



# SOWING MACHINE

## ZM

### USER MANUAL



**P. de Heus en Zonen Greup B.V.**  
Stougjesdijk 153  
3271 KB Mijnsheerenland  
The Netherlands  
Tel: +31 (0) 18 66 12 333  
E-mail: [info@boxeragri.nl](mailto:info@boxeragri.nl)



**EN | ENGLISH**

**TRANSLATION OF THE ORIGINAL MANUAL**

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# 1. SAFETY INSTRUCTIONS

- Only use the machine for the purpose for which it was designed.
- Carefully follow all safety instructions of this manual and the instructions that are specified on the machine.
- The machine may only be operated by experienced and cautious persons who are familiar with the machine.
- Take care and take all precautions with regard to safety.
- Make sure that all safety and protection facilities have always been installed in the intended places.
- Make sure you are not within reach of moving parts.
- Make sure that the motor, power take-off (PTO) drive shaft and moving parts are not moving before adjusting, cleaning or lubricating the machine.
- Make sure that all moving parts are not moving and the machine is on the ground before filling the sowing machine (i.e. the seed drill).
- Make sure that there are no people in the danger zone and be absolutely convinced that all people remain at a safe distance while working with the machine. Additional attention must be paid to this when working next to a road and/or near sports fields, etc.
- Follow the instructions that apply when using the public roads to transport the machine.
- Use, if required, flashing lights and/or other safety signs.
- Nobody must be on the machine.
- Only use original Boxer parts.
- Remove the pressure from hydraulic systems before performing work on them and/or before connecting or disconnecting hydraulic lines.
- Clean warning decals regularly, so that you can always read them properly.

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## 2. MACHINE DESCRIPTION

The sowing combination consists of a power harrow with, on top, an installed seed storage tank. The power harrow is hitched behind the tractor and driven by the PTO.

The seed storage tank/machine is driven by a roller that will start to rotate when the machine starts to move. A distribution roller is driven in the sowing machine that distributes the seeds over the slots in the seed storage tank. A lever sets the opening of these slots and calibrates the seed flow.

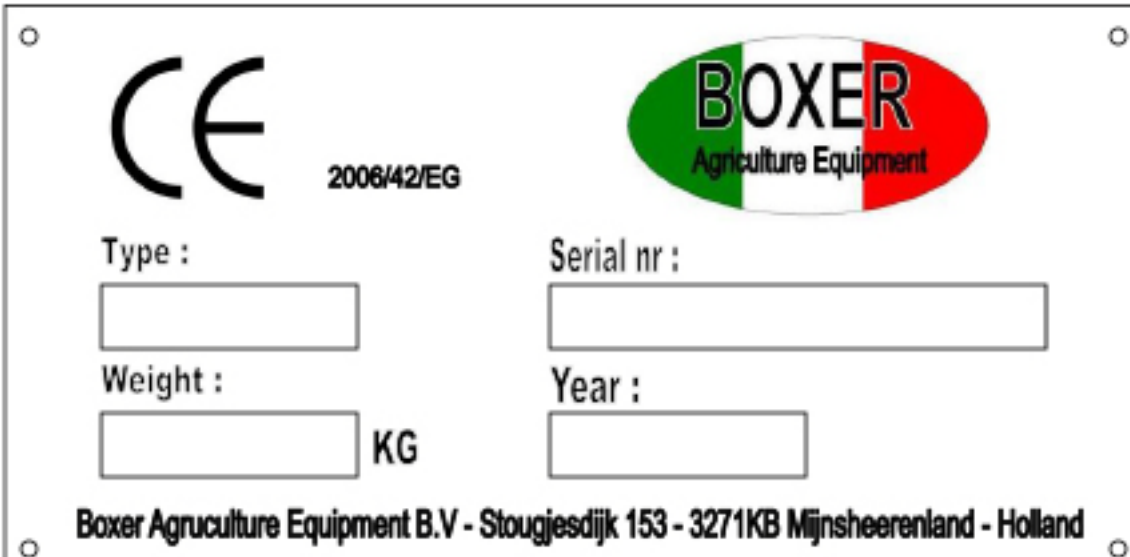
### Identification of the machine

Every machine leaves the factory with a machine nameplate (see the figure below). The nameplate can be found on the machine's frame.

The following data can be found on the machine nameplate:

- A. Type (specification of the model)
- B. Serial no. (production number)
- C. Weight (total machine weight)
- D. Year (year of manufacture)

This data must always be specified when the machine is to be serviced or when parts are ordered.



The image shows a rectangular machine nameplate with a black border. In the top left corner is the CE mark, and to its right is the text '2006/42/EG'. In the top right corner is the 'BOXER Agriculture Equipment' logo, which consists of a green and red oval with the word 'BOXER' in white and 'Agriculture Equipment' in black below it. The nameplate contains four input fields for identification data: 'Type :', 'Serial nr :', 'Weight :', and 'Year :'. Each label is followed by a rectangular box for the user to enter the information. The 'Weight' field is followed by the text 'KG'. At the bottom of the nameplate, the text 'Boxer Agruculture Equipment B.V - Stougjesdijk 153 - 3271KB Mijnsheerenland - Holland' is printed.

Type :	Serial nr :
<input type="text"/>	<input type="text"/>
Weight :	Year :
<input type="text"/> KG	<input type="text"/>

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## 3. ADJUSTING THE MACHINE

### **Working depth**

Lift the machine so that the pressure roller is not in contact with the ground. By twisting the threaded spindles, the height of the pressure roller can be set. You can determine the working depth of the machine by doing this.

### **Guide plate**

The guide plate can be set in the vertical direction. Install the plate in such a way that it cuts 5 cm into the ground at most.

### **Rotor speed**

The soil condition, required crumbling and operating speed are the determining factors for the rotor speed that you need to use. The rotor speed is determined by the PTO speed. The speed range for the machine is a minimum/maximum of 540/750 rpm.

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## 4. USE OF THE MACHINE

### 4.1 Adjusting the quantity of seed per m<sup>2</sup>

By using the table that is affixed on to the sowing machine, you can adjust the estimated seed quantity per m<sup>2</sup> (see figure A below).



*Figure A*

Use the lever (see below) to increase or decrease the quantity.



*Figure B*

In view of the different seed qualities, we recommend performing a sowing test and to subsequently weigh the seed quantity to set the exact quantity.

## 4.2 Sowing test

- Load the hopper, lift the machine and fix it using the blocks so that the roller can rotate freely.
- Position a piece of canvas/cloth under the machine, rotate the roller ten times and allow the seeds to fall on the canvas/cloth.
- Collect the seeds that are on the canvas and weigh them.
- Divide the weight by the number indicated in this table. The result is the exact quantity per m<sup>2</sup>.

Machine type	Calculation
ZM 145	16.1
ZM 165	18.4
ZM 180	20.7
ZM 200	23.0

The calculation of the set number was carried out by using a standard roller.

When the machine is transported, when returning for a further run or when raising during sowing, we recommend closing the slots by using the special lever; simply inserting a pin in a hole in the crescent will make sure that the selected point is remembered (Figure A).

### Most frequent faults

Fault	Cause	Solution/repair
The seed does not fall.	The screw feed is not rotating.	Reconnect the machine.
	The slots are closed.	Open the slots using the special lever.
	The hopper is empty.	Fill the hopper.
	A tunnel has been formed at the bottom of the hopper.	Check whether the seed is too wet, which means that it cannot flow. Try to dry the seeds.



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## 4.3 Transport

The sowing machine can be transported in the lifting direction of the tractor.

- Bear in mind the legally allowed maximum transport width when transporting it on public roads.
- Affix and install all legally prescribed lighting and warning signs.
- Make sure that there is sufficient front axle pressure when transporting it on public roads (if required, install front weights) and that the maximum permitted rear axle pressure is not exceeded.

## 4.4 Uncoupling the tractor

- Put the track eradicators up (if present) and position the machine on a hard surface.
- Turn off the tractor motor and remove the PTO shaft from the tractor's PTO.
- Remove the top rod from the machine.
- Uncouple the machine's lifting arms.

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## 5. MAINTENANCE

Good maintenance to the machine is required to ensure it continues to be reliable and safe when used.

### **Maintenance after use**

- Thoroughly clean the machine.
- Lubricate the machine using an anti-rust product.

### **Lubrication**

- Lubricate the PTO shaft every eight (8) working hours at the lubrication nipples on the cross pieces and the protective pipes.
- Grease the monitoring tube of the PTO shaft every eight (8) working hours.
- Grease the protective pipes of the coupling pipes when the machine is used during a frost to prevent freezing.
- Lubricate all other hinge points every forty (40) working hours with grease or oil.

### **REGULAR MAINTENANCE**

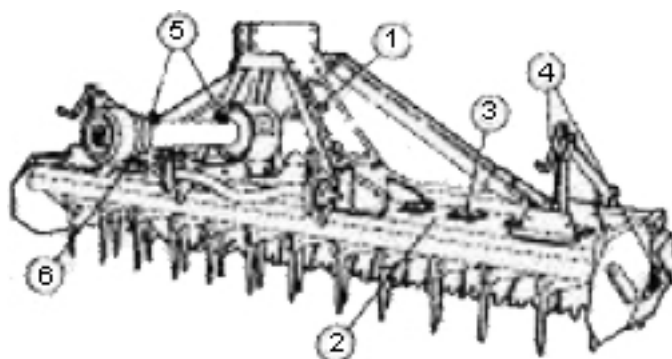
Regular maintenance must be carried out at the following times:

- When the season starts.
- If the machine is not to be used for a longer period of time.
- During the season when the machine is used very intensively.

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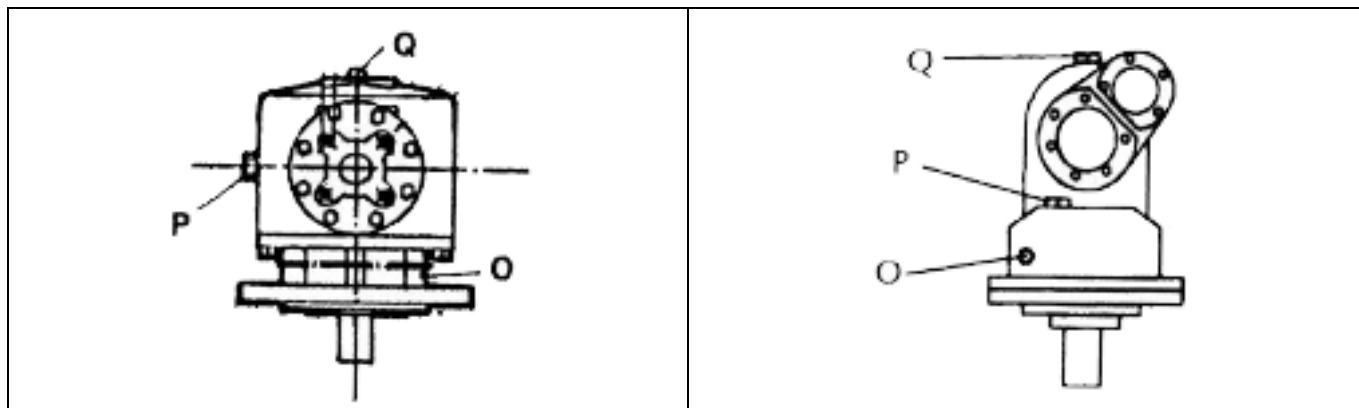
### Lubrication points

- Lubricate the machine at all points that are indicated in the drawing below.
- Lubricate the pressure spindles of the PTO shaft's yoke locking using grease.
- Check whether the PTO shaft can be slid in and out easily.
- A damaged PTO shaft may cause excessive wear to the machine or tractor.
- Check whether all bolts and nuts have been tightened properly.
- Check whether all tines have been fixed properly.
- Check the machine for damage and defects.
- Check the oil level in the gearbox.
- Check whether the vent of the gearbox is clean. Leaks may occur because of pressure building up in the gearbox.



### Top up the gearbox oil

Top up the oil of a new machine (or after installing a new gearbox) for the first time after fifty (50) hours and then every four hundred (400) hours or once a year.

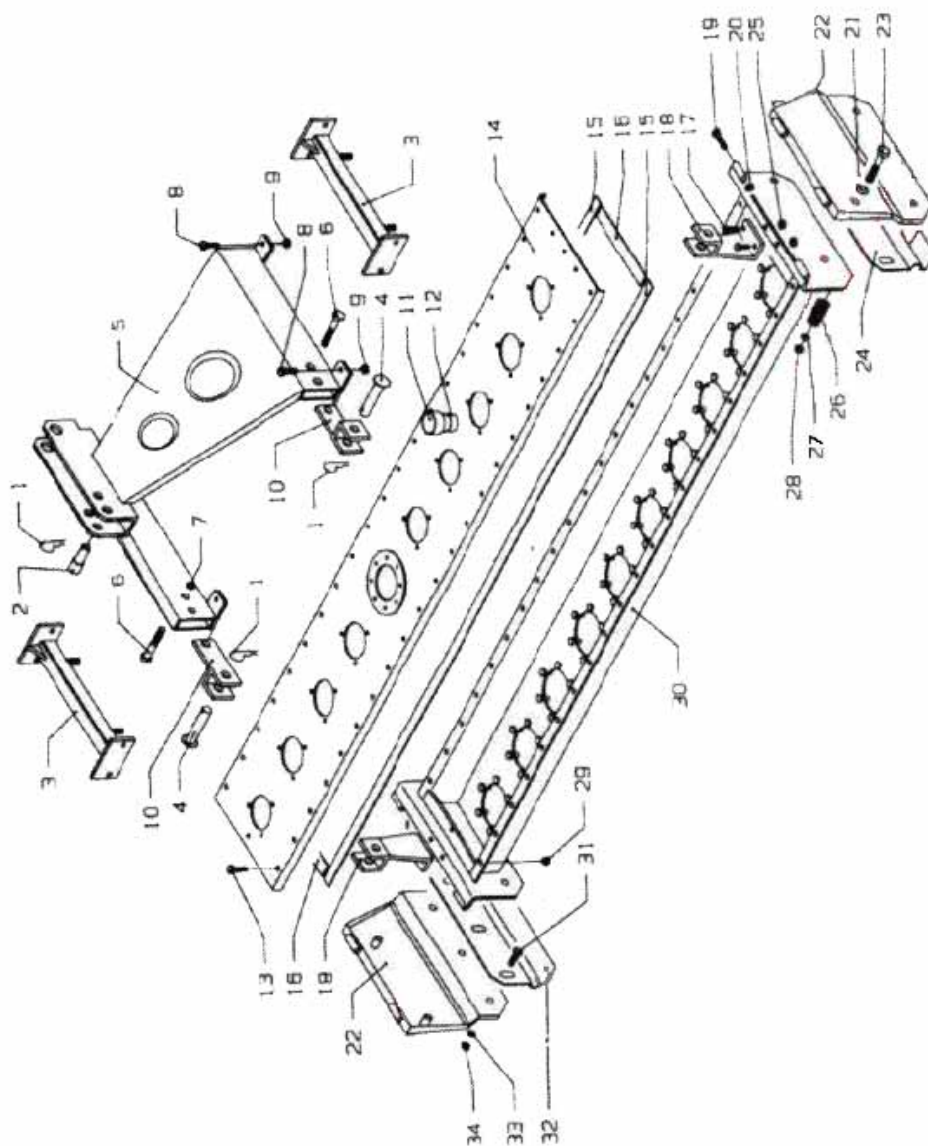


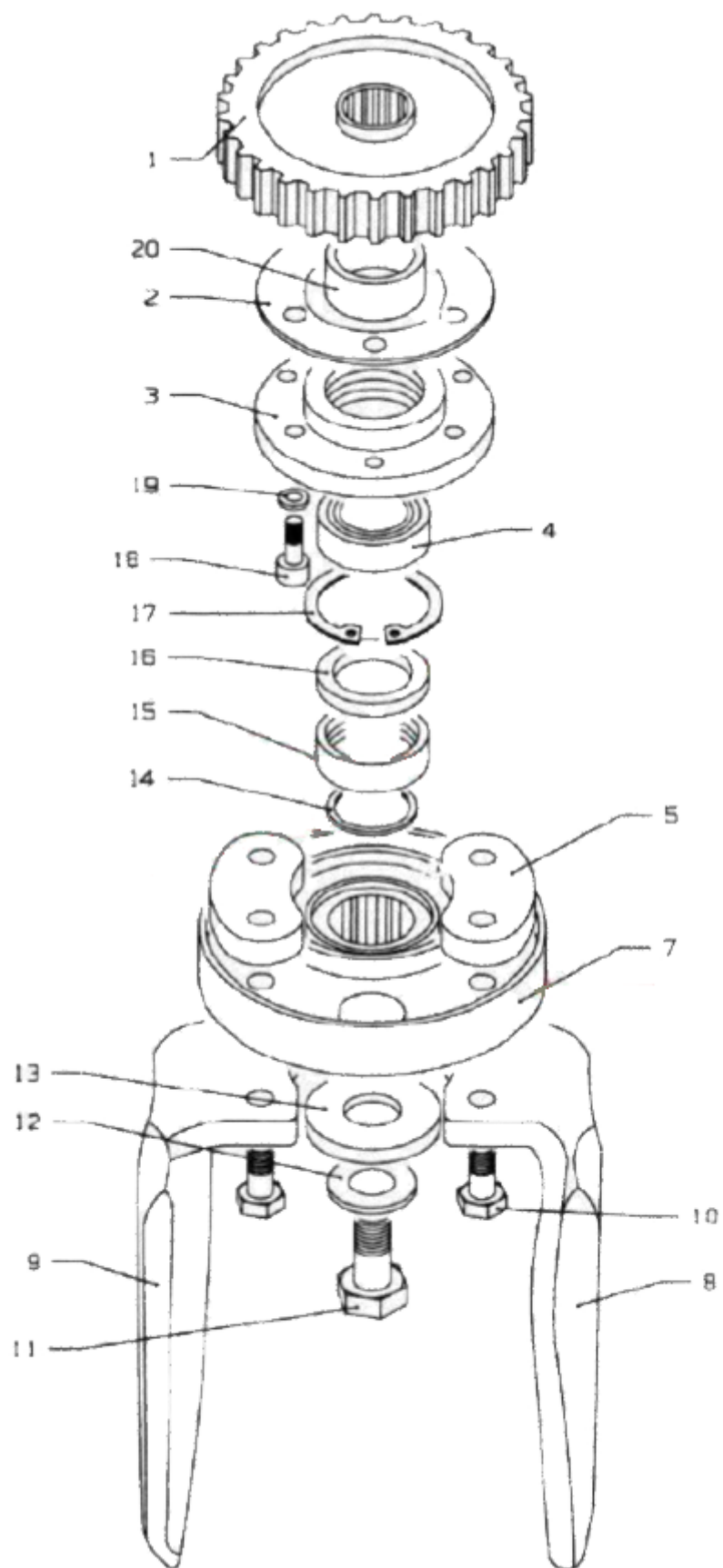
- Tip the machine slightly forwards.
- Position the drip tray in front of the gearbox.
- Turn and remove the draining plug (O) from the gearbox.
- Fill the gearbox with the prescribed oil up to the correct level.

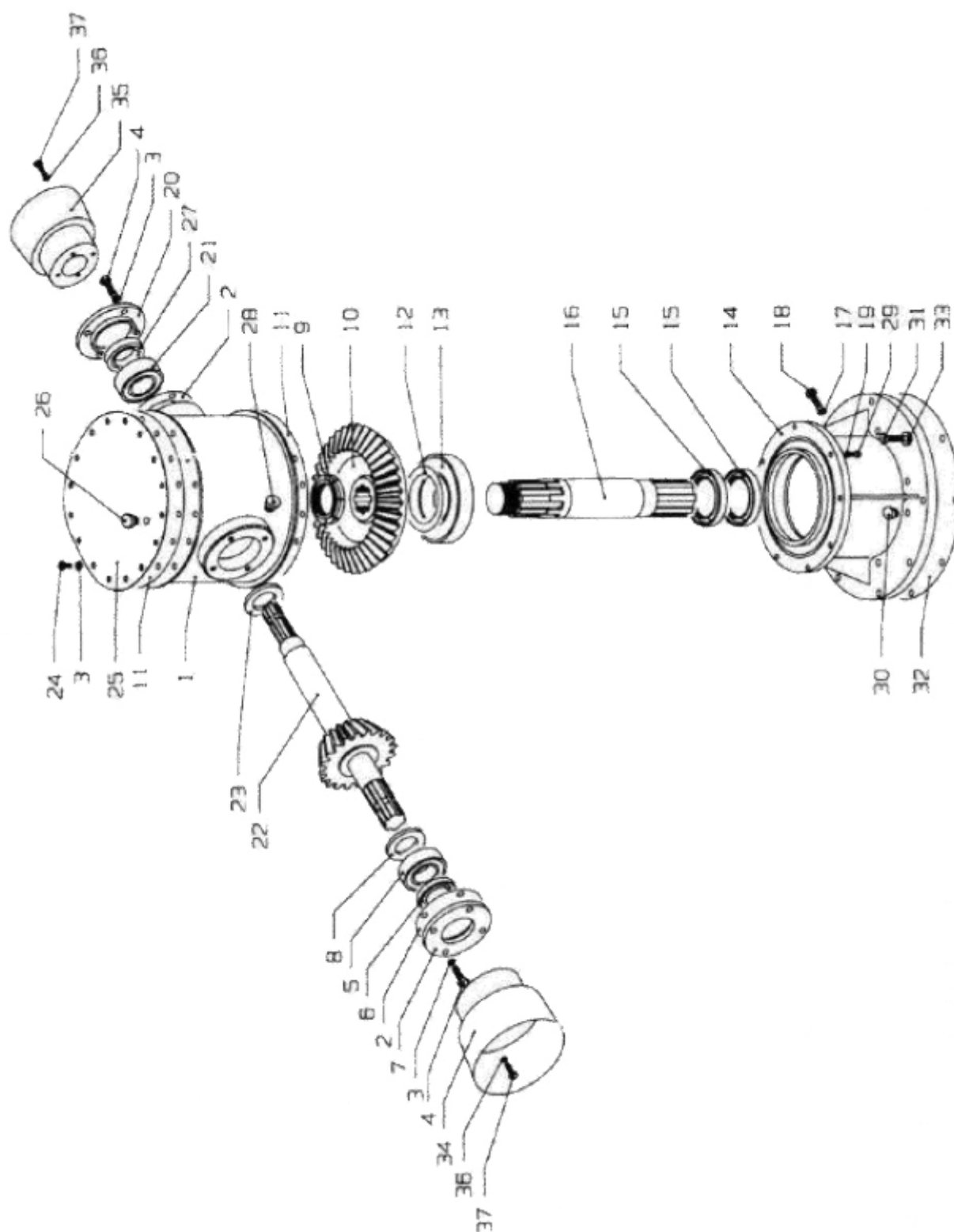
Only top up with the following oil: **Q8 T55-85 W**

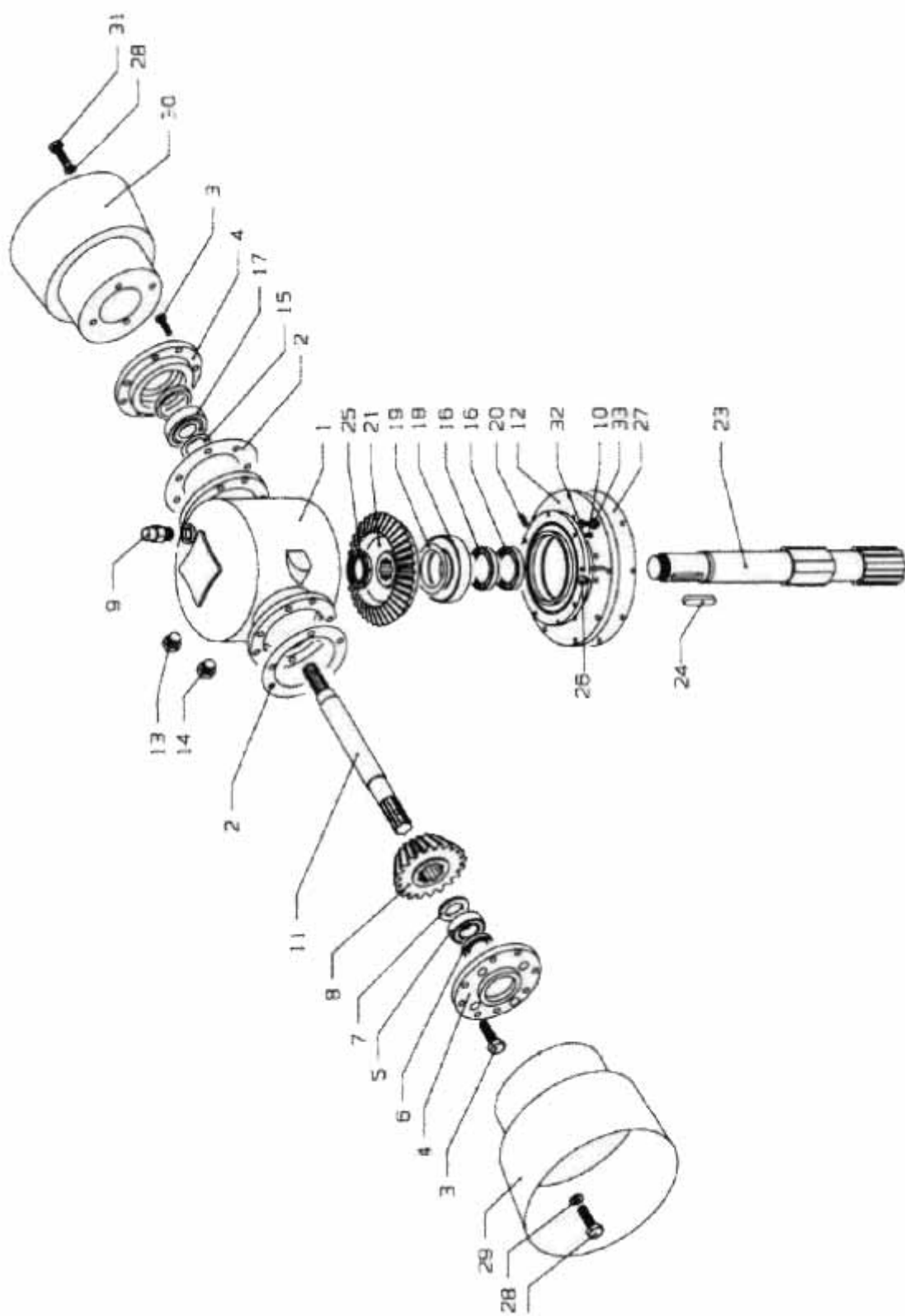
The main frame is filled with: **Q8 GOYA 460 OIL**

## 6. PARTS DRAWINGS

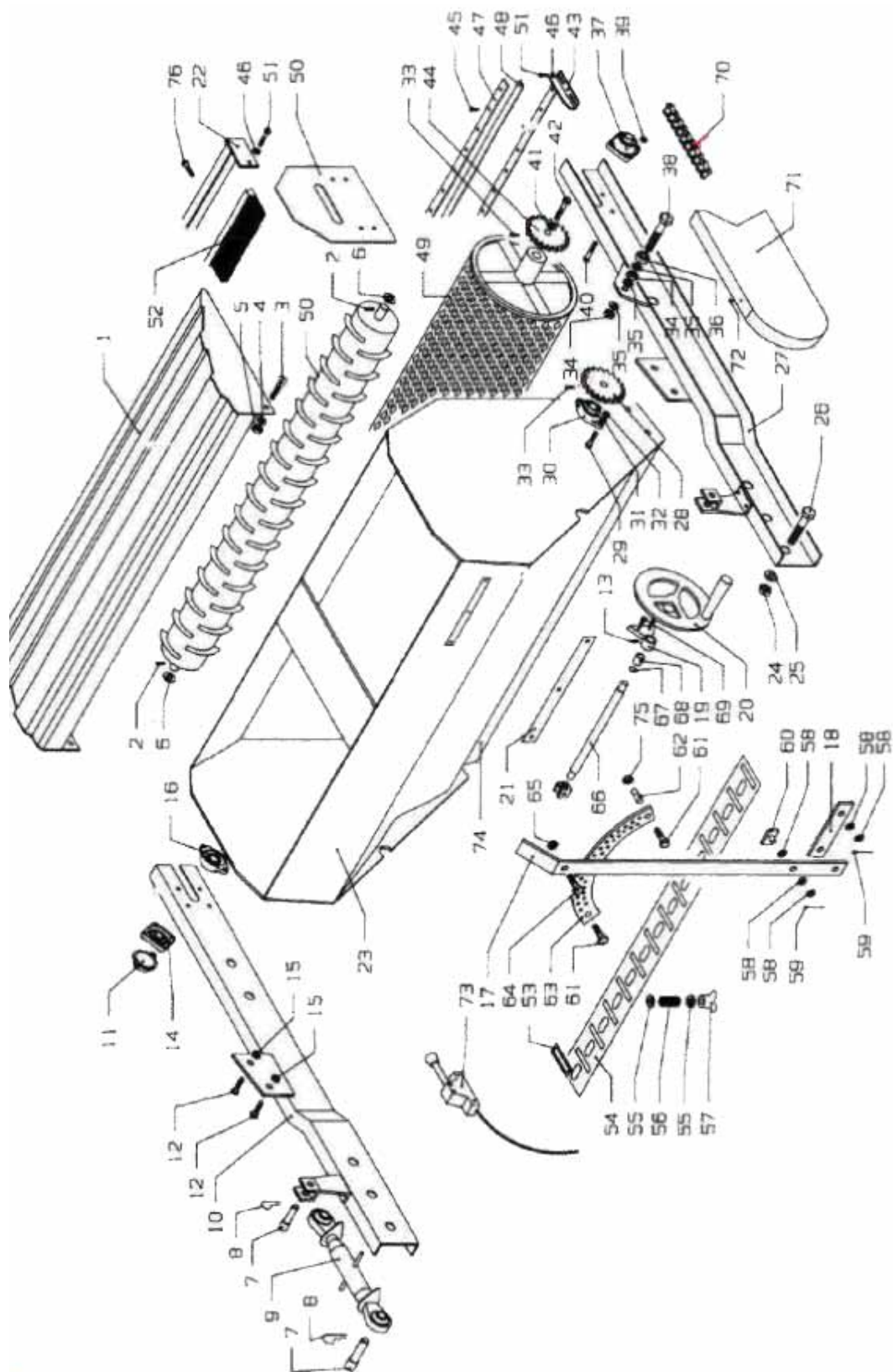


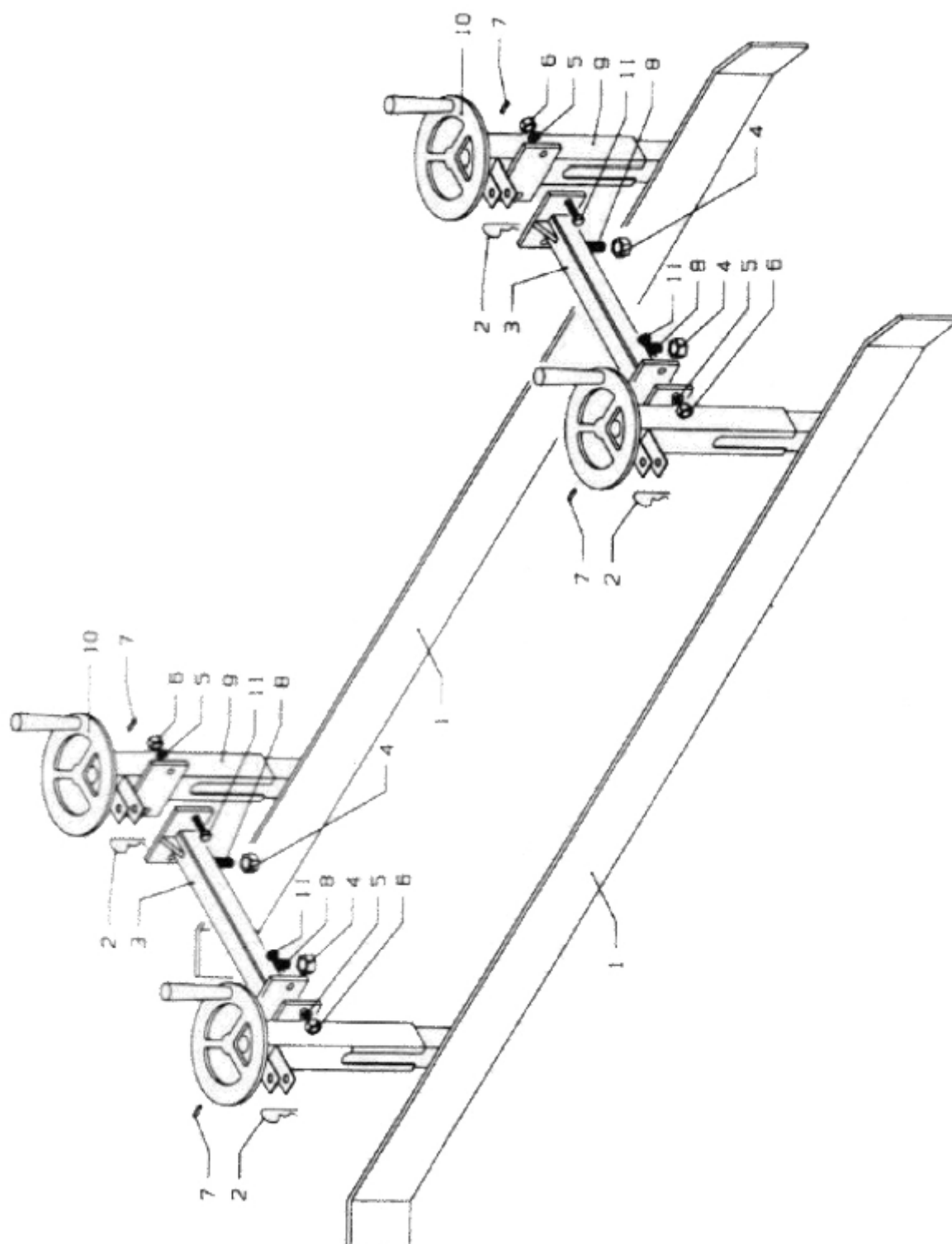












## 7. CE DECLARATION OF CONFORMITY



**Boxer Agriculture Equipment B.V.**

*A member of de Heus group*

Stougjesdijk 153 – 3271KB Mijnsheerenland – Holland

Tel: +31 186 612 333

e-mail : [info@boxeragri.nl](mailto:info@boxeragri.nl)



**EG Conformiteitsverklaring**  
*Volgens machinerichtlijn 2006/42/CE*



**Konformitätserklärung**  
*Entsprechend der Richtlinie 2006/42/CE*



**EEC Declaration of Conformity**  
*Conforming to the Directive 2006/42/CE*



**Déclaration CE de Conformité**  
*Conforme à la directive de la 2006/42/CE*

Wij – Wir – We – Nous :

**Boxer Agriculture Equipment B.V.**

**Stougjesdijk 153**

**3271KB Mijnsheerenland – Holland**

Verklaren onder eigen verantwoording dat de machine:

Erklaren in alleiniger Verantwortung, daß die machine:

Declare under our own responsibility that the product:

Déclarons sous notre seule responsabilité que le produit:

**Machine :** Zaaicombinatie , Säkombination , Seedingmachine ,  
combination de Semis

**Type/model :** ZM

**Serienummer / Chassis number :**

**Bouwjaar / Baujahr / Year / Année :**

- De machine in de verklaring voldoet aan de fundamentele veiligheids- en gezondheidseisen die zijn vastgelegd in de richtlijn van 2006/42 / EG en ter verificatie zijn geraadpleegd UNI:EN ISO 12100:2010, EN ISO 4254-1:2015 , EN ISO 4254-5:2010 , UNI 10758:1998

-Auf dass sich diese Erklärung bezieht, den einschlägigen grundlegenden Sicherheit und Gesundheitsanforderungen EG-Richtlinie 2006/42/CE, UNI:EN ISO 12100:2010, EN ISO 4254-1:2015 , EN ISO 4254-5:2010 , UNI 10758:1998

-To which this certificate applies, conforms to the basic safety and health requirements of EEC Directives 2006/42/CE and following , we have consulted UNI:EN ISO 12100:2010, EN ISO 4254-1:2015 , EN ISO 4254-5:2010 , UNI 10758:1998

-Faisant l'objet de la déclaration est conforme aux prescriptions fondamentales en matière de sécurité et de santé stipulées dans la Directive de la 2006/42/CE et consultées pour vérification UNI:EN ISO 12100:2010, EN ISO 4254-1:2015 , EN ISO 4254-5:2010 , UNI 10758:1998

**Mijnsheerenland , 19/08/2019**

**De gevolmachtigde:**

Der Bevollmächtigte:

The legal representative :

Le représentant légal:

