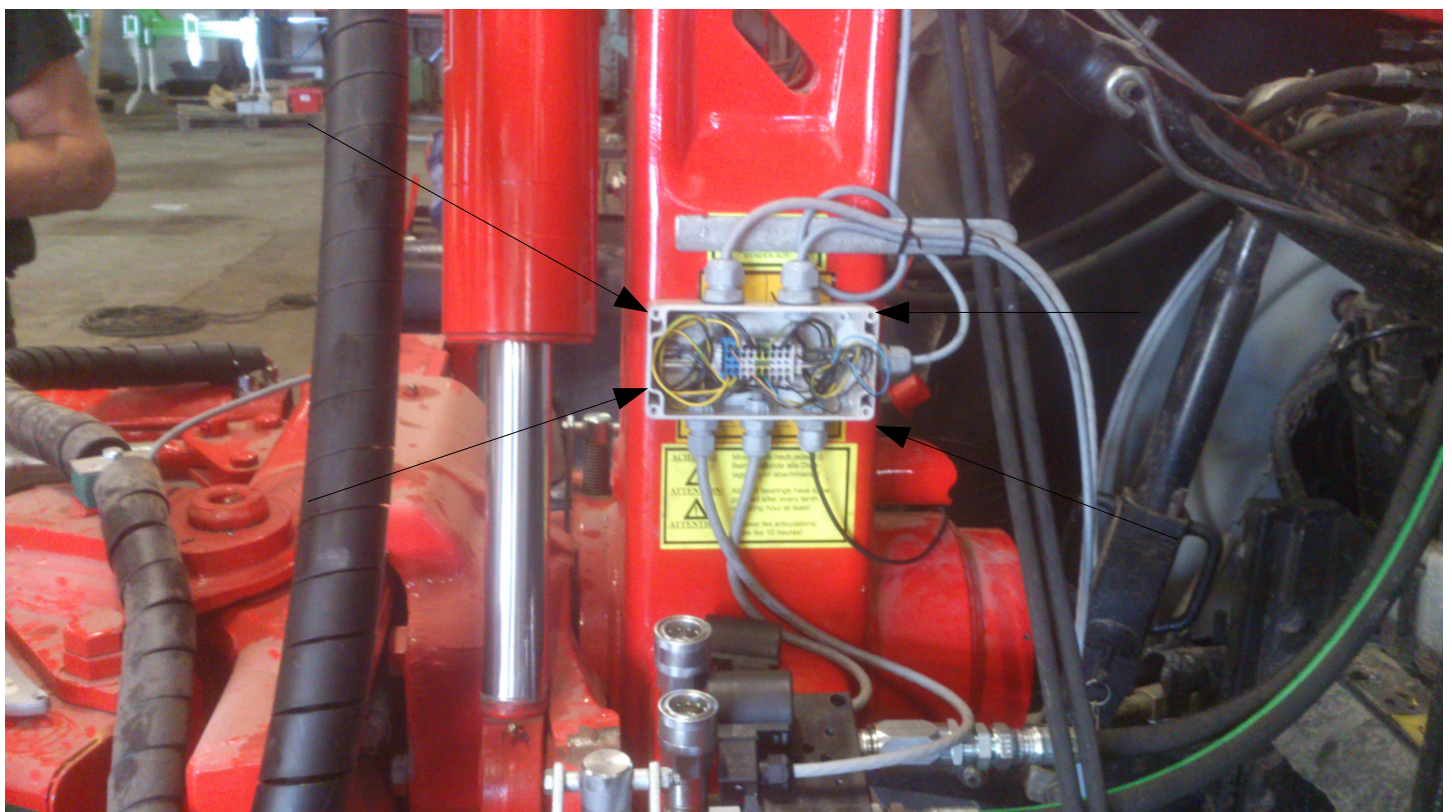
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### 4. Mounting the connector box

- Find a good spot to mount the connector box to (also keep in mind the hydraulics need some space as well).
- Drill holes in the frame of the plough (or weld a mounting bracket with holes in place).
- The box has 4 holes, outside the watertight compartment that can be used to bolt down the box.  
Use M4 allen key bolts (otherwise the heads will not fit).

For some examples, see the next page

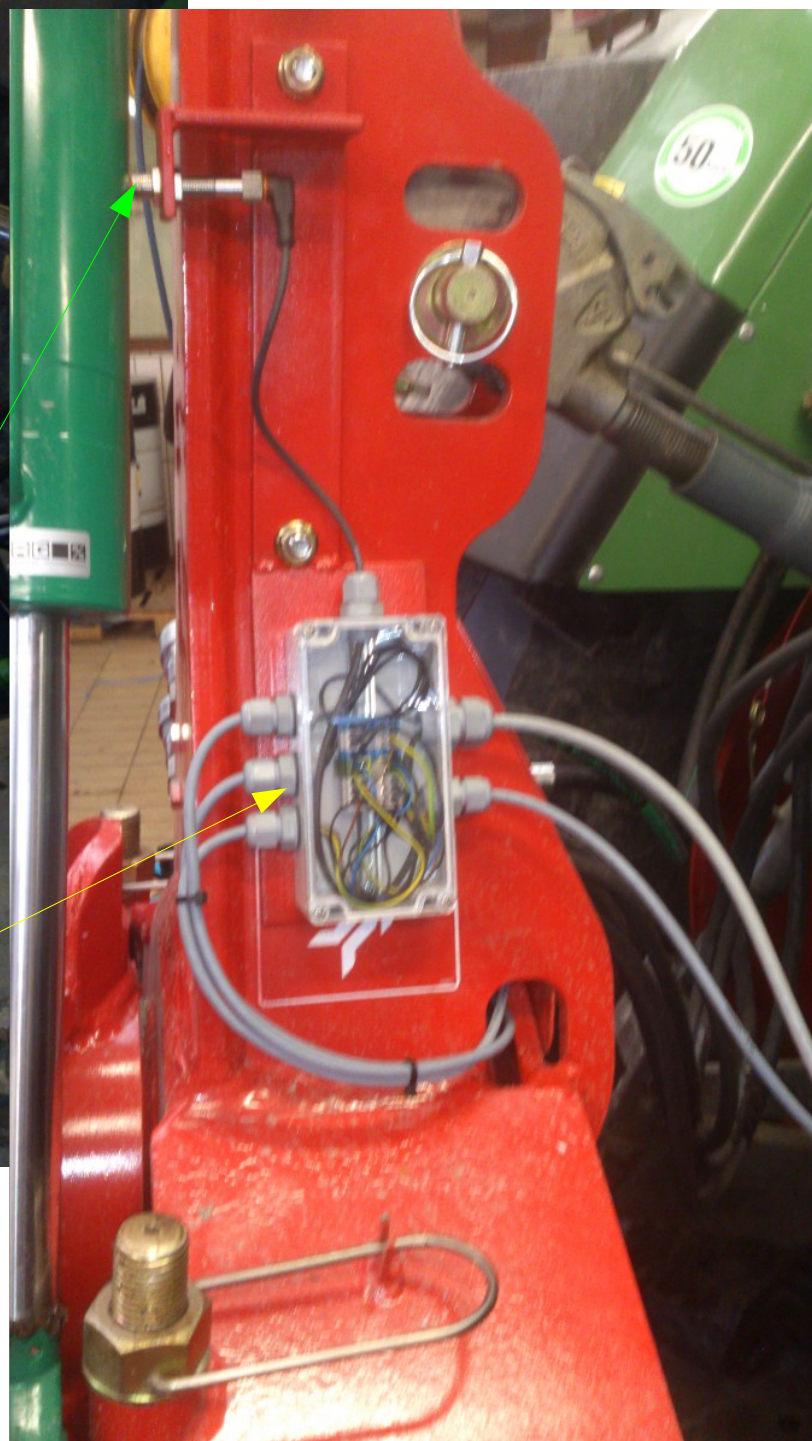






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Connector box

Position sensor

Solenoids





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### 5. Mounting the hydraulics

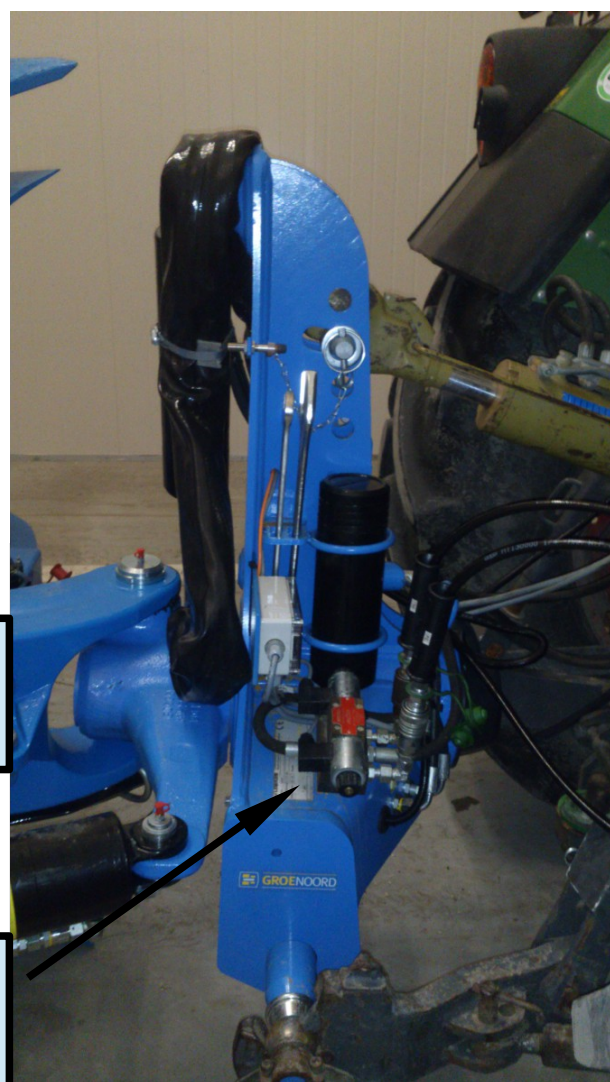
- Find a good spot to mount the hydraulics to.
- Drill holes in the frame of the plough (or weld a mounting bracket with holes in place).
- The box has 4 mounting holes, use M5 allen key bolts (otherwise the heads will not fit).
- Check all connections in the hydraulics system for tightness.



To tractor

To plough width adjust

Hydraulics







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### 6. Cabling

- Run the following cabling, and drill the appropriate holes for the cable glands in the connector box:
  1. From the tractor, 4 pole blue connector.  
To the connector box.  
This is the actuator cable.
  2. From the tractor, 7 pole blue connector.  
To the connector box.  
This is the sensor cable.
  3. From the angular sensor, 3 pole black and green connector.  
To the connector box.  
This is the angular sensor cable.
  4. From the position sensor, 4 pole connector on yellow cable.  
To the connector box.  
This is the position sensor cable.
  5. From the solenoids on the hydraulics unit, 2 pole connector.  
To the connector box.  
These are the solenoid cables (2x).

See next pages for examples.



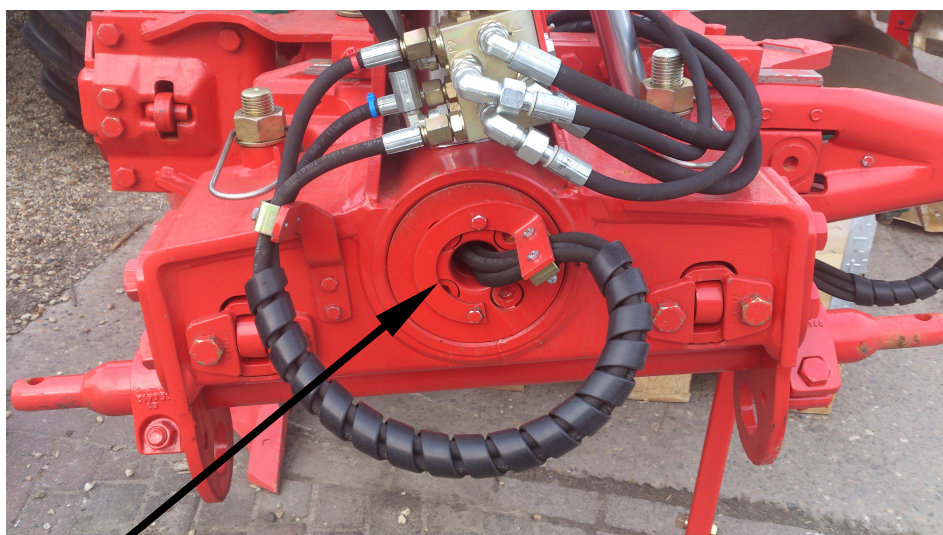
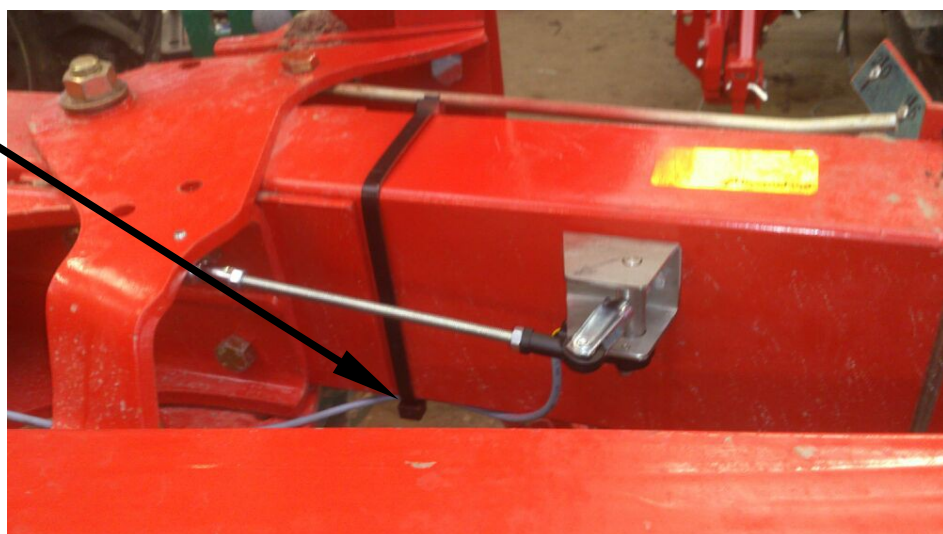
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Angular sensor cable:

- Run from sensor through the ploughframe.
- Make sure the cable cannot get damaged during turning of the plough.

From sensor



Try to put cable through here  
to prevent damage





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Position sensor cable

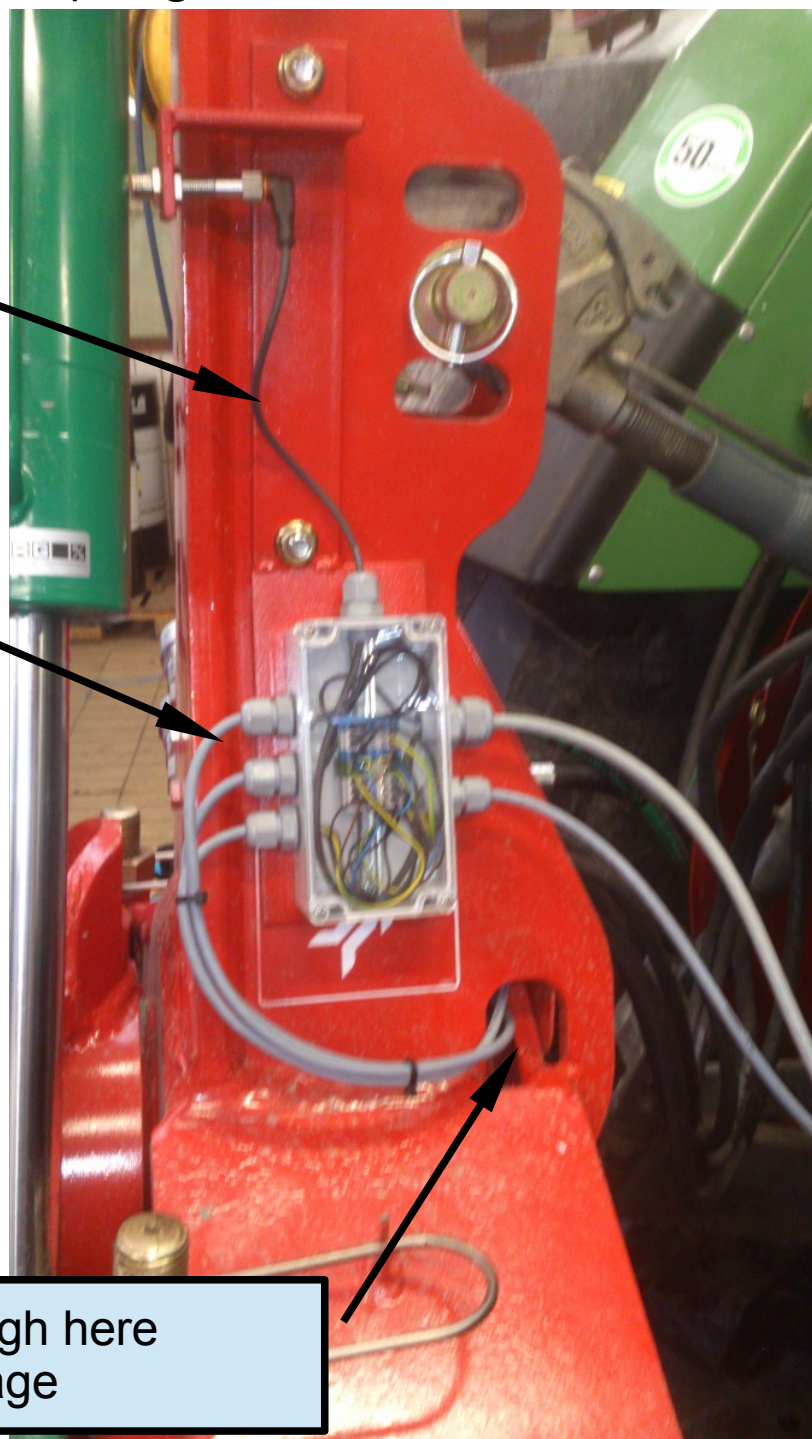
Solenoid cables:

- Run from sensor through the ploughframe.

From position  
sensor

To the hydraulics  
unit

Try to put cable through here  
to prevent damage



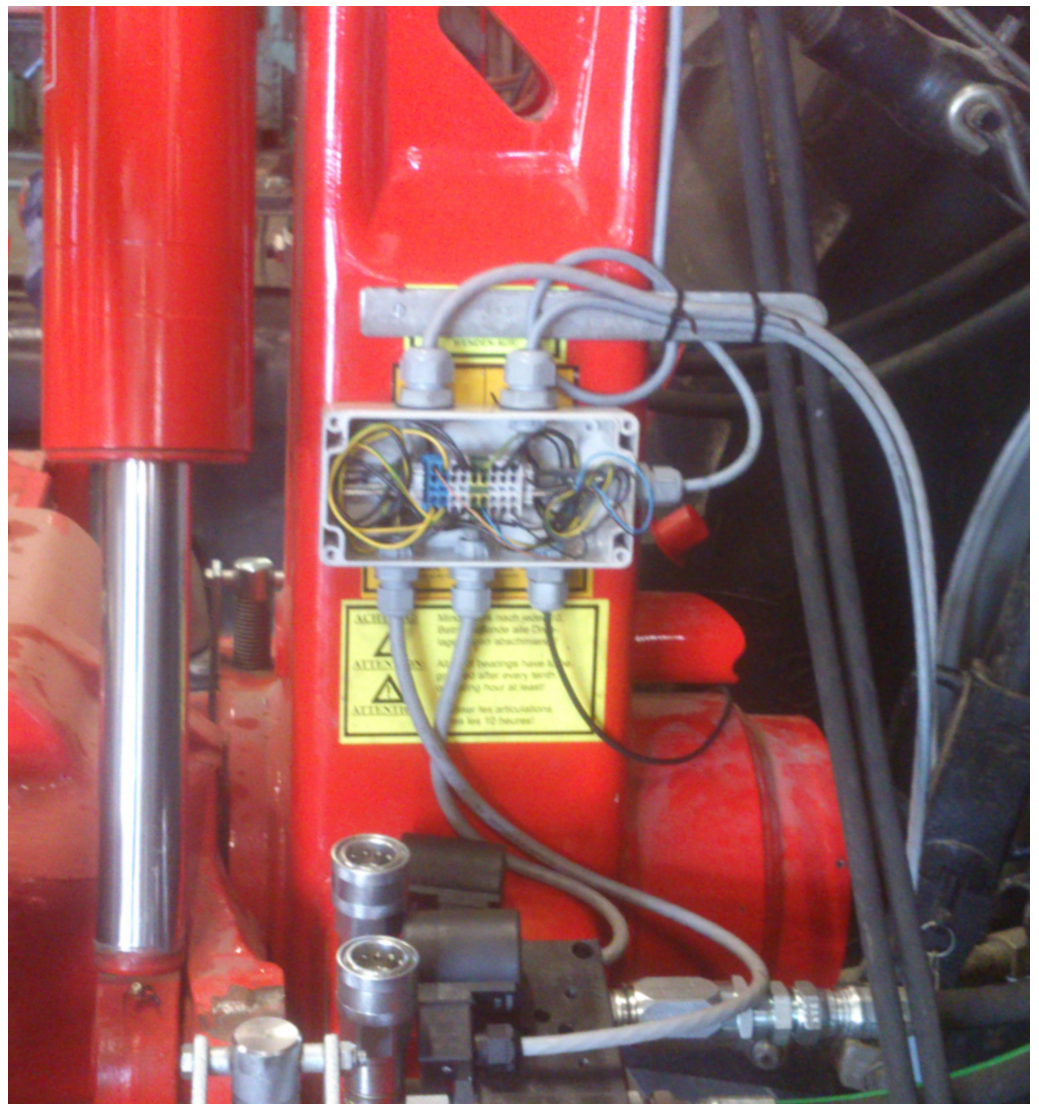


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### 7. Preparing the wires

- After the cables are in, it is time to connect all wires.
- First cut the wires in the connector box to length, about 15 cm.
- Strip the cable to separate wires, and strip each wire about 1 cm.
- Either apply solder to the wires, or use ferrules to terminate the wires.
- You should end up with something that looks like the picture below.





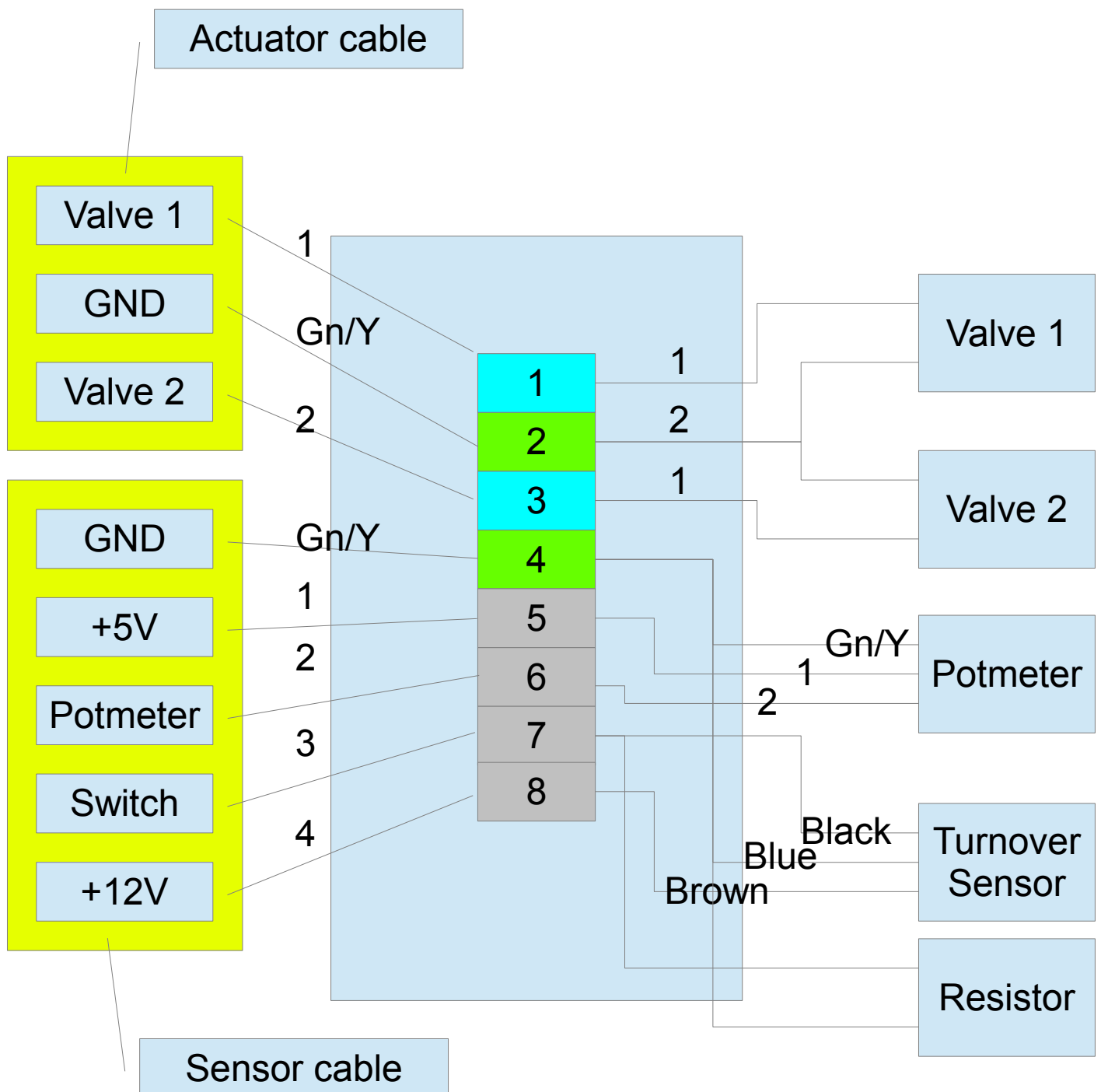


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### 8. Connecting the wires

- Connect the resistor between GND and the turnover sensor output
- Connect the other wires according to schematic below:





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### 9. Testing the installation

- Now that all wires are installed, connect the ploughcontrol unit to the sensor and actuator cables in the cabin of the tractor.
- Connect the ploughcontrol to the 7 pole ISO connector in the cabin.
- **Do not attach the serial cable from the GPS at this moment.**
- Turn on the ignition in order to power up the unit.

Using a multimeter, check the following:

- +5 V between green/yellow terminal (4) and terminal 5.
- +12 V between green/yellow terminal (4) and terminal 8.
- A value between +5 V and GND between the green/yellow terminal (4) and terminal 6.

This value should change when the width sensor is moved, check with multimeter.

If not check if pole C from the sensor is connected to +5 V (measure between pole A and C on the connector = +5V)

- A value between +12 V and GND between the green/yellow terminal (4) and terminal 7.

This value should change when the plough is rotated, check with multimeter.

If not check brown wire from the sensor is connected to +12 V (measure between brown and blue wires = +12V)

- +12 V between green/yellow terminal (4) and terminal 1, 2 and 3.

When all correct, proceed to the next step.

If not all of these steps produce the right result, please check the cabling and make sure the ignition is turned on.





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## **Installation manual for the MeijWorks ploughcontrol**

### 10. Commissioning the installation

If previous tests are successful, proceed to the calibration step.

This step can be found in the user manual, and is not described in this manual.