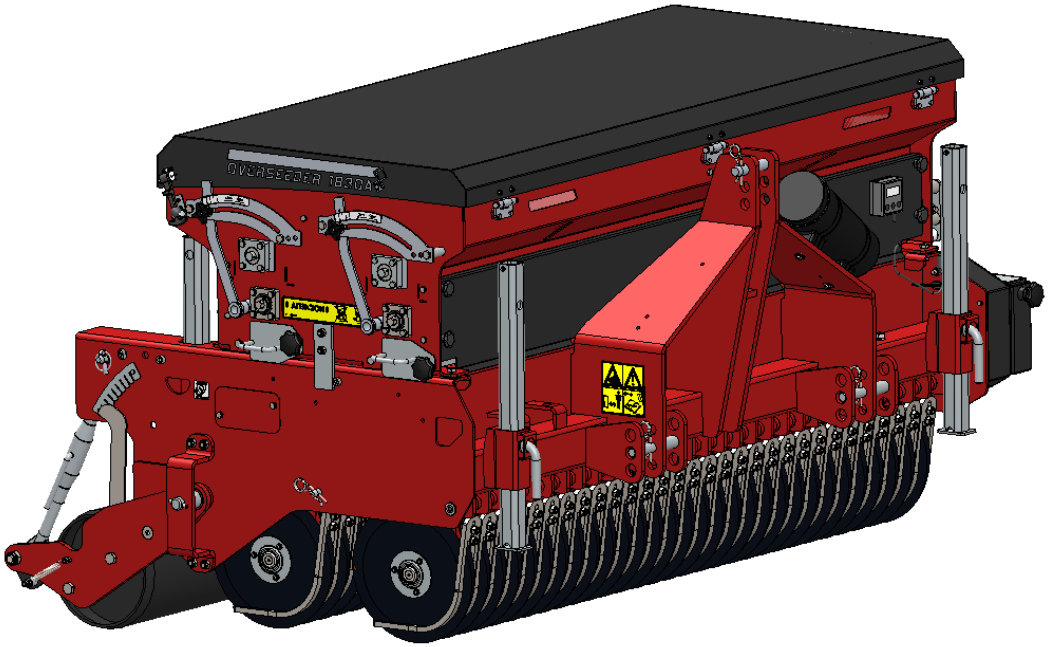
User manual and parts Book

Translation of the original user manual

Overseeder 1430A-1830A-2230A



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EU DECLARATION

We:

Redexim BV
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declare entirely under our own responsibility that the product:

Overseeder WITH A MACHINE NUMBER AS INDICATED ON THE MACHINE AND INDICATED IN THIS MANUAL

to which this declaration refers, complies with the stipulation of the 2006/42/EC machine directive and the following standards: NEN-EN-ISO 12100:2010, NEN-EN-ISO 13857:2008.

Zeist, 26-3-2019

A.C. Bos
Manager Operations & Logistics
Redexim Holland

FOREWORD

Congratulations on your Overseeder purchase. For safe and long-lasting operation of this machine, it is necessary to read and to understand this user manual. It is impossible to work safely with this machine without complete knowledge of the content of the user manual.

This machine does not operate independently. It is the user's responsibility to use the correct tractor or other towing vehicle. The user should check the combination of the towing vehicle and the machine with regard to various aspects, such as noise level and safety risks. In addition, the user should comply with the user instructions of the vehicle and spare parts that are used.

All information and technical specifications provided at the moment that this document is published are the most recent ones. Design specifications may be changed without prior notice.

You can contact your sales point or dealer if you have questions and/or if there are ambiguities in this manual or about the machine concerned.

This document is a translation of the original operating instructions.
Upon request, the original operating instructions are available in Dutch.

WARRANTY CONDITIONS

AT THE TIME OF DELIVERY THIS MACHINE IS GUARANTEED AGAINST MATERIAL DEFECTS.

THIS WARRANTY IS VALID FOR A PERIOD OF 12 MONTHS FROM THE PURCHASE DATE.

REDEXIM WARRANTIES ARE SUBJECT TO THE 'GENERAL CONDITIONS FOR SUPPLY OF PLANT AND MACHINERY FOR EXPORT, NUMBER 188' THAT ARE PUBLISHED UNDER THE AUSPICES OF THE UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE.

REGISTRATION CARD

For your own information, fill in the table below:

Serial number of the machine	
Dealer name	
Date of purchase	
Remarks	

TABLE OF CONTENTS

1. SAFETY INSTRUCTIONS

This machine is designed for safe use. This can only be achieved if you completely follow the safety instructions described in this manual.

Read and understand the manual before you start using this machine.
If the machine is not used as described in this manual, this can result in injuries and/or damage to the machine.

This user manual lists instructions that are numbered in sequence. You should follow this sequence.

A ⚠ is an indication of a safety instruction. A ☞ means a tip and/or note.

1.1. Obligations of the user

The machine is solely intended for planting and cultivating areas. Any other use is improper. The manufacturer will not accept any liability for damage resulting from improper use. All risks occurring with this are entirely at the expense of the user.

All persons assigned to operate, maintain and repair the machine by the owner must completely read and understand the operation manual and in particular the chapter of Safety Instructions.

Modifications to the machine that have a negative impact on the safety must be rectified immediately.

The user is obliged to check the machine for visible damage and defects before using the machine.

For safety reasons it is not permitted to make changes or adjustments to the machine (except those approved by the manufacturer). If modifications to the machine have been made, then the current CE marking is cancelled. The person that has made these modifications has to apply for a new CE marking himself.

Following the use, maintenance and repair instructions prescribed by the manufacturer is also considered proper use of this machine.

The user is responsible for the safe combination of the machine and the towing vehicle, which comply with the requirements as described in the Technical Data **(see Chapter 2)**. This entire combination should be tested for noise, safety, risk and user friendliness. User instructions should also be drafted.

Dress appropriately during work activities with the machine. Wear sturdy shoes with steel toecaps, long trousers and tie up long hair. Do not wear loose clothing.

The general applicable health & safety (Dutch: ARBO) regulations must also be followed in addition to the instructions in this user manual.

Relevant traffic regulations also apply in case of using public roads.

1.2. Maintenance, repairs and adjustments

Keep a record of the repair activities.

When unskilled people use, maintain or repair the machine, this could result in injuries to the user and to third parties. This should be avoided!

Use only original Redexim parts for maintenance or repairs because of the safety of the machine and of the user.

Only authorised technical personnel may carry out repairs to the machine.

When carrying out maintenance, adjustments and repairs, it is necessary to block the machine in order to prevent it from sinking away, driving off and/or sliding off.

If a hydraulic installation is present, you should always make it pressure-free before working on this installation.

Used oil/grease is harmful to the environment. Dispose of these substances according to the regulations that apply in your location.

1.3. Using the machine

Attach the machine to the towing vehicle according to the regulations. Please pay close attention to the risk of injury!

Never use the machine in the absence of protective guards and safety stickers.

Check the machine for loose bolts, nuts and components before every operation.

Check whether you have a clear field of vision – both close by and far away – before you start moving.

All persons that are going to operate the machine must be familiar with all the functions and control elements of the machine before starting any work activities.

Never crawl under the machine! If necessary, tip over the machine to work at the bottom side.

If present, check the hydraulic hoses regularly and replace these when the hydraulic hoses are damaged or appear old.

2. TECHNICAL DATA

Model	**1430A**	**1830A**	**2230A**
Working width	1.41 m (55.5”)	1.83 m (72”)	2.25 m (88.6”)
Working depth	5mm-30mm (0.19”-1.18”)		
Seeding speed	Up to. 12 Km/h (7.5 mph)		
Weight	1340 Kg (2954 lbs)	1647 Kg (3631 lbs)	1947 Kg (4292 lbs)
Seeding row distance	30 mm (1.18”)		
Number of cutting elements	47	61	75
Recommended tractor	40 HP with minimal lift capacity 610mm behind the lift eyes of 1340 Kg (2954 lbs).	50 HP with minimal lift capacity 610mm behind the lift eyes of 1647 Kg (3631 lbs).	60 HP with minimal lift capacity 610mm behind the lift eyes of 1947 Kg (4292 lbs)
Seed-tray capacity	260ltr. (9.18cu. ft.)	330ltr. (11.65cu. ft.)	410ltr. (14.5cu. Ft.)
Maximum capacity (theoretically at maximum speed ±12 km/h (7.5 mph) and single passage)	16920 m^2/h (182125 ft^2/h)	21960 m^2/h (236375 ft^2/h)	27000 m^2/h (290626 ft^2/h)
Seeding density per 1 ha (2.47 acre)	Normal seed: 0 – 392 Kg (0 – 864.2 lbs)		
Shipping dimensions	L x W x H 1470 x 1800 x 1351 mm 57.9” x 70.9” x 53.2”	L x W x H 1470 x 2220 x 1351 mm 57.9” x 87.4” x 53.2”	L x W x H 1470 x 2640 x 1351 mm 57.9” x 103.9” x 53.2”
Three-point connection	CAT. 1 / 2		
Lubricant	Gearbox: 2.8Kg EP0 Grease Other: EP 2		
Standard parts	Fillable back roller with scraper. Infinitely adjustable gearbox for adjusting the seeding density. Integrated seed spreading tray.		
Optional extras:	Bogy kit Weight kit		
Weight kit specifications Front Center Rear	 44 Kg (97 lbs) 148 Kg (326 lbs) 352 Kg (774 lbs)	 79 Kg (174 lbs) 193 Kg (425 lbs) 563 Kg (1239 lbs)	 114 Kg (251 lbs) 238 Kg (524 lbs) 733 Kg (1613 lbs)

3. GENERAL DESCRIPTION

The Overseeder is a seeding machine for treating natural areas.

4. SAFETY STICKERS

Safety stickers are located on both sides of the machine. These safety stickers must always be clearly visible and legible and must be replaced if they have become damaged.

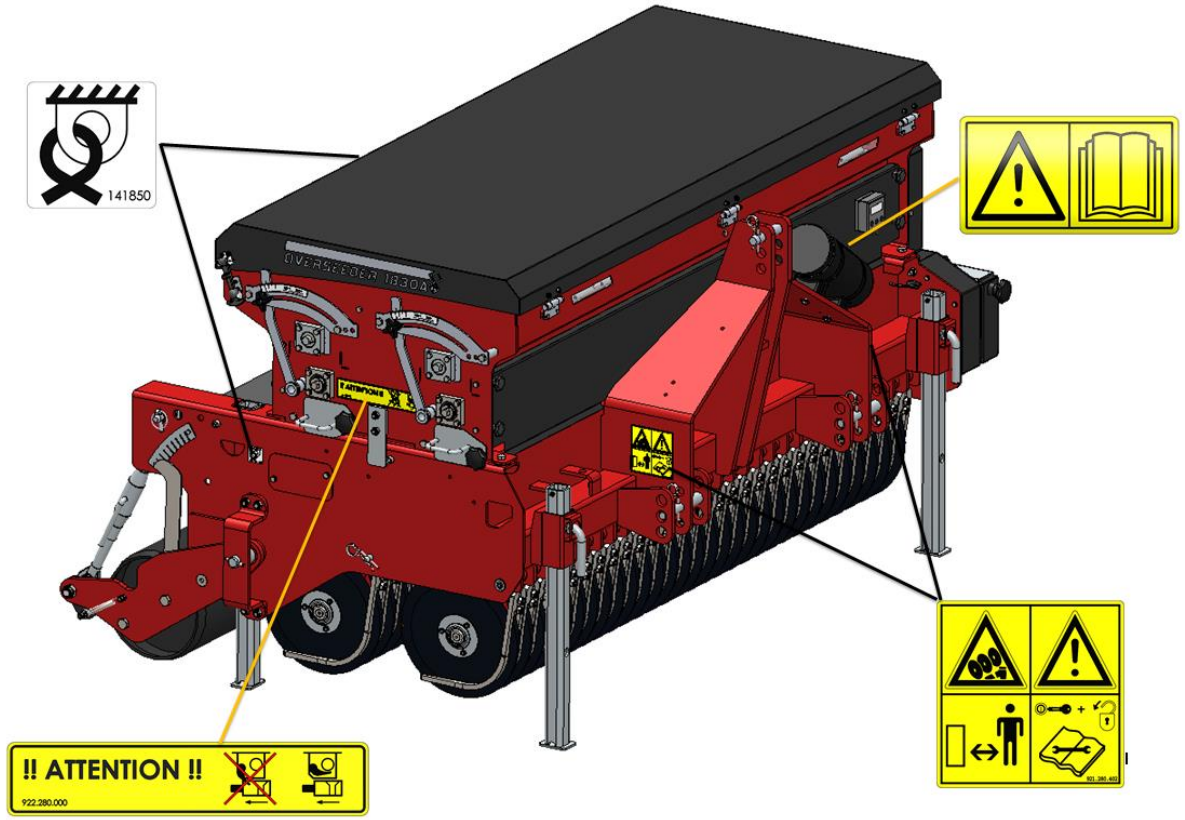


Figure 1

 **921.280.402**	– In case of maintenance, adjustments and repair, always switch OFF the engine of the towing vehicle. – Keep a distance of minimum 4 metres if the machine is operating (except the operator). – During operation, make sure there are no persons in the danger area of the Overseeder to prevent them from getting injured by moving parts.
 **900.280.402**	– Prior to using the machine, the operators of the machine must read and understand the user manual before starting to use the Overseeder.
 **922.280.000**	– Before removing funnel tray close seeding element valve. If not the valves may become damaged.
 **922.340.008**	– Fixation point for fixing the machine during transport on a trailer. **NOT** for lifting the machine.

5. FIRST INSTALLATION

To remove the pallet and to place the machine horizontally on the ground, take the following steps (**see Figure 2**):

⚠ **Make sure that the cable/crane/lift can hoist minimum of :**

- **Overseeder 1430A: 2000 Kg (4400 lbs)**
- **Overseeder 1830A: 2300 Kg (5060 lbs)**
- **Overseeder 2230A: 3000 Kg (6600 lbs)**

1. Lower the legs (**4**) and secure them.
2. Attach a cable to the lifting point (**1**).
3. Lift the machine (including the pallet) just till the tension is of the pins (**2**).
4. Loosen the transport pallet by removing the 3-point pins (**2**).
5. Lift the Overseeder from the transport pallet, remove the transport pallet and carefully lower the machine until it stands safely on the ground.

⚠ !! **Keep a safe distance. The machine may start to slide during hoisting !!**

⚠ !! **Never crawl under the machine !!**

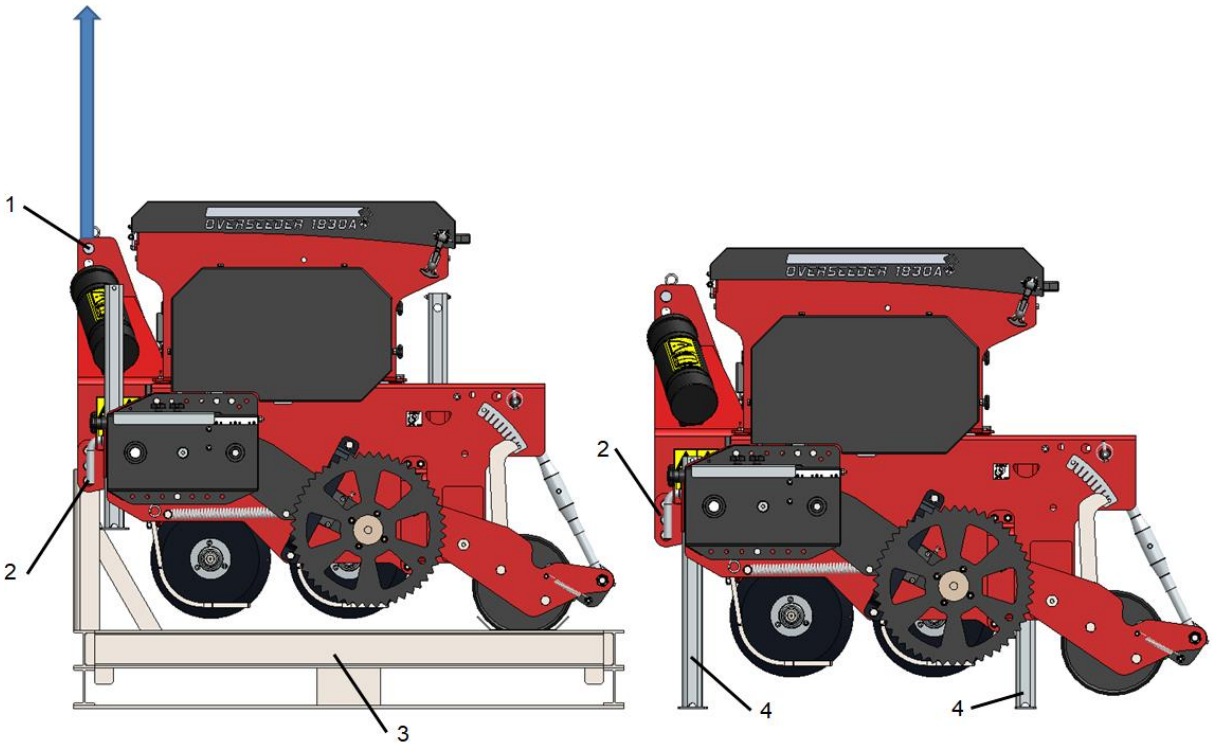


Figure 2

6. ATTACHING AND DETACHING THE MACHINE

Attaching and detaching the machine has to be done carefully. Follow the instructions below:

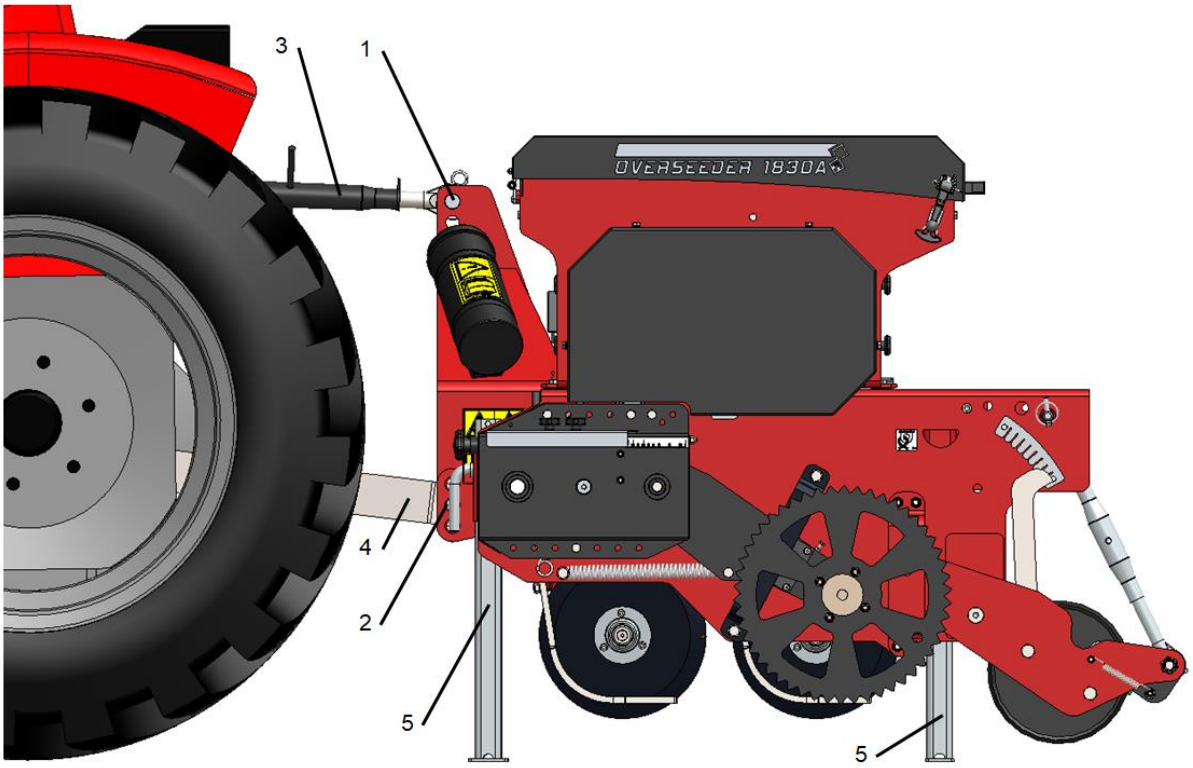


Figure 3

6.1. Attaching the machine

Prior to attaching the machine, check the following the points:

- Check whether the machine is undamaged and whether it is safe to attach and use the machine.
- Check whether the bolts and nuts are tightened with the correct torque.
- Check whether all safety stickers are on the machine and whether these are undamaged and easily readable. Never use the machine if it has damaged or unreadable stickers.

The machine should be attached to the tractor in the following manner: (**see Figure 3**).

1. Remove the 3-point pins (**1 and 2**) from the machine.
2. Carefully drive the tractor backwards until the lifting arms (**4**) can be attached to the machine.

⚠ !! **Make sure that the tractor and the machine cannot move while you are attaching the machine !!**

⚠ !! **Switch off the tractor engine before attaching the machine !!**

3. Attach the lifting arms (**4**) to the machine using the 3-point pins (**2**). Lock the pins using the R-clips.
4. Set the stabilizer of the lifting arms to a sideways stroke of 100 mm.
5. Mount the top link (**3**) of your tractor and extend it until it is at the same height as the top 3-point hitch (**1**) of the machine
6. Adjust the top link in such a manner that the machine is horizontal.

⚠ !! **Make sure that the 3-point pins are locked using the R-clips !!**

7. Start the tractor and lift the machine off the ground.
8. Slide the support legs (**5**) upwards and lock them in the working position.

6.2. Detaching the machine

The machine should be detached in the following manner (**see Figure 3**):

1. Place the tractor and the machine on a flat surface.

⚠ !! **Make sure that the tractor and the machine cannot move while you are detaching the machine !!**

⚠ !! **Switch off the tractor engine before detaching the machine !!**

2. Lower the support legs (**5**) and secure them.
3. Carefully place the machine on the ground.
4. Loosen the top link (**3**) and remove it.
5. Loosen the lifting arms (**4**).
6. Start the tractor and drive off.

⚠ **Make sure the cutting discs do not touch the ground or any obstacle when storing the machine to avoid damage.**

7. ADJUSTING THE WORKING DEPTH

The working depth can be adjusted by adjusting the sliding foot of the seed blades. Loosen the bolts (**1**). Now move the sliding feet (**2**) to the desired depth, from 5 to 30 mm working depth. (**see Figure 4**)

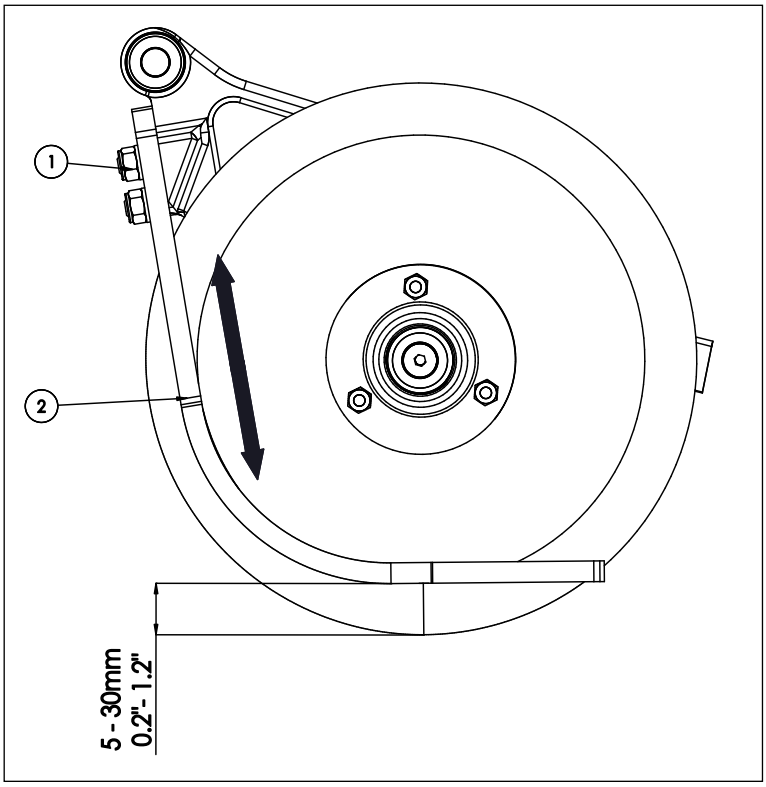


Figure 4

⚠ **!! Please note that front and rear sliding foot the same depth are set and parallel !!**

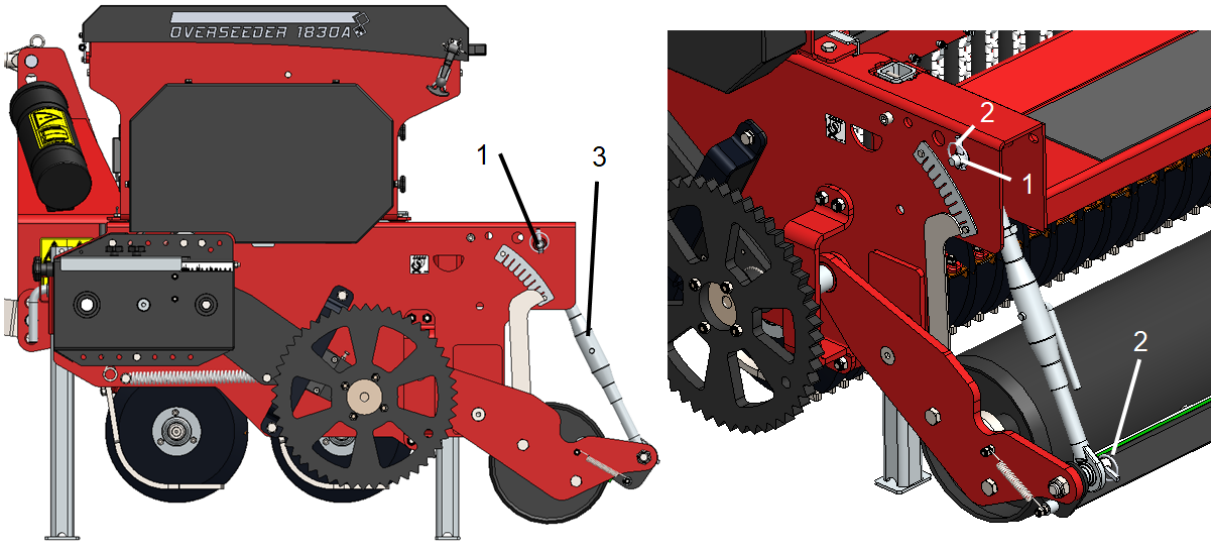


Figure 5

The rear roller can also be used to control the cutting depth.(**see Figure 5**)
Use spindles (**3**) to acquire the desired cutting depth.

When desired the rear roller can also be mounted floating.
This can be achieved by loosening lock pin (**2**) and pin (**1**).
The spindles (**3**) can be removed from the machine.

The machine can be equipped with additional weights (see chapter 13), and/or filling the rear roller with water.

If the rear roller is filled with water, empty it before it starts freezing.

8. SETTING THE SEED-QUANTITY / DIGITAL SURFACE METER

The seed quantity can be set by changing the gearbox-ratio and the opening of the seed element valve (**see chapter 8.1**).
These settings provide various combinations for a wide range of settings. The gearbox has been marked with a decal, which indicates the numbers 1 to 11. By changing the gearbox-ratio as indicated, the required quantity setting is obtained.

To change the gearbox-ratio, proceed as follows: (**see Figure 6**)

- Loosen the knobs (**1**)
- Turn knob (**2**) to the required setting
- Tighten the knobs (**1**)

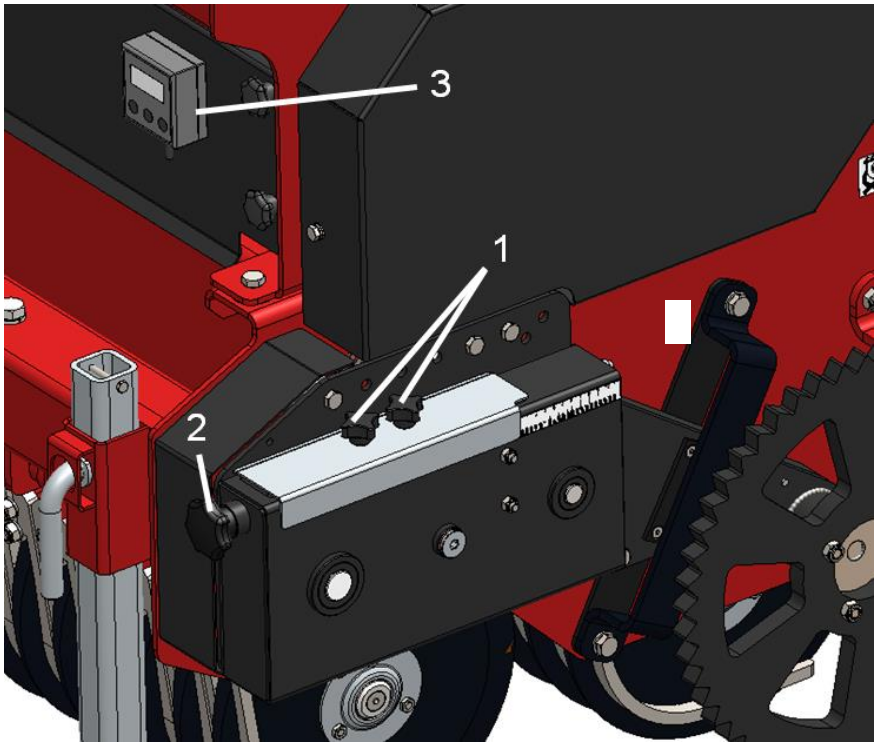


Figure 6

On the machine there is also a digital surface meter (**3**) that can be used to read various data such as the machined area, distances, hours of work, etc.

For the explanation of the operation of this surface meter, a manual is included in the toolbox.

If the settings of the surface meter have disappeared from memory, these are the specific parameters to be filled in:

Machine	Parameter "C" Pulses of the speed sensor (Chapter 8.2)	Parameter "L" Working width (Chapter 8.4)	
	Setting UN=0 (metric); 1 (imperial)	m	ft
Overseeder 1430A	76	1.41	4.63
Overseeder 1830A	76	1.83	6.00
Overseeder 2230A	76	2.25	7.38

8.1. The seeding element valve opening

The seeding element valve opening is depending on the seed size.

In most cases the setting 0 is used but when the seed size is larger the valve can be set more open to transport the seeds correct.

When transporting the machine the seed element valve must be closed or seeds may spill out. Close the seed element valve before transporting the machine.

Changing the seeding element valve opening is done as follows: (**see Figure 7**)

1. Loosen knob (**1**).
2. Adjust lever (**2**) with the knob by sliding it to open or closed.
3. Fasten the knob (**1**).

By default the seed element valve is closed.

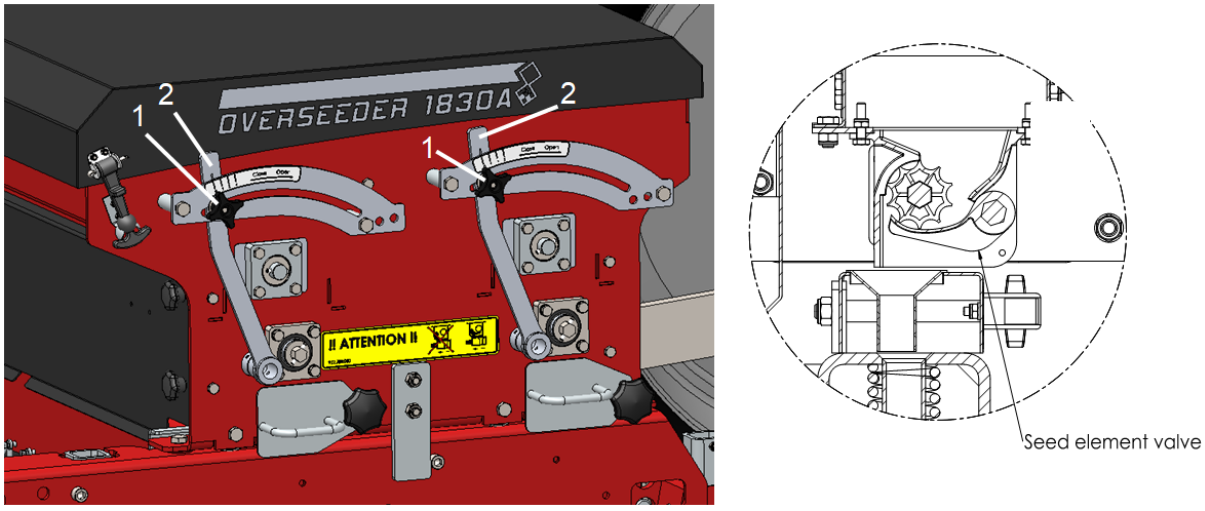


Figure 7

8.2. Spreading test

If the seeding output of the machine has to be checked or recalibrated, a spreading test has to be carried out.

This has to be done as follows : (**see Figure 8**)

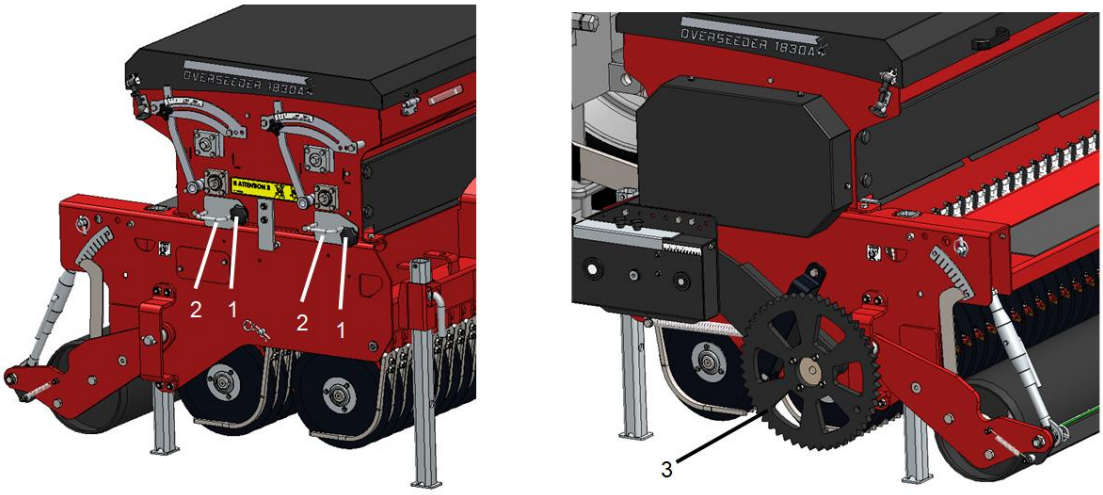


Figure 8

1. Place the machine safely on the support legs on a flat surface.

⚠ **!! Make sure the tractor and overseeder are secured in place and cannot start moving !!**

⚠ **!! Switch the tractor off before getting off !!**

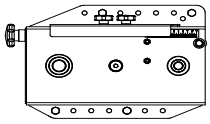
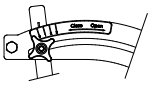
2. First of all check if the seeding element valve opening is correct (**see chapter 8.1**).
3. Put the seed that has to be calibrated into the seed hopper and spread it out equally.
4. Remove the knobs (**1**).
5. Take out the funnel trays (**2**).
6. Turn the funnel trays (**2**) upside down.
7. Slide the funnel trays (**2**) back into the machine and lock it with the knobs (**1**).
8. Turn the wheel (**3**) 13 full rotations counter clockwise and take out the funnel trays. Measure the total weight of the seed in and multiply this :

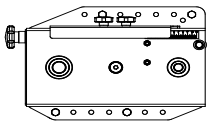
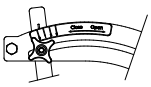
   Overseeder 1430A: 447.
   Overseeder 1830A: 344.
   Overseeder 2230A: 280.

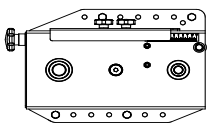
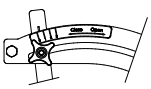
   The result is the weight (Kg) of the seeds that is seeded per hectare(10000m^2)

   ☞ Use the table on the next page to write down the measured values for future use.

9. Place the funnel trays (**2**)back in the machine and secure them with their knobs (**1**).

Seeding table			
Gearbox setting 	*Gate opening* 	*Ryegrass*	
		Kg/ha	***Pound/Acre***
1	0	0	0
2	0	12,3	11,0
3	0	38,4	34,3
4	0	65,4	58,3
5	0	96,8	86,4
6	0	126,7	113,1
7	0	162,1	144,6
8	0	202,1	180,3
9	0	248,8	222,0
10	0	305,0	272,1
11	0	363,9	324,7

Seeding table			
Gearbox setting 	*Gate opening* 	*Bluegrass*	
		Kg/ha	***Pound/Acre***
1	0	0	0
2	0	18,1	16,1
3	0	76,8	68,5
4	0	116,9	104,3
5	0	166,6	148,6
6	0	227,6	203,0
7	0	291,0	259,6
8	0	364,2	325,0
9	0	466,4	416,1
10	0	559,2	498,9
11	0	657,9	586,9

Seeding table			
Gearbox setting 	*Gate opening* 	*Red Fescue grass*	
		Kg/ha	***Pound/Acre***
1	0	0	0
2	0	11,0	9,8
3	0	35,0	31,2
4	0	60,6	54,1
5	0	84,3	75,2
6	0	116,8	104,2
7	0	148,0	132,1
8	0	183,7	163,9
9	0	228,7	204,1
10	0	277,6	247,7
11	0	341,4	304,6

9. TRANSPORT

The user is responsible for transporting the machine on public roads. Verify the national legislation regarding the regulations. In view of the machine's weight, it is not advised to drive faster than 20 km/h (12.4 mph) with a raised machine. Higher speeds can lead to hazardous situations and result in damage to the machine and tractor.

⚠ **!! When the machine is lifted of the ground, at least 20% of the weight of the tractor must rest on the front axle. !!**

10. PUTTING THE MACHINE INTO OPERATION

10.1. Safety

Before using the machine, you should check the following:

1. Are there slopes? The maximum slope is 20 degrees for this machine. Always go from top to bottom.
2. Are there hard objects in the ground? If so, use the machine at adjusted speed.
3. Is there danger of flying objects (e.g., golf balls) that distract the attention of the driver? If so, the machine **cannot** be used.
4. Is there danger of sinking/sliding away? If so, postpone the treatment.
5. If the soil is frozen or very wet, postpone the activities until conditions improve.
6. Do NOT make sharp curves when the machine is in the soil.

10.2. Working speed

The maximum safe working speed of the machine is approx. 12 km/h (7.5 mph). However, the user should check which speed is optimal to achieve the required result per individual situation and soil treatment.

10.3. General remarks on the use of the overseeder

- A field can be tilled 2 or 3 times in different directions in order to obtain a higher seeding density and for seeding in a diamond shape.
- Do not make sharp turns, preferably drive in straight lines to avoid damaging the machine and/or the ground.
- When hitting a hard object in the soil, the cutting elements may be burred/damaged. Try to file burrs away or replace the cutting element.
- When the cutting elements become wet, the seed may stick and accumulate between the cutting elements.
- Make sure the cutting elements do not become wet or postpone the work.
- **NEVER** drive backwards while the running wheel is on the ground.

10.4. Starting / stopping procedure

Before starting the seeding, check the machine for the following points:

⚠ **!! Make sure the tractor and overseeder are secured in place and cannot start moving !!**

⚠ **!! Switch the tractor off before getting off !!**

- Check the seeding elements for damage and repair if necessary.
- Check if the passage to the seeding elements is not blocked (e.g. funnels).
- Check if the machine is not wet or moist, in particular the seeding device.
- Check the seed spreading by rotating the running wheel 1 time (counterclockwise).
- Check if the drive is running smoothly.

START SEEDING

The starting procedure is VERY important. If this procedure is not followed exactly as described below, serious damage may occur to the machine. The procedure is as follows:

1. Put the seed in the seed tray.
2. Set the required seed quantity by adjusting the gearbox. (Chapter 8.0)
3. Drive to the place where you want to start.
4. Start with a driving speed of about 3 km/h (1.9 mph).
5. While driving lower the machine carefully and in a controlled way until the seeding elements are cutting the ground.
6. Increase the speed until the correct driving speed has been reached.

STOP SEEDING

1. Decrease the driving speed to about 3 km/h (1.9 mph).
2. While driving, raise the machine out of the ground.
3. Go to the next place and start again as described.

⚠ **It is absolutely imperative that the above procedures are followed. If the machine is placed in the ground while standing still, it may be seriously damaged.**

⚠ **While driving, lower the machine carefully and in a controlled way during the lowering process.**

⚠ **Never drive backwards when then machine is in the ground.**

11. MAINTENANCE

Time schedule	Check point	Work activities
Before **each** use	Check for loose bolts/nuts.	Tighten the loose bolts/nuts with the correct torque.
	Presence and legibility of safety stickers.	Replace if damaged or missing.
	Check the cutting discs.	Replace or repair if damaged.
After **each** use	Clean the machine	Clean the machine with compressed air. Don't use water.
After **first** 20 operating hours (new or repaired)	Grease the bearings	Use EP 2 lubricating grease.
	Check for loose bolts/nuts.	Tighten the loose bolts/nuts with the correct torque.
	Grease the drive chains.	Use a chain spray.
After **every** 100 operating hours.	Check for loose bolts/nuts.	Tighten the loose bolts/nuts with the correct torque.
	Grease the drive chains.	Use a chain spray.
	Check the tension of the drive chains.	Tension the tensioners of the drive chains.
	Check the seeding elements for dirt/damage.	Clean the seeding elements or replace if necessary.
	Check the seeding element valve opening.	Adjust the seeding element valve if necessary.
	Check the seed quantity.	Carry out a spreading test.
	Check the seeding pipes/funnels.	Clean if necessary.
	Grease the bearings	Use EP 2 lubricating grease.
	Make sure there is enough grease in the gearbox	Fill the gearbox with 2,8 ltr EP 0 Grease
	Clean the hopper	Clean with compressor air, don't use water.

11.1. Grease points

To guarantee the proper functioning of the Overseeder, the lubrication points at both sides of the rear roller (**see Figure 9**) must be greased periodically. Grease these points according to the table in Chapter 11.

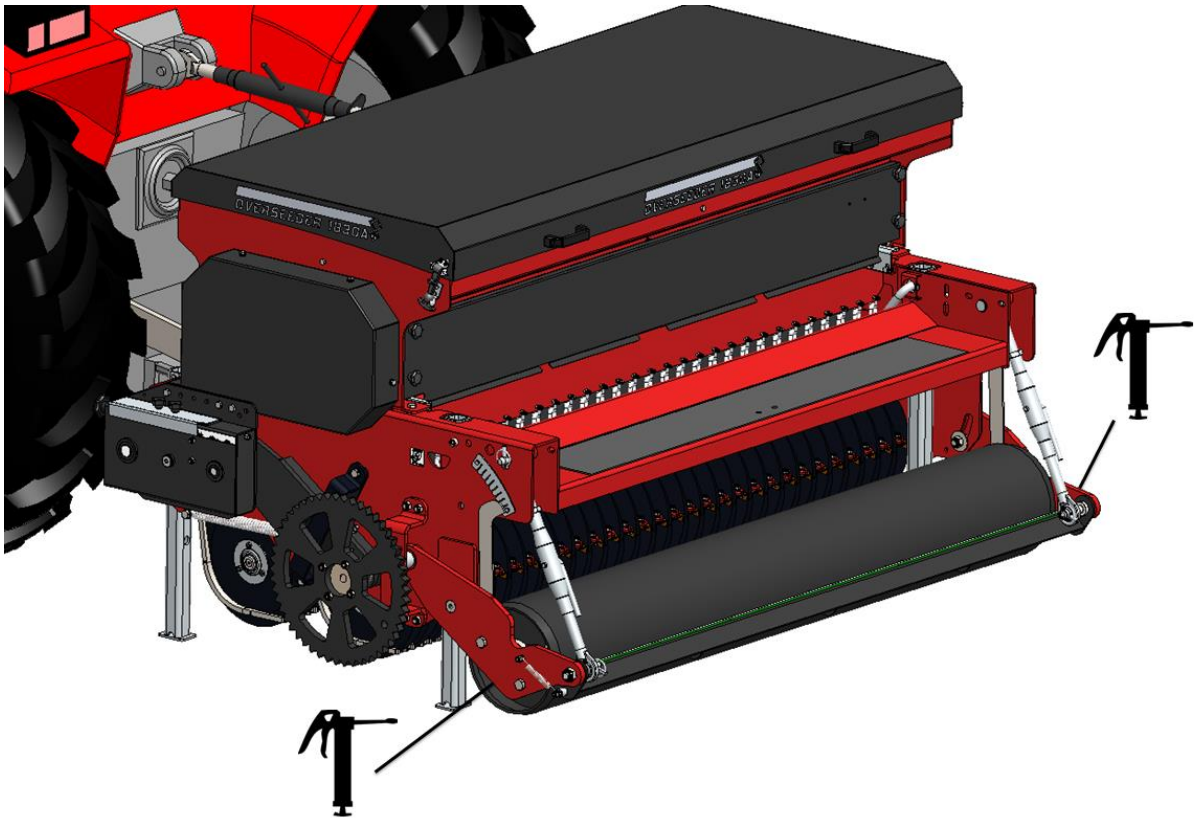


Figure 9

11.2. Shifting the seed hopper open

For service or placing center weights the seed hopper needs to be opened, proceed as described: **(see Figure 10)**

1. Drive the overseeder to a storage place with a stable/even floor.
2. Adjust the legs (**1**) downwards and lock them with the included lock pins.

⚠ **!! Before stepping of the tractor be sure the overseeder is standing stable on the floor and secured in place against sliding !!**

⚠ **!! Switch the tractor off before getting off !!**

3. Remove the cover (**2**) and untension the chain spanner (**9**)
4. Remove the chain (**3**) and both funnel trays (**4**).
5. Disconnect the connector of the digital counter (**6**).
6. Remove cover plates (**5**) on the front and back side of the machine.
7. Remove the four bolts and nuts (**7**) which connect the seed hopper (**8**) with the lower frame.
8. The seed hopper (**8**) is free and can be pulled backwards.

⚠ **!! Don't pull the seed hopper too fast, this can damage the machine !!**

⚠ **!! Beware of hands and fingers, they may get caught between moving parts !!**

To close the seed hopper, proceed as follows::

1. Push the seed hopper (**8**) forwards.

⚠ **!! Don't push the seed hopper to fast forward, this can damage the machine !!**

⚠ **!! Beware of hands and fingers, they may get caught between moving parts !!**

2. Place the four bolts and nuts (**7**) which connect the seed hopper (**8**) with the lower frame.

☞ Check the alignment of the sprocket wheels before connecting the chain. The sprockets of the seed hopper and the gearbox need to be in line.

3. Place the cover plates (**5**) on the front and back side of the machine.
4. Fasten the connector of the digital counter (**6**).
5. Place the both funnel trays (**4**) and place the chain (**3**).
6. Tension the chain with the spanner (**9**)
7. Place the cover (**2**) back on the machine.

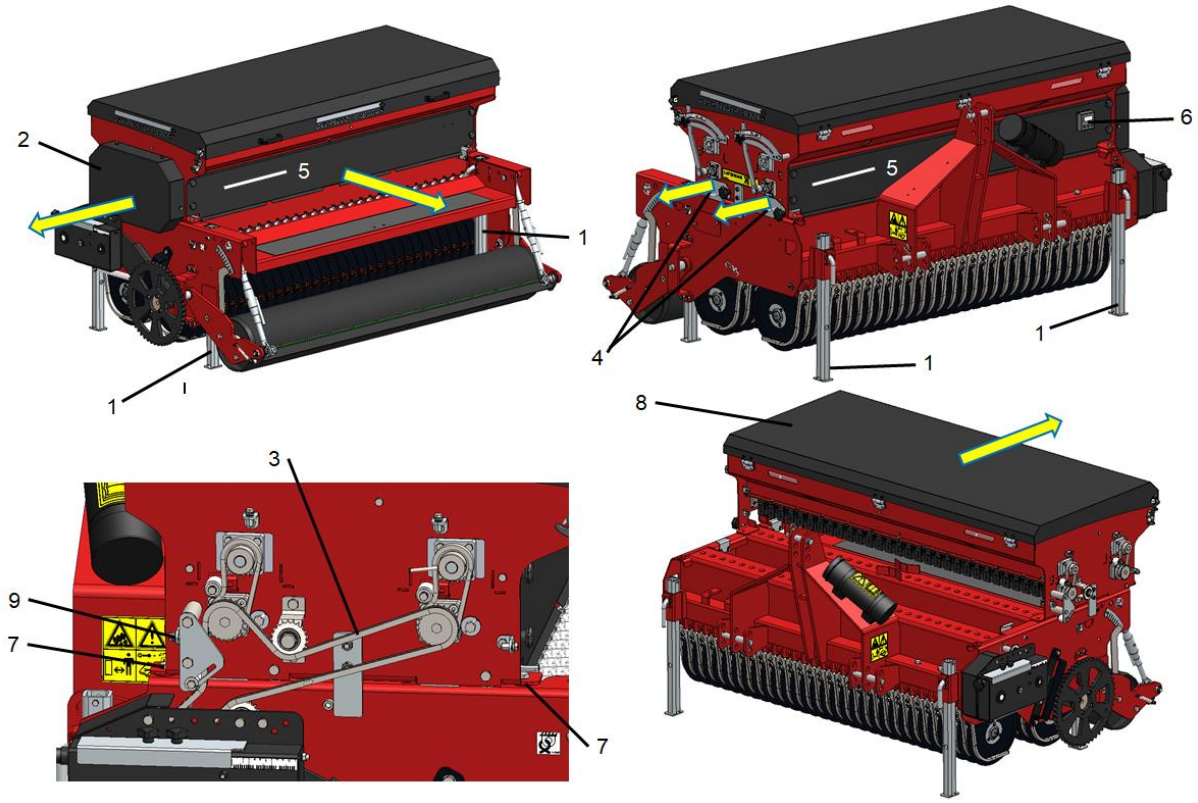


Figure 10

12. TROUBLE SHOOTING (PROBLEM ANALYSIS)

Problem	Possible cause	Solution
No seeds come out of the machine.	The seeds stick to each other because they are too wet.	Use dry seeds.
	Gearbox in the wrong setting.	Adjust gearbox to correct setting.
	The handle for operating the valves is closed.	Operate the handle to open the valves in the correct setting.
	No seeds in the hopper	Check whether these are enough seeds in the hopper. Top up if necessary.
	Seeding pipes / funnels are blocked / dirty	Unblock / clean.
The seed is not in the seeding cut.	Seed discs are worn.	Replace the seeding discs.
	Wrong working depth.	Adjust the machine to the correct working depth.
	Soil is too wet.	Postpone sowing.
	The soil is too hard.	Loosen the soil by means of ploughing, irrigating, etc.
	Tractor tensioning is too low.	Put lower link arms in to a higher hole.
	Top link incorrect adjusted.	Adjust the top link in the correct position.
	Too much dead leaves and roots in the top layer of the field.	Remove the dead leaves and roots. Increase the weight of the machine.
	Not enough weight.	Add weight.
Too many seeds come out of the machine.	The handle for operating the valves is opened too far.	Readjust the handle for operating the valve(s).
	Gearbox setting is too high.	Adjust gearbox to correct setting.
Seeding cuts are poorly shaped.	Seed discs are worn.	Replace the seeding discs.
	Seeding disks don't turn / are stuck.	Loosen the discs.
	Bearings of the seed discs are worn.	Replace the bearings.
	Poor ground.	Lower the working depth. Aerate / irrigate the ground if it is too dry and repeat the tilling later.
	Too much dead leaves and roots in the top layer of the field.	Remove the dead leaves and roots. Increase the weight of the machine.
	Top link incorrect adjusted.	Adjust the top link in the correct position.
Seeding cuts are not closed.	Slits are too wide.	Lower the working depth.
	Soil is too hard.	Aerate / irrigate the soil and repeat sowing later.
	Rear roller not on the ground.	Make rear roller floating.

13. OPTIONAL EXTRAS

13.1. Weight kit

A weight kit can be placed on the machine, this will help the machine to cut more easily into the soil.

For the overseeder there 2 weight kits available.

1. The internal version: **(See figure 11)**
2. The external version: **(See figure 12)**

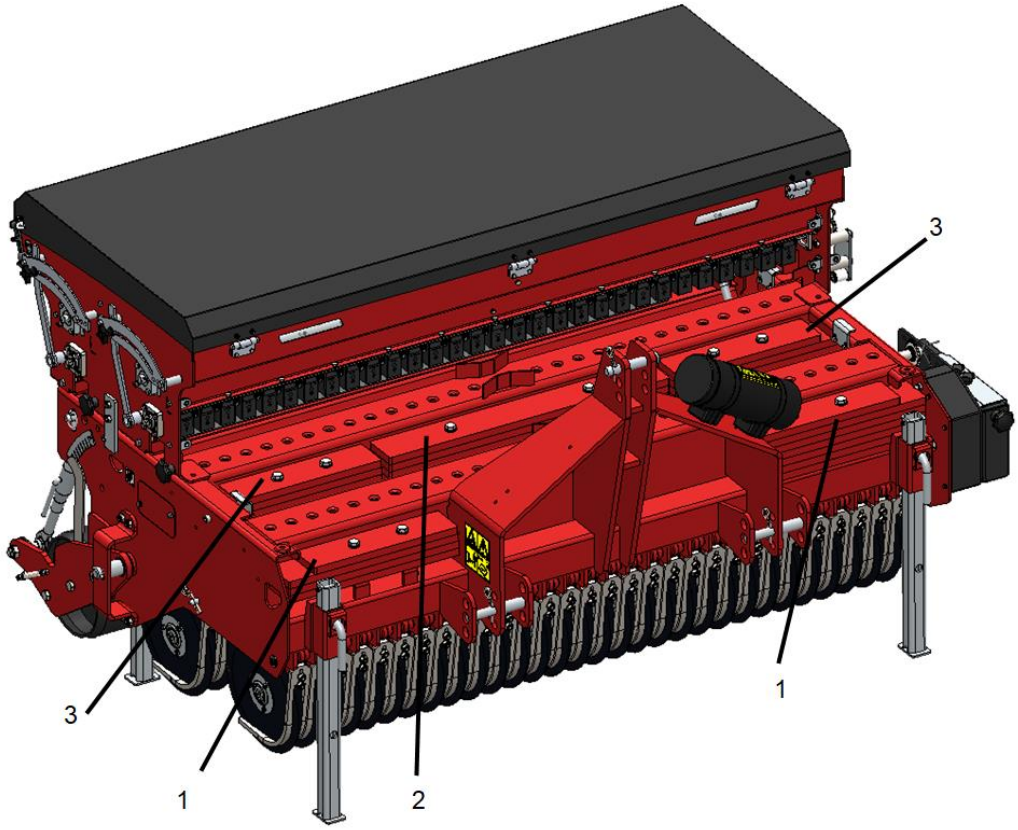


Figure 11

Internal weight (See Figure 11)

Overseeder 1430A: Kit no: 222.140.006 192 Kg (423 lbs)
Overseeder 1830A: Kit no: 222.180.006 272 Kg (600 lbs)
Overseeder 2230A: Kit no: 222.220.006 352 Kg (776 lbs)

The weights (**1**) are mounted with bolts on the front beam of the overseeder.
When weights are needed at the center of the machine, the seed hopper needs to be shifted backwards. On the inside of the machine it is possible to mount weights (**2+3**) on the frame with bolts. See parts manual for exact mounting. After mounting the weights the seed hopper can be shifted forwards.

See chapter 11.2 for opening and closing the seed hopper.

External weight (See figure 12)

The weights (**1**) can be placed on the rear beam of the machine with a frame. See parts page for exact mounting.

Overseeder 1430A: Kit no: 222.140.004 352 Kg (776 lbs)
Overseeder 1830A: Kit no: 222.180.004 563 Kg (1241 lbs)
Overseeder 2230A: Kit no: 222.220.004 733 Kg (1616 lbs)

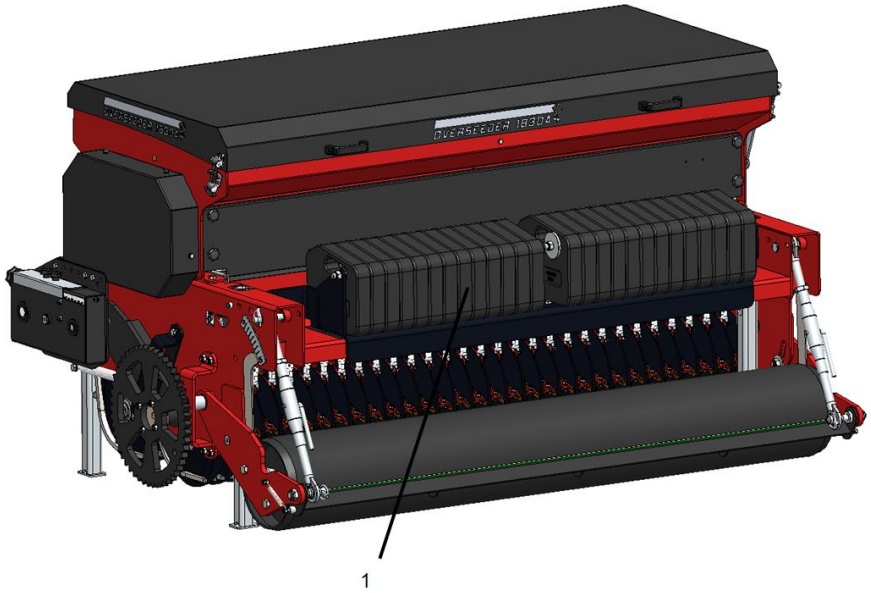


Figure 12

General comments weight kit:

⚠ **Always fix the weights on the machine with the supplied brackets and rods. If this isn't done correctly the weights could fall off the machine while moving and injure people or damage parts.**

⚠ **!! Never crawl under the machine !!**

⚠ **!! Make sure the tractor is secured in place and cannot start moving while placing the weight kit !!**

⚠ **!! Switch off the tractor before getting off !!**

13.2. Bogy kit

If the tractor is not able to lift the overseeder a bogy can be a solution to use the machine with a tractor with less lifting capacity.

The following bogy kits are available: **(See figure 13)**

Overseeder 1430A: Kit no: 222.140.002
Overseeder 1830A: Kit no: 222.180.002
Overseeder 2230A: Kit no: 222.220.002

Before assembling the bogy kit be aware care of the following safety instructions :

⚠ **!! Never crawl under the machine !!**

⚠ **!! Make sure the machine is securely placed before assembling!!**

☞ See parts pages for exact position of parts and sequence hydraulic components.

1. Remove spring pin (**1**) and push pin (**2**) inwards.

⚠ !! **Take care that the rear roller does not fall on the ground !!**

2. Remove bush (**3**) and slide the pivot point of the bogy-frame (**4**) in this place.
3. Insert pin (**2**) and mount spring pin (**1**).
4. Mount cylinder bracket (**5**) to the frame with the supplied bolt and nuts.
5. Mount the cylinders (**11**) between the brackets and the bogy.
6. Mount wheel shaft (**8**) to the frame using the supplied spacer (**9**) and the mounting plates (**7+10**).
7. At the front of the machine the draw bar (**15**) is mounted. It is mounted by fastening it with standard fixing pins at the lower 3-point plates.
8. Install cylinder (**16**) with two stop cylinders (**17**) between the top 3-point suspension and drawbar, using the included pins and circlips (**13+14**).
9. Place the various hydraulic couplings(**12**) and hoses.

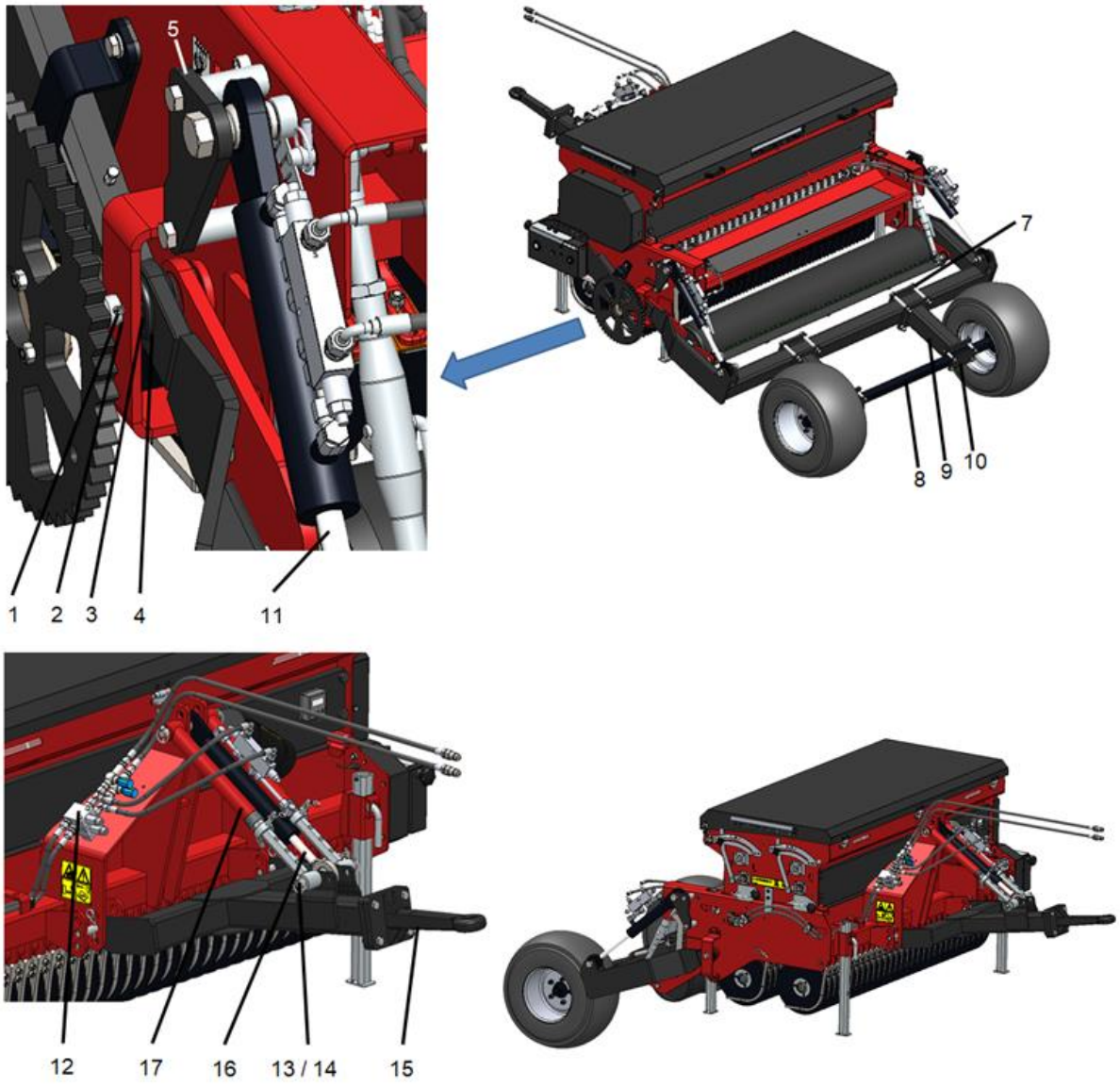


Figure 13

13.3. Setting the bogy kit

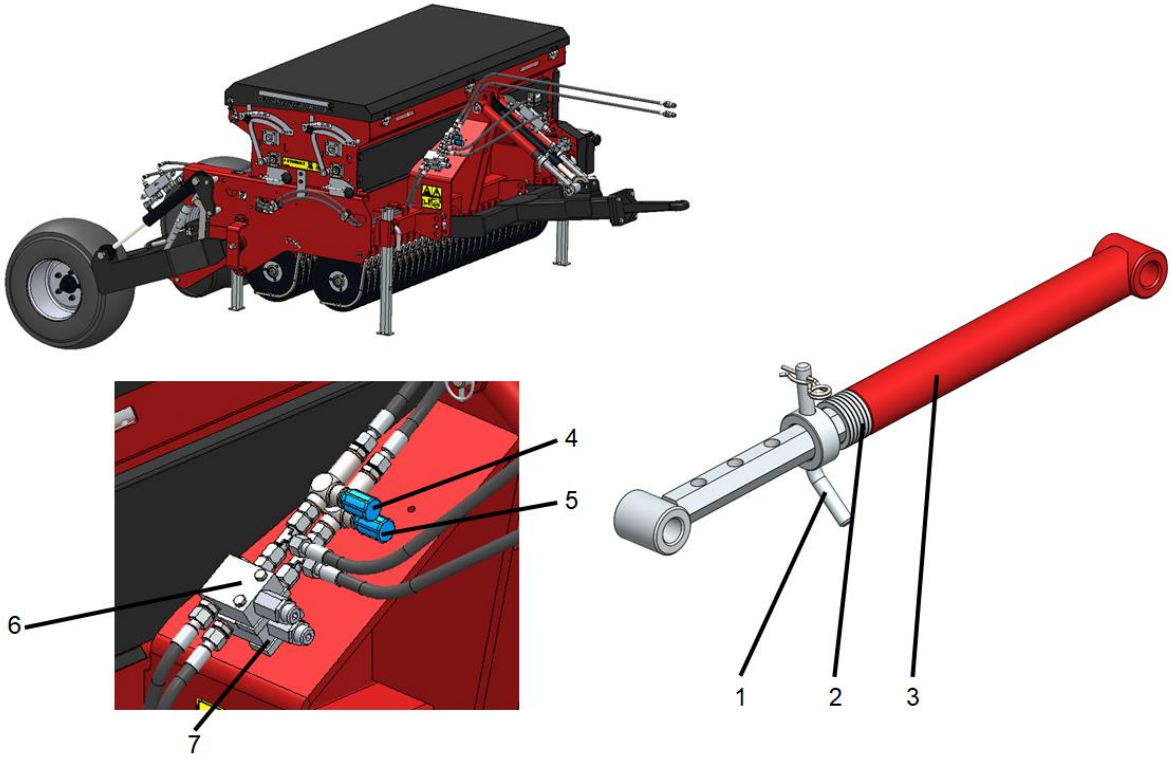


Figure 14

The lifting sequence and speed of the front and rear section of the overseeder its bogy kit is separately adjustable. **(See figure 14)**

The sequence and speed control is located at the front of the machine.
The speed of lifting and lowering can be adjusted by rotating the restrictors (**4**) and (**5**).
The sequence of lowering and lifting is controlled by the valves (**6**) and (**7**).

⚠ **!! Warning! Be careful !!**
If the restrictors are opened too far, the machine can lower very quickly, creating an unsafe situation

The speed of the lowering and lifting is controlled by the restrictors (**4**) and (**5**).
Clockwise = slower, Counter clockwise = faster.
The setting is different for each circumstance and should be experimentally established.

In addition, it is possible to change the order of lifting and lowering. By setting valve (**6**) or (**7**) it's possible to adjust the sequence of lowering and lifting off the rear wheels. When changed the rear wheels can be set slower or equal to the draw bar speed.
Clockwise = slower, Counter clockwise = faster.

When the correct setting is reached fix the valve / restrictor with the screw beside the knob.

Connect the machine to the tractor.

Adjust the pin (**1**) using the rings (**2**) of the stop cylinders (**3**) so that the machine is on working depth and slides with the cutting guides of the seed discs flat on the ground, but still putting pressure on the tow bar.

UC 300

UNIVERSAL COUNTER

NR.1111-EN

USER'S MANUAL

EN

CE

This product complies with EMC requirements as defined by
Directives 2004/108/CE and successive modifications
in accordance with standard EN ISO 14982 applied

Manufacturer : MC elettronica S.r.l.
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Manual code : 1111-EN
Issued : November 2011
Edition : April 2014

MC elettronica S.r.l. *is not obliged to give notice of any further modifications of the product.*
The information given in this manual does not allow unauthorized personnel to tamper the product in any way. The guarantee on the equipment will no longer be valid if tampering should be detected.

Content

1. Rules and general warning

1.1 Introduction

This manual gives all the specific information that you need for a proper use of the equipment.

After buying the instrument, read the manual carefully and refer to it any time you have doubts on how to use the equipment or when you have to carry out maintenance operations.

Keep the manual on the machine. If this is not possible, keep it ready to hand.

1.2 Terms of guarantee

SUBJECT OF THE GUARANTEE: the guarantee is applied to the product and to those parts which are marked with the serial number or any other identification number used by *MC elettronica;*

HOW LONG THE GUARANTEE IS EFFECTIVE: *MC elettronica S.r.l*. guarantees the UC 300 for a period of **1 year** from the manufacturing date (printed on the identification label which is to be found on the rear side of the equipment) and also accessories.

The guarantee covers the product and any repair carried out within the agreed terms.

This guarantee does not apply in the event of:

- accidental damage;
- improper use;
- modifications which haven't been agreed upon, improper installation (or setting);
- damage caused when a non-*MC elettronica* equipment, which is mechanically or electrically connected to our instruments, breaks or does not function properly;
- act of God (lightning, floods, fire or other causes which do not depend from *MC elettronica*).

Repairs under guarantee, which must be carried out in the laboratories of our authorized centres, are entirely free of charge provided the equipment is directly transported to said laboratories or sent free port. Transport charges and risks are entirely borne by the Customer.

The above-mentioned guarantee is valid unless otherwise stated between *MC elettronica* and the Customer.

Warning

Mc elettronica declines any liability for damages or direct or indirect charges, as a consequence of improper use or inability of the Customer to use the equipment separately and/or together with other instruments.

1.3 Service

Service is available in all the countries where the equipment is officially supplied by *MC elettronica* (during and after the guarantee period).

Any kind of operation that is to be carried out on the UC 300 must be done in accordance with the instructions stated in this manual or as agreed with *MC elettronica*. If not, the relative terms of guarantee might become void.

2. General description

The UC 300 Universal Counter is powered by a rechargeable battery and stores all the main functions of a hectare counter in a small container which can be installed easily on any public works vehicle. You can choose between metric and imperial units of measurement to calculate area, distance and speed. The UC 300 Universal Counter can also count the working hours when the machine is running. Displayed on the screen are:

1) independent total counter for surface area (in hectares or acres, in units of 10 m² or 0.001 acres)

2) independent partial counter for surface area (in hectares or acres, in units of 10 m² or 0.001 acres)

3) speed of travel (in km/h or mph, in units of 0.1 km/h or 0.1 mph)

4) counter of distance covered (in metres or feet, in units of 1 metre or 1 foot)

5) working hour counter (in units of 0.1 hours)

Provided with the UC 300 are a battery charging cable, a magnetic sensor and a magnet of reference: the code for the complete kit is 00KIT-0014;

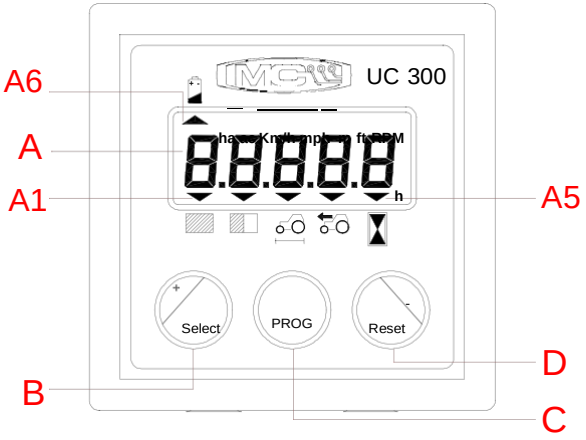
When the battery is running low, this is signalled on the display (refer to the section “Operation”). The user can connect the charging cable to the battery of the tractor and continue working during the charging process, or disconnect the sensor and charge the monitor separately.

Inside the connector of the magnetic sensor is a jumper for powering the UC 300: disconnecting the sensor turns off the monitor, saving on battery power. PLEASE NOTE: it is advisable to disconnect the sensor only when the machine is at standstill to avoid the partial loss of data of the totalizes; the programmable parameters, however, remain saved.

Essential requirements for the Universal counter:

a) Powered by 3.6V internal rechargeable batteries
b) Nominal battery charge voltage: 12V (16V max)
c) Maximum dimensions: 78 mm in width, 78 mm in height and 38 mm in depth.
d) 5-digit display + indicators, not backlit
e) External application (IP66).

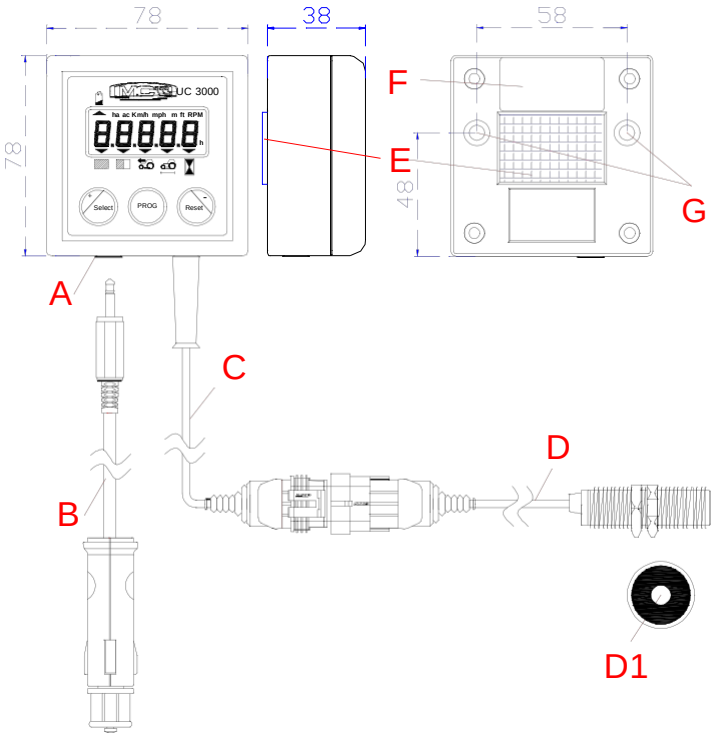
3. Description of the panel and electrical connections



Rif.	Description	signal Type INput/OUTput	Pin connector S.SEAL 4-way
A	LCD Display:		
	A1-A5: arrows indicating the size selected A6: arrow indicating low battery	-	-
B	Selection key size and "-" in programming	-	-
C	Programming key: allows you to enter the phase of programming parameters	-	-
D	Selection key size and "-" in programming	-	-
	Input magnetic sensor (*)	IN NPN NO	4
	Mass for the magnetic sensor	OUT GND	1
	Pin for bridge power monitor	-	2 e 3

(*) = Maximum input frequency 35Hz magnetic sensor

4. Overall dimensions

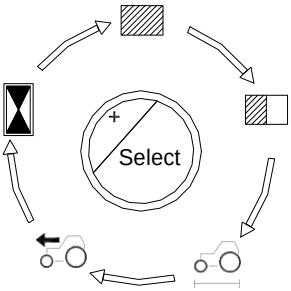


A	3.5 jack connector panel for battery charging
B	Cable 50 cm with cigarette lighter plug for charging battery (supplied) cod. CAV-0017
C	cable 20 cm with conn. s.seal 4-way for connection the magnetic sensor
D	sens. magnetic supplied cable and magnet diam.20mm (D1)
E	3M DUAL LOCK for removable mechanical attachment
F	label with identification parameters
G	M5 threaded inserts for mechanical fixing to panel

5. Operation

When the counter is started up for the first time (or after the battery is charged after having run down completely), the total area counter is shown on the display. The UC 300 is set by default to show metric measurements: the area is given in hectares, the speed in km/h and the distance covered in metres. The initial sequence is, therefore:

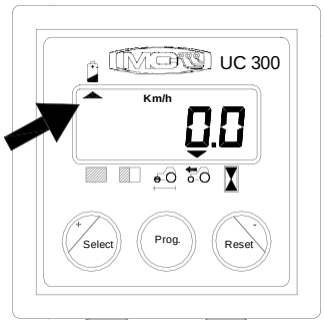
Pressing the “select” button during operation shows the next measurement on the display, as follows



After selecting a measurement it is possible to reset it by pressing and holding the "reset" button for 3 seconds (with the exception of the speed of travel, which is instantaneous data).

6. Low battery warning

When the battery is nearly run down, the arrow under the battery symbol in the top left-hand corner lights up;



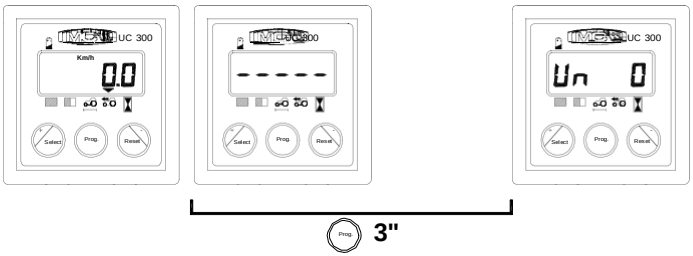
the residual autonomy of the UC 300 before it turns off completely is limited and will depend also on use. If the battery runs down completely and the UC 300 turns off, some of the data may be lost (refer to the previous section); to charge the battery, connect the cable with the jack connector (provided) to a 12V battery: **Do NOT use car battery charging devices.** The charging process generally takes about 10 hours, while the autonomy between a charging cycle and the next is about 2.5 years (although this depends on the extent and conditions of use); it is not necessary for the speed sensor to be connected while the battery is charging.

7. Standby mode

To save on energy and increase the autonomy of the batteries, the UC 300 automatically goes into standby after 5 minutes if it does not receive any pulses from the speed sensor and none of the buttons are pressed. In standby mode, power consumption is less than 30µA and the last data remains on the display without any other information. The UC 300 exits standby mode when the next pulse is received from the speed sensor or when you press any button for at least 1 second.

8. Programming

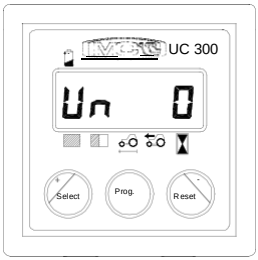
As with the totalizers, either metric or imperial units of measurement can be used for the programmable speed and area parameters. To access the programming phase with the UC 300 turned on, press the “Prog” button for 3 seconds and five horizontal dashes appear on the display. The first programmable parameter, “Un”, then appears as shown below;



During the programming phase, you can use the “+” and “-” buttons to edit the value of the parameter, then press the “Prog” button to confirm your changes and move on to the next parameter;

8.1 Programming the “Un” (unit of measurement) parameter

Programming of this parameter is very important to the work in hand and to the programmable parameters. You need to select either the metric or imperial unit of measurement; you then only need to program the parameters of the UC 300 for the chosen unit of measurement.



Name of parameter:	Un
Description:	selection of unit of measurement
Programmable range:	0 (=metric units) or 1 (=imperial units)
Default value:	0

8.2 Manual programming of parameter “C” (pulses of the speed sensor)

This parameter represents the number of pulses emitted by the speed sensor after each 100 linear metres (or 328 feet) covered by the public works machine;

Enter the programming phase as described above and edit the value with the “+” and “-” buttons; pressing and holding either button will speed up the editing process. After setting the required value, press "Prog" to confirm and move on to the next parameter.

with “Un” = 0

Name of parameter:	C
Description:	Pulses of the speed sensor after every 100m covered by the machine
Programmable range:	20 to 999 Steps of 1 pulse
Default value:	200

with “Un” = 1 	Name of parameter:	C
	Description:	Pulses of the speed sensor after every 330 feet covered by the machine
	Programmable range:	20 to 999 Steps of 1 pulse
	Default value:	200

8.3 Automatic programming of parameter “C” (pulses of the speed sensor)

It is possible to program parameter C automatically: after entering the programming phase as instructed above, and with “C” shown on the display followed by the value currently programmed, press both the “+” and “-” buttons at the same time and the following appears on the display

At this point, travel 100 metres (or 330 feet) in the machine and the number will increase automatically on the display. After covering this distance, press the "Prog" button to confirm the data. It is advisable to repeat this operation at least twice.

If you try to acquire a value of less than 20 pulses, “Err” appears on the display and the UC 300 retains the last valid value to have been saved.

8.4 Programming parameter “L” (working width)

This parameter is the working width of the machine in metres (or feet).

Enter the programming phase as described above and edit the value with the “+” and “-” buttons; pressing and holding either button will speed up the editing process. After setting the required value, press "Prog" to confirm and exit the programming phase.

with “Un” = 0 	Name of parameter:	L
	Description:	Working width in metres
	Programmable range:	00.10 to 30.00 Steps of 0.01m
	Default value:	1.50
with “Un” = 1 	Name of parameter:	L
	Description:	Working width in feet
	Programmable range:	00.32 to 98.40 Steps of 0.01 feet
	Default value:	4.92

9. Maintenance

This chapter gives instructions on how to carry out ordinary and extraordinary maintenance.

Ordinary maintenance refers to those operations which must be carried out periodically. As they do not require specific skills, they can be carried out by the users (operators etc.).

Extraordinary maintenance refers to unforeseeable operations due to mechanic or electric failures. They require specific technical skills, so they should be exclusively carried out by qualified personnel (maintenance personnel etc.)

9.1 Ordinary maintenance

Ordinary maintenance consists in cleaning the instrument. Clean the instrument with a wet cloth and mild detergent to avoid erasing the serigraphs on the panel.

Warning

Do not use pressure water jets.

Do not use abrasive products, solvents or alcohol.

Do not press on the keyboard with pointed or hard objects in order to avoid damaging the polyester film, thus endangering the impermeability of the keyboard.

9.1.1 How to protect the main connector

In case of an extended use of the Monitor it is advisable to disconnect the main signal connector from the harness. It is advisable to insulate both the connectors (of the Monitor and of the Harness) by using a Nylon protection.

If the connectors of the monitor and of the harness are NOT disconnected no protection is needed.

9.2 Extraordinary maintenance

Warning

Extraordinary maintenance must be carried out by authorized personnel only.

10. Technical data

Power supply voltage	3.6 Vdc (internal batteries)
Max. energy consumption in stand by	< 50µA
Protection degree	IP 65
Range of operating temperature	-20 / +70 °C
Range of storage temperature	-25 / +85 °C
Mechanic vibrations resistance	2 g random

WARNING: THIS PRODUCT CONTAINS TIN AND LEAD. IT MUST BE DISPOSED OF AT THE END OF ITS LIFE CYCLE AT THE DESIGNATED DISPOSAL FACILITIES OR DELIVERED DIRECTLY TO MC ELETTRONICA SRL (ITALY).