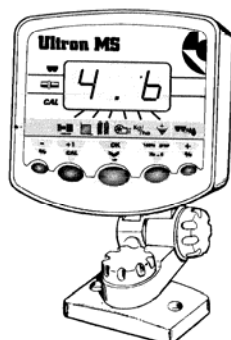


Ultron MS

*A LIRE ATTENTIVEMENT AVANT D'UTILISER LE BOÎTIER
PLEASE READ CAREFULLY BEFORE USING THE CONTROL BOX
VOR GEBRAUCH DES ELEKTRONIKGERÄTS SORGFÄLTIG LESEN*

Réf: 400 219 - F-GB-D / SEM / A-01



Ultron MS

A LIRE ATTENTIVEMENT AVANT D'UTILISER LE BOÎTIER
PLEASE READ CAREFULLY BEFORE USING THE CONTROL BOX
VOR GEBRAUCH DES ELEKTRONIKGERÄTS SORGFÄLTIG LESEN

Réf: 400 219 - F-GB-D / SEM / A-01

Safety instructions

- Follow the instructions given in this guide and in the appropriate Seed Drill or Spreader user manual.
- Do not leave the driver's seat when the tractor is running.
- Adjust the settings for the Seed Drill or Spreader and the MS unit when the tractor is switched off.
- Make sure that nobody is near the machine when calibrating the MS unit.
- Cut power to the battery link circuit before carrying out any work on the electrical system or before performing welding work on the tractor and the machine.
- The MS unit has been designed solely for use on seed drills or fertilizer spreaders, and applying it to any other purpose shall be deemed improper use. The manufacturer declines all responsibility for alterations made to the unit without his express approval.



Risk of accident

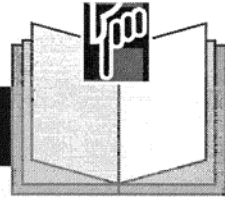


**Risk of damage to
machinery**



Making work easier

- These symbols are used in this guide whenever recommendations are made regarding your own or other people's safety or in order for the machine to operate smoothly.
- These recommendations must be passed on to other people using the machine.



English

CONTENTS

Pages PRESENTATION/OPERATING THE ULTRON MS FOR SEED DRILLS

- | | | |
|-------|-----|---------------------------|
| 6-7 | • A | A.rundown of the system |
| 8-9 | • B | Connecting to the tractor |
| 8-9 | • C | Fiting |
| 10-11 | • D | The console |
| 12-13 | • E | Quick start |



Pages USING THE ULTRON MS FOR SEED DRILLS

- | | | | | | |
|-------|-----|----------------------------|-------|-----|--------------------------|
| 14-15 | • A | Choosing a use | 36-45 | • E | The marking-out function |
| 14-21 | • B | Flow function | | • F | The turbine function |
| 22-29 | • C | The forward speed function | 46-49 | • G | Alarm function |
| 30-35 | • D | The hectaremeter function | 50-53 | | |



Pages Using the Ultron MS for Seed Drills


- | | | |
|-------|-----|---------------------------|
| 54-55 | • A | Choosing an application |
| 54-61 | • B | Flow function |
| 62-63 | • C | Border-spreading function |



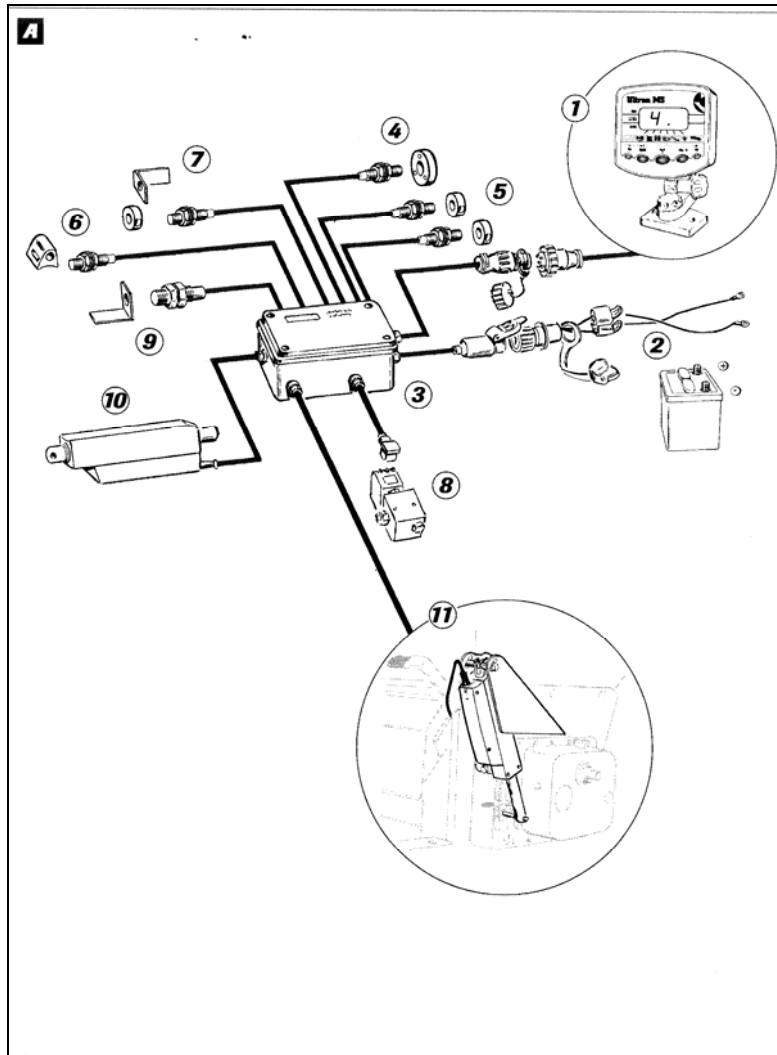
Pages THE FUNCTIONS

- | | | |
|-------|-----|-----------------|
| 64-65 | • A | System outline |
| 65 | • B | Maintenance |
| 66 | • C | Troubleshooting |



Read the manual carefully before use. Understanding your electronic unit will help you make better use of it. For English, look for the symbol 

Presentation/Operating the Ultron MS for seed drills



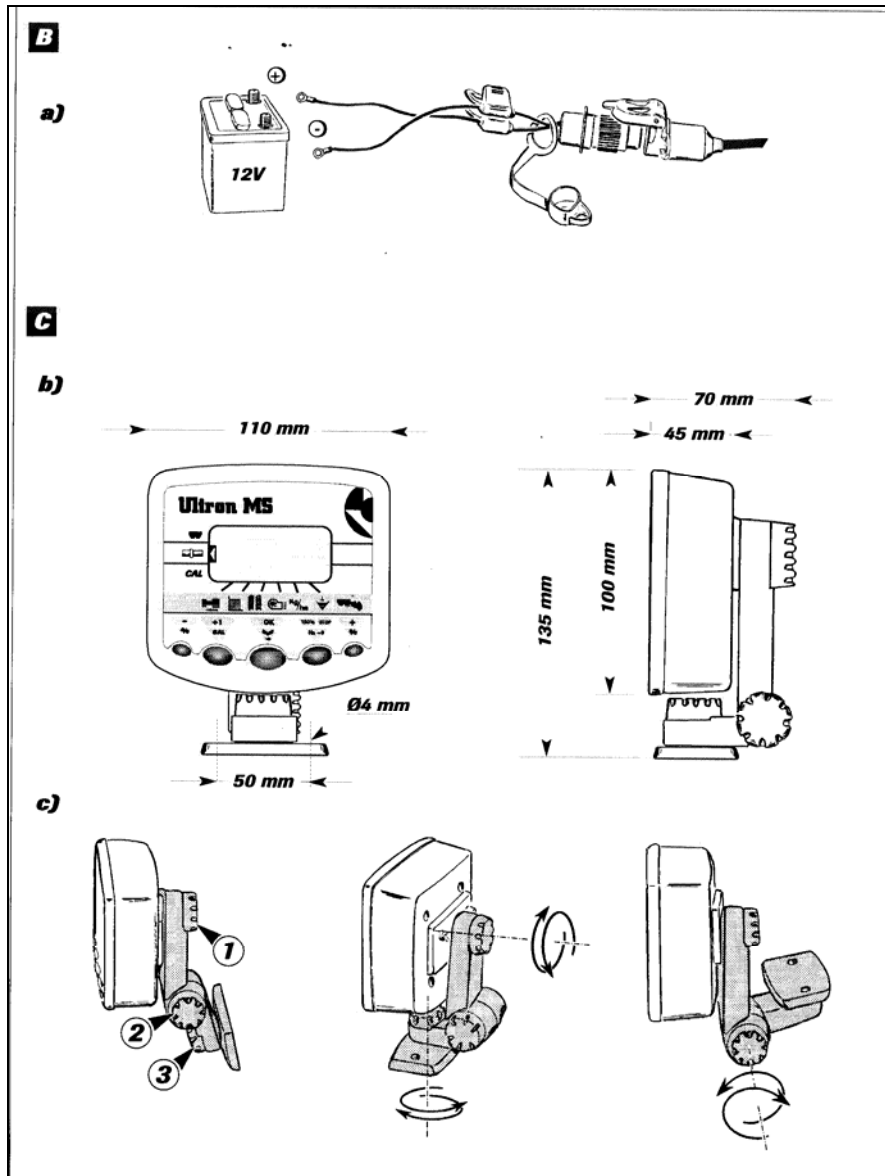
4 A rundown of the system

- The ULTRON MS unit is used for performing adjustments and checks.
- Weight and surface area information provided by the ULTRON MS unit may not be used for business purposes.

Presentation

- ① ULTRON MS unit
- ② Power bundle with 5 amp fuse (optional)
- ③ Seed-drill connector unit
- ④ Turbine sensor
- ⑤ Marking sensor (1 or 2)
- ⑥ Speed/area sensor
- ⑦ Metering device shaft sensor
- ⑧ Pre-emergence marking solenoid valve
- ⑨ Hopper-end sensor
- ⑩ Jalonnage de post levée
Application rate adjustment
 - 1 Seed drill actuator
 - 2 Spreader actuator

Presentation/Operating the Ultron MS for seed drills



B Connecting to the tractor

a) Connecting the ULTRON MS

- The unit's electrical power supply must be connected directly to the tractor's 12-volt battery.
- The ULTRON MS unit includes an accumulator for storing the programmed data.
- The ULTRON MS unit is protected by 5-Amp fuses. Optional power bundle available.

Note:

If your tractor has been pre-fitted with an identical socket (cobo), make sure that it includes a 5-Amp fuse.

C Fitting

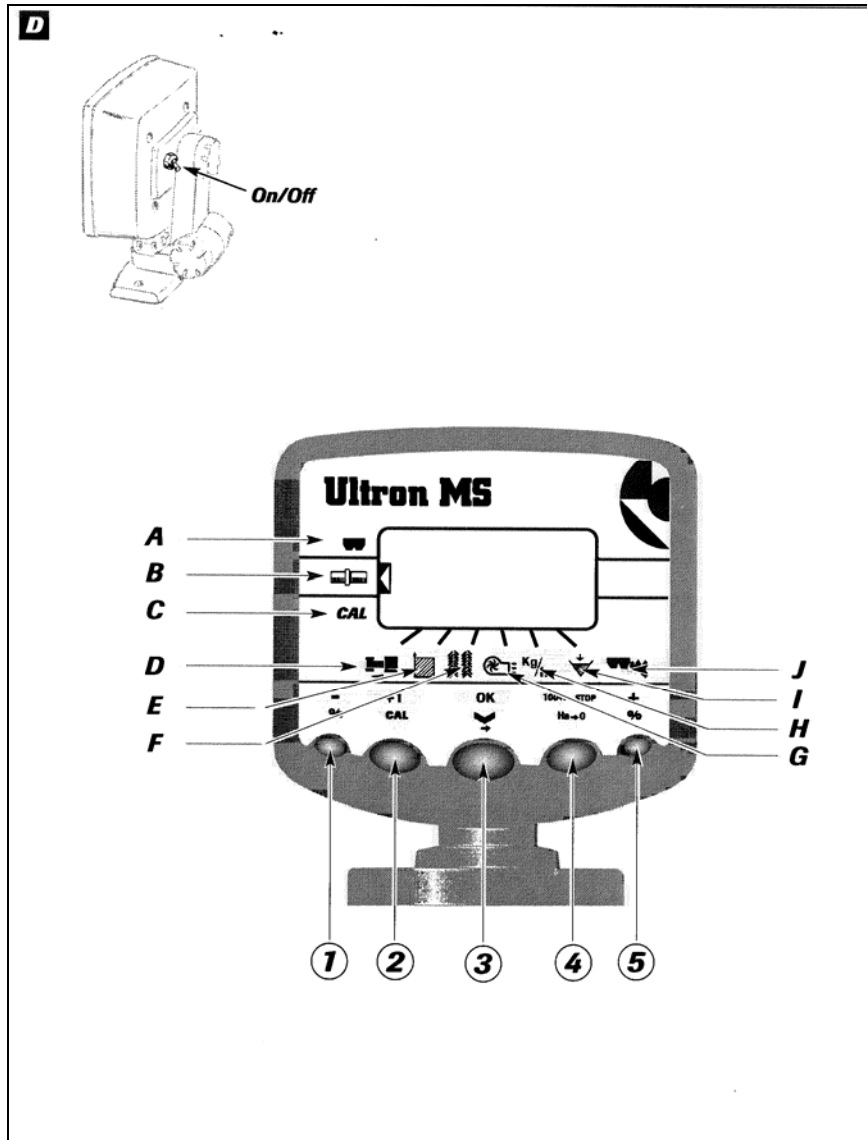
b) Volume

- The electronic unit must be fitted in clear view of the driver.

c) Attaching

- The unit can be attached in a number of positions using the 3 adjusting screws. ① ② ③

Presentation/Operating the Ultron MS for seed drills



D The console

- . **On/Off switch**
- . **Standard unit**
- . **Multifunction screen**

A Choice of machine

B Settings scale

C Calibration

FUNCTIONS

D Forward speed (in km/h)

E Area

F Marking

G Turbine check

H Dose

I Hopper end - seed drill

J Border-spreading mode for fertilizer spreader

SETTINGS

1 Reduce setting and rate of adjustment (%)

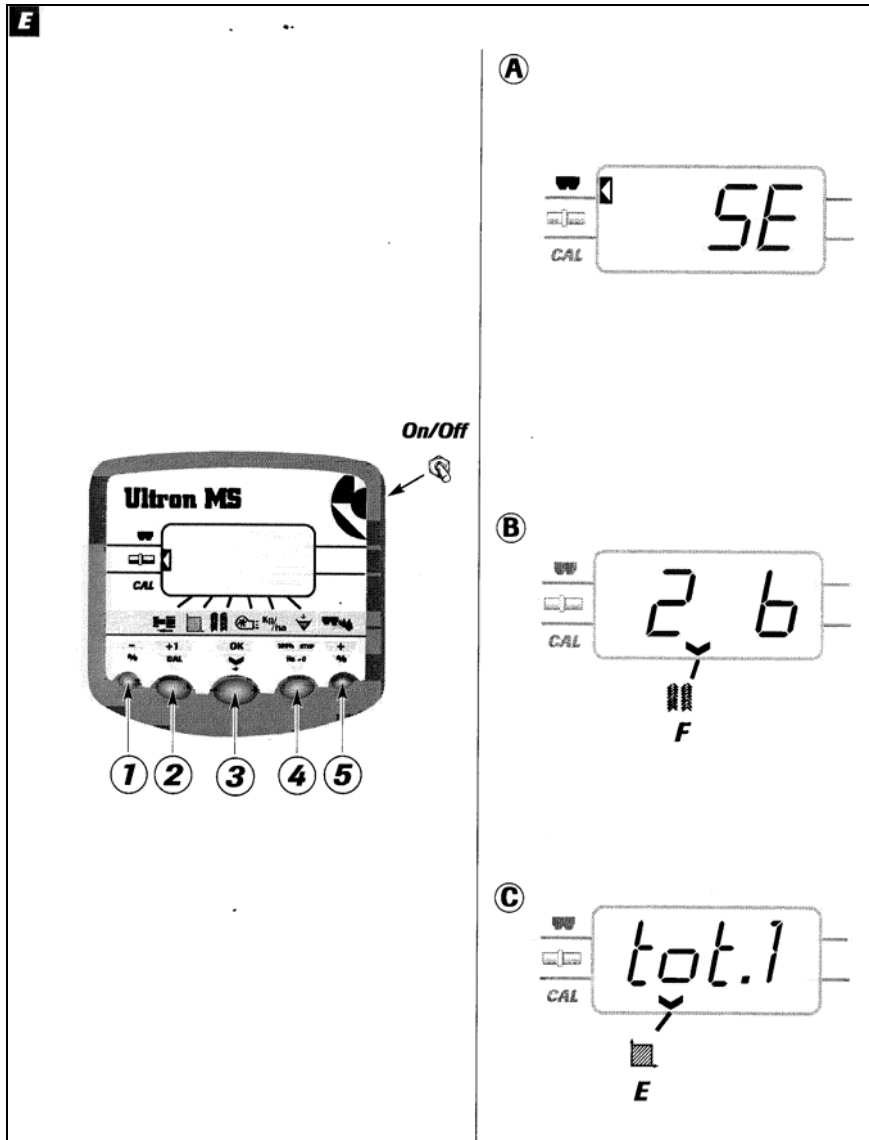
2 Progress of tramlining passes

3 Stop marking-out run and reset ha to zero

4 Increase settings and rate of adjustment (%)

5 Increase values and rate of adjustment (%)

Presentation/Operating the Ultron MS for seed drills



E Quick start

SWITCH THE CONTROL BOX ON

A Application rate

- Press button ① to check that the correct software is running
(SE = Seed Drill, DP = Spreader and DPA).
- Press button ③.
- TO BEGIN WORK IMMEDIATELY.
Press button ④ followed by button ③.
- TO PERFORM A CALIBRATION TEST.
Press button ③.
(make sure that the mark is at 35)
Press button ③.
(make sure that you are in test mode)
Press button ③ and enter the load value in kg using buttons ① and ⑤.
Press button ③ and enter the dose in Kg/ha using buttons ① and ⑤.

Press button ③ to confirm the setting you have entered.

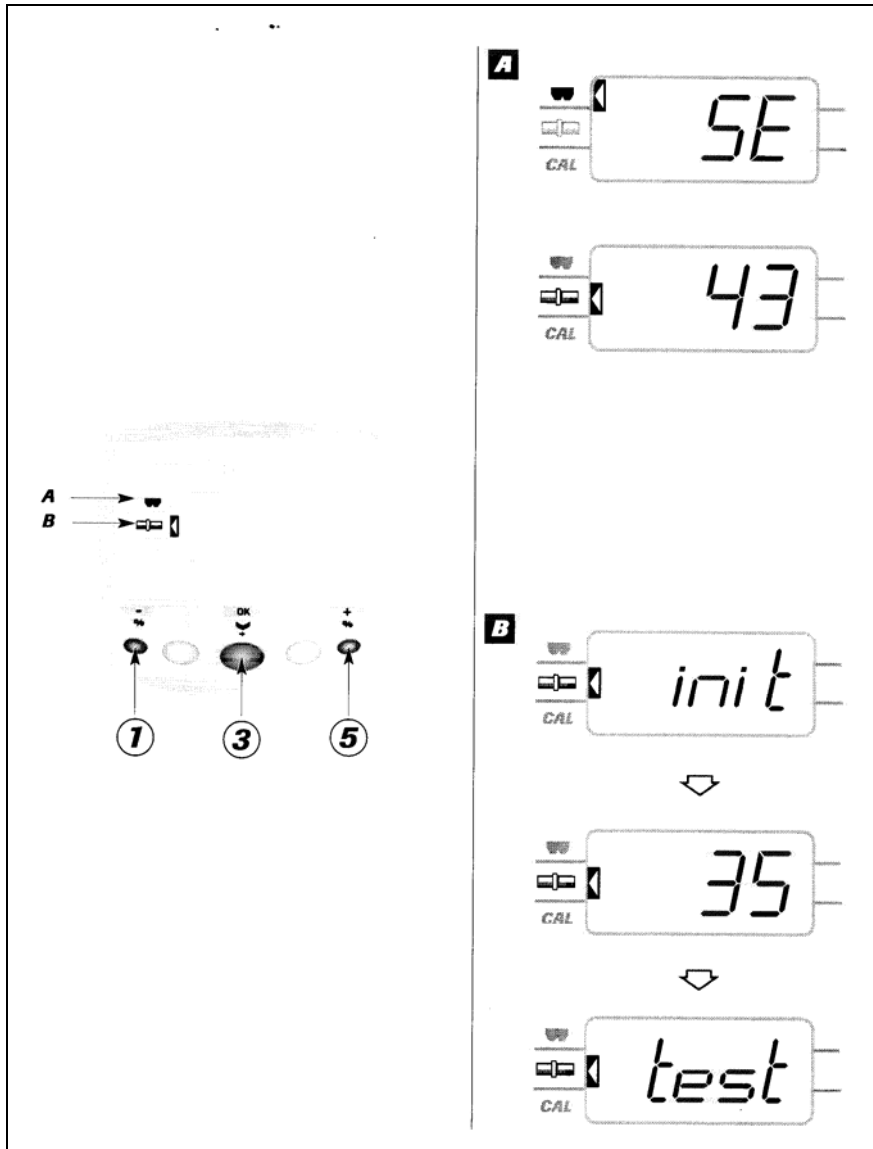
B Marking

- Check the pass number and "SY-FS" tramlining mode
- Use button ② to enter the correct value at the beginning of the plot.
- You can stop the count by pressing button ④.

C Use

- Press button ③ to bring up the various functions.
- Press button ② to select the hectaremeter "total.1" and "total.2".
After 5 seconds press button ④ to reset the counter to zero.
- Use buttons ① and ⑤ ($\pm 10\%$) to adjust the dose.
You can return to the dose reading by pressing button ④.

Using the Ultron MS for Seed Drills



A Choosing a use

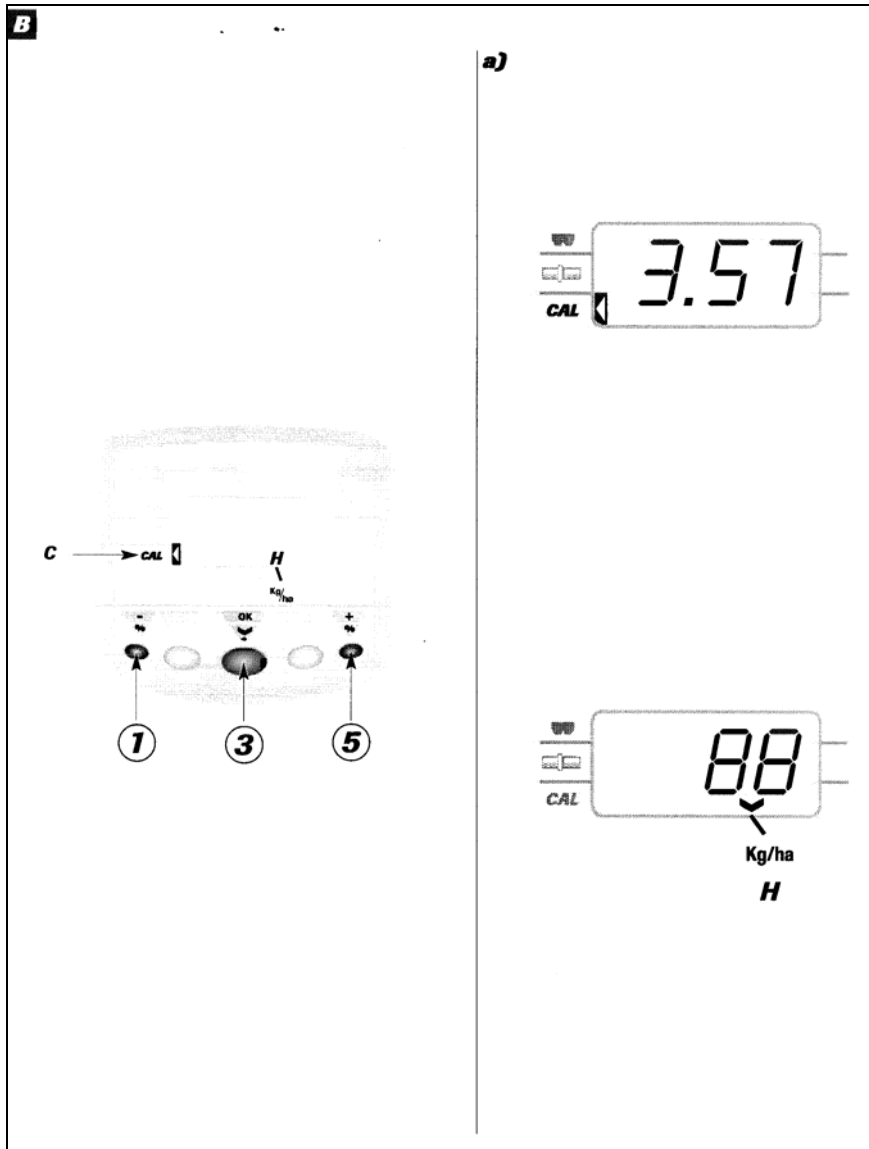
- **Switch on** the instrument
 - The side cursor is over
 - A →
- **Press** button ⑤ to select a machine.
 - The display will read:
 - "SE" for an online seed drill.
 - "DP" for a fertilizer spreader.
- **Press** button ③ to confirm your choice.
 - The display will show the most recently stored actuator setting.

B Flow function

- Press button ③.
- This message "init" will appear and the actuators will be initiated.
- The side cursor is over
 - B →
- The actuators will move to the 35 mark and "35" will be displayed.
- The display will read "test".

Note : "35" is the average setting for performing a calibration test.
For low quantities per hectare (e.g. rape), set to the "15" mark for example, using keys ① and ⑤.

Using the Ultron MS for Seed Drills



a) The calibration test

- **Press button ③.**
 - The side cursor is over
- C** → **CAL**
- The display will show a hypothetical weight in kg
 - The unit is on standby.
- **Carry out the calibration test** (refer to the machine's instructions for use).
 - **Weigh the amount obtained from the test.**
 - **Enter the weight in kg using ① and ⑤.**

Note :
For low weights, enter a figure to 3 decimal places .
(0,000 Kg)

- **Press button ③.**

- The cursor moves to

H → **Kg/ha**

- The unit will calculate and note a hypothetical amount in kg/ha.

There are two possibilities:

a) If the registered dose is the correct dose:

- **Press button ③.**

- You may now begin work.

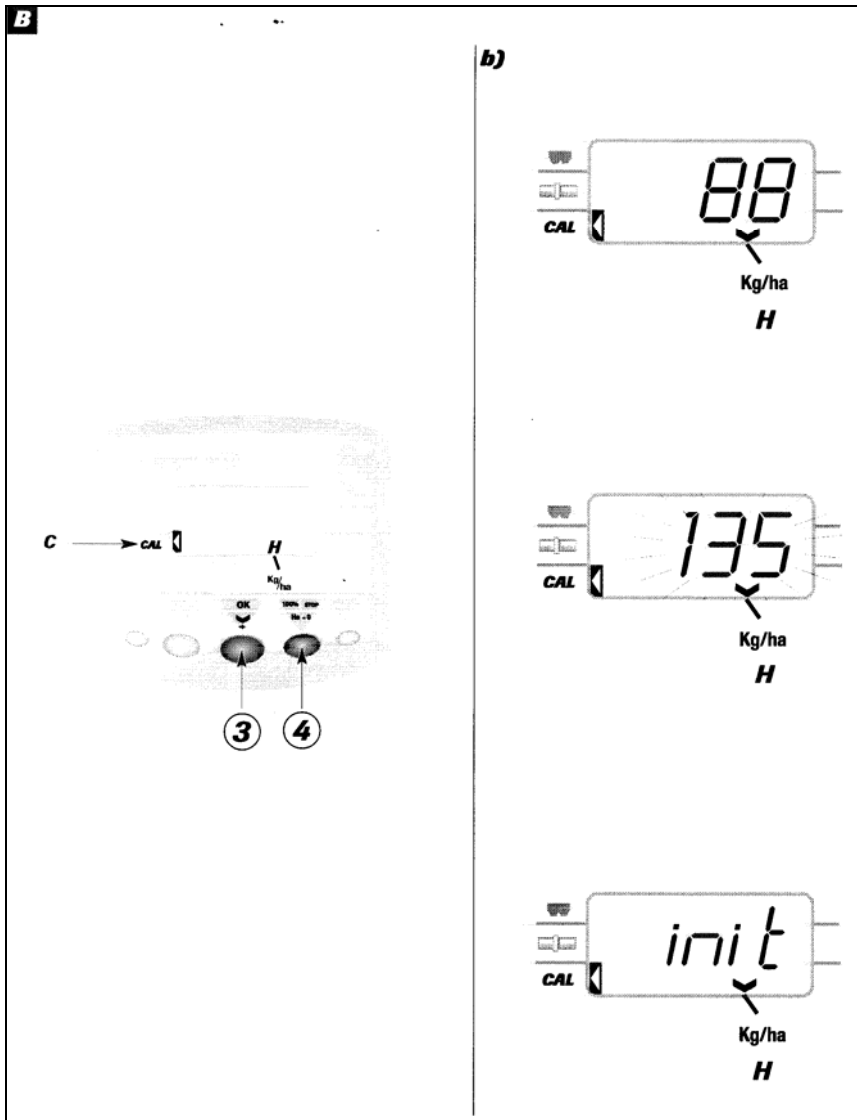
b) If the registered dose is not the correct dose:

- **Press button ① or ⑤** to enter the required dose.

- **Press button ③.**

- You may now begin work.

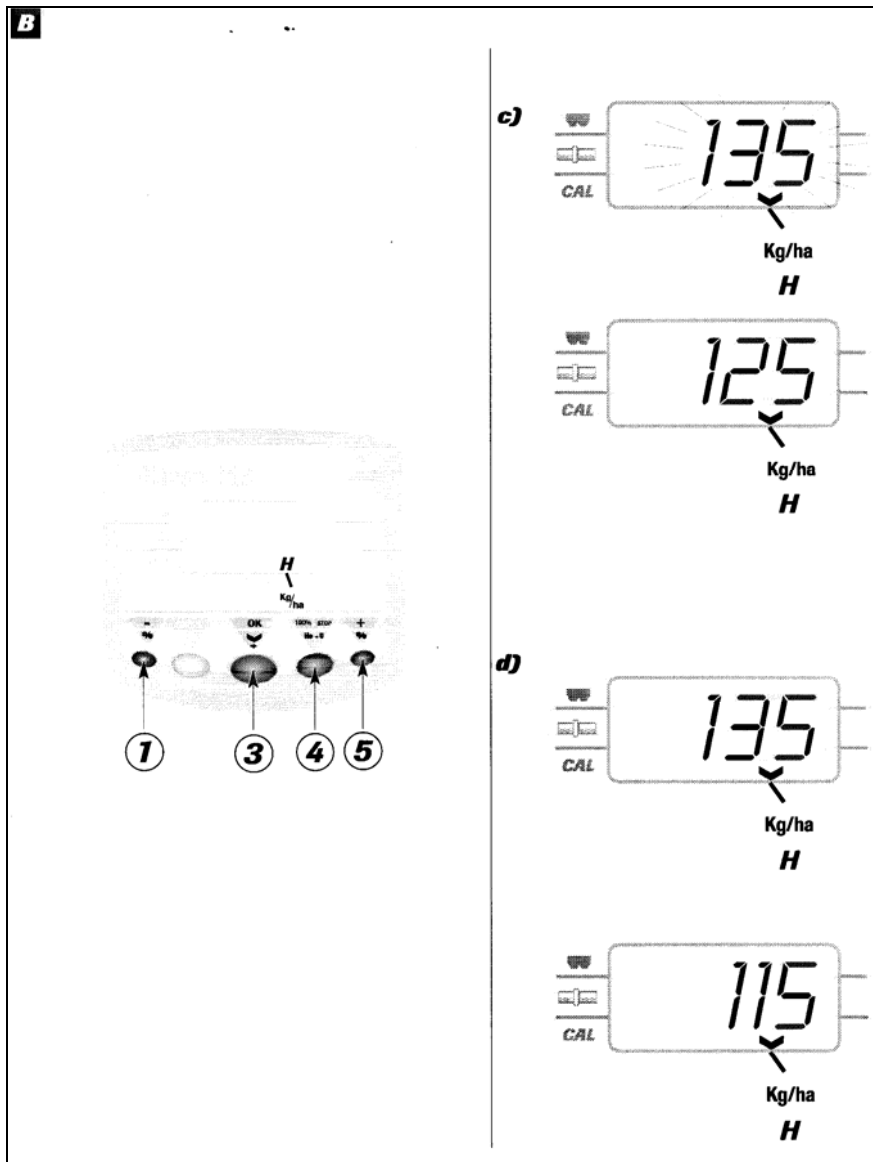
Using the Ultron MS for Seed Drills



b) Gaining direct access to the settings when the unit has been switched off

- Press button ③ after power has been switched on.
- Press button ④.
 - The side cursor will move to
C → **CAL**
 and the display will bring up the most recently stored actuator settings.
- Press button ③ to initiate the same value.
 - The message " *init* " will be displayed on screen while the actuator is transferring to the programmed mark.
 - You may now begin work.

Using the Ultron MS for Seed Drills



c) Changing the standard dose setting

- **Keep** button ⑤ or ① pressed in for 3 seconds.
→ The dose setting will start to flash
- **Change** the dose setting using buttons ① and ⑤.
→ The dose setting will start to flash.
→ The new dose setting will be displayed.
- **Press** button ③ to confirm the new dose setting displayed.

Note :

The standard dose setting should only be changed for the same seed type. In other cases, a new test should be performed.

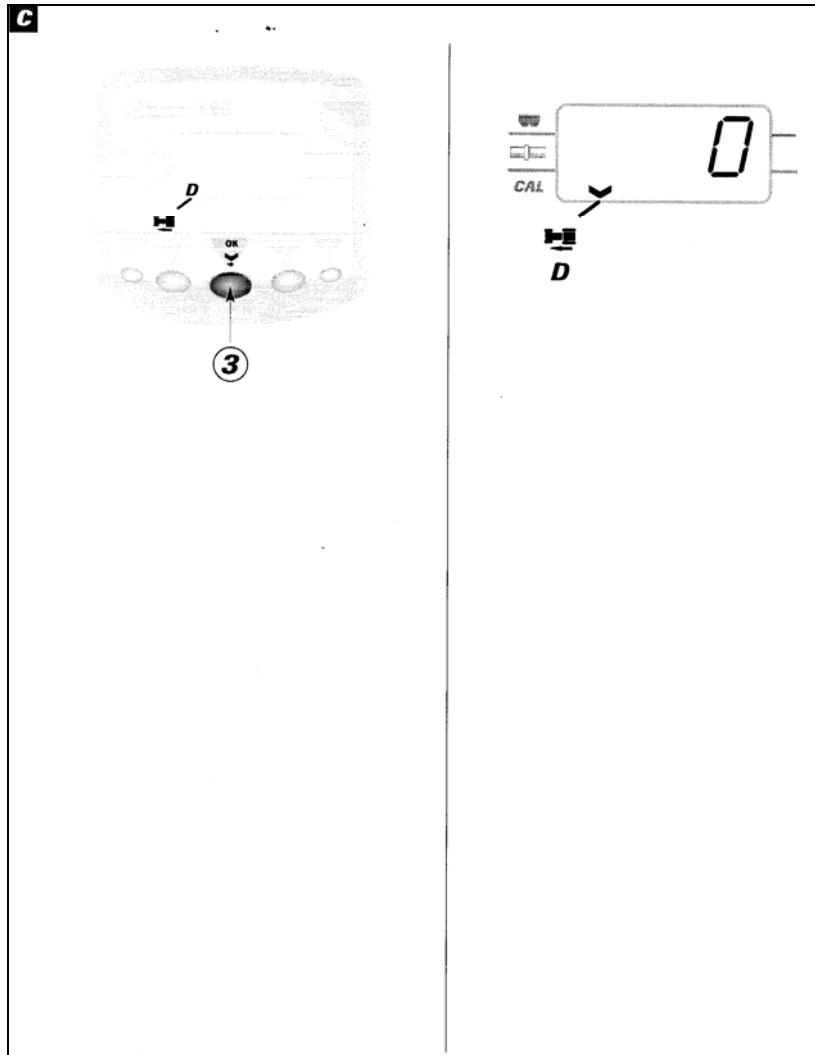
d) Adjustments

- **Press** button ① to reduce the dose by 10%.
- **Press** button ⑤ to increase the dose by 10%.
- **Press** button ④ to revert to the standard dose.
- The dose is adjusted up or down by 10% each time the buttons are pressed.
- The display switches back and forth between the rate of adjustment (%) and the new dose.

Note:

If there is a sharp increase in the dose setting that the seed drill or spreader cannot handle, the registered amount will flash.

Using the Ultron MS for Seed Drills



G The forward speed function

a) Operation :

- **Press** ③ to move the cursor on to Km/h.
- When working, the speed of advance is displayed.
- The unit only works for a speed of advance greater than 2 Km/h.

- The unit is programmed with a coefficient of 3.333 so that the speed can be read off directly.

- If you notice that the speed indicated is not correct :

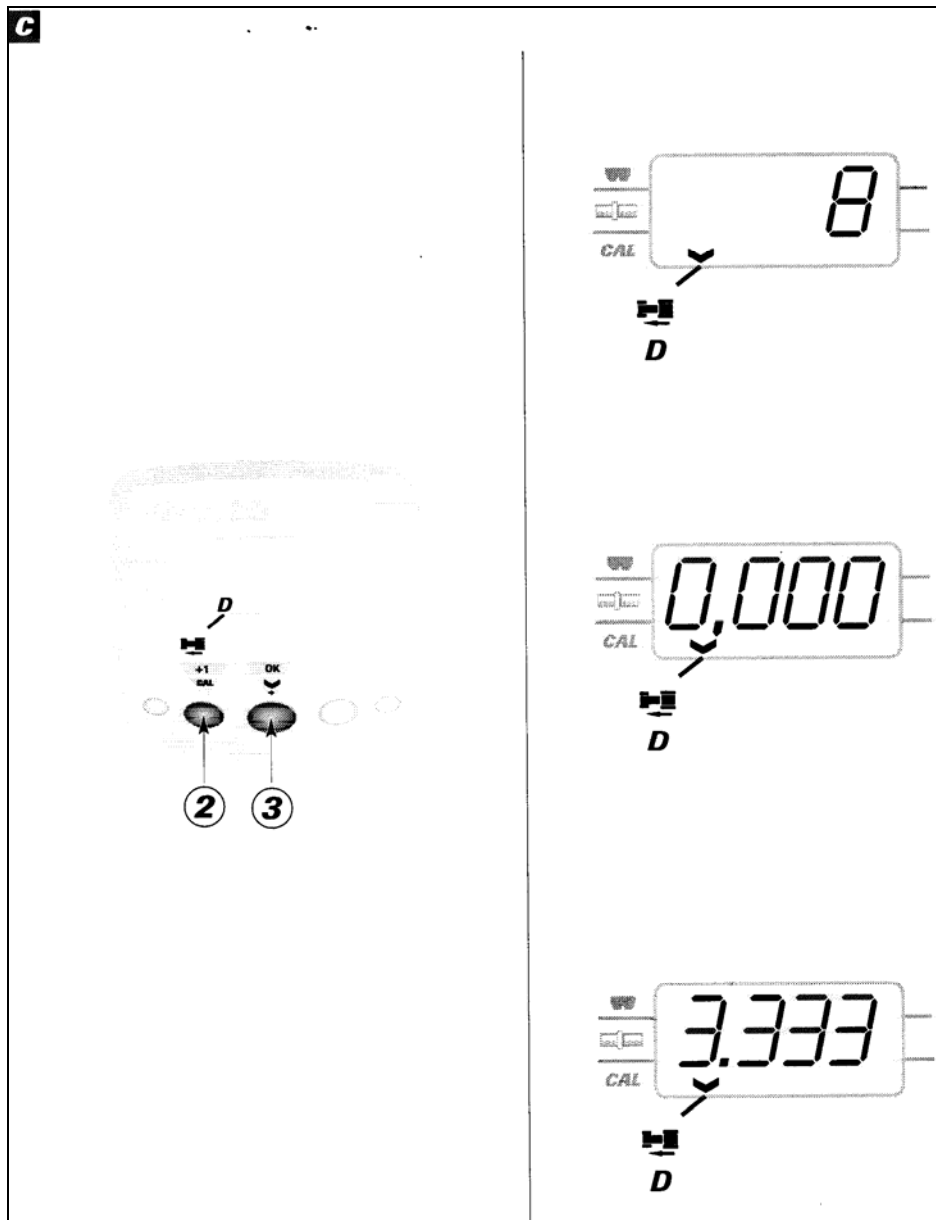
- **Check** that the coefficient is still stored in memory

- **Recalibrate** the unit over a distance of 100 m

Note :

A difference of a few per cent may be observed between the k.p.h. indication on the unit and on the tractor. Calibrating the unit over 100 m is the most accurate method of obtaining a reading as close as possible to the actual forward speed.

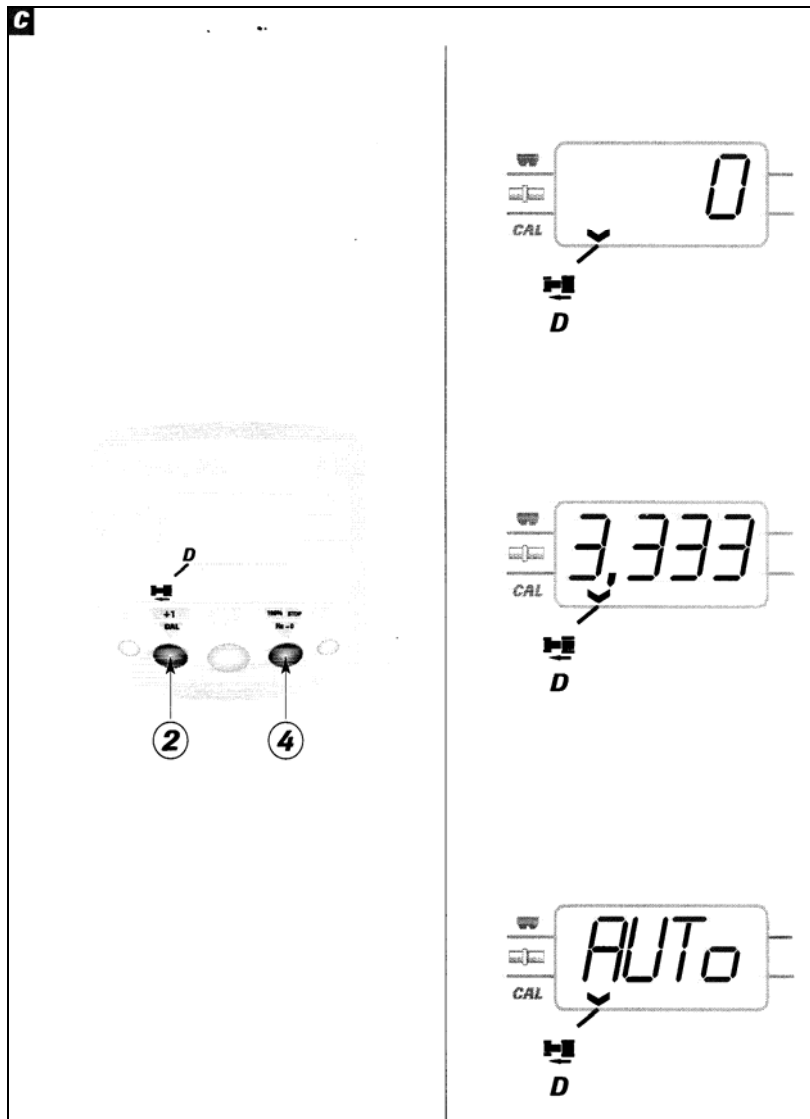
Using the Ultron MS for Seed Drills



b) Checking the coefficient :

- **Select the Km/h function, press ③.**
- **Press ② and hold down :** The coefficient is displayed
 - if correct **release**
 - if incorrect **keep pressed** down throughout programming
- **With your other hand, press ③** to modify the figure which is flashing
- **Release** when the required figure appears.
- **Repeat** this operation for the other figures and for the location of the decimal point.
The coefficient should be "3.333"

Using the Ultron MS for Seed Drills



c) Calibration over 100 metres :

- **Position** the seed drill at the first marking point

1) Select the Km/h function



2) Press ② and hold down :

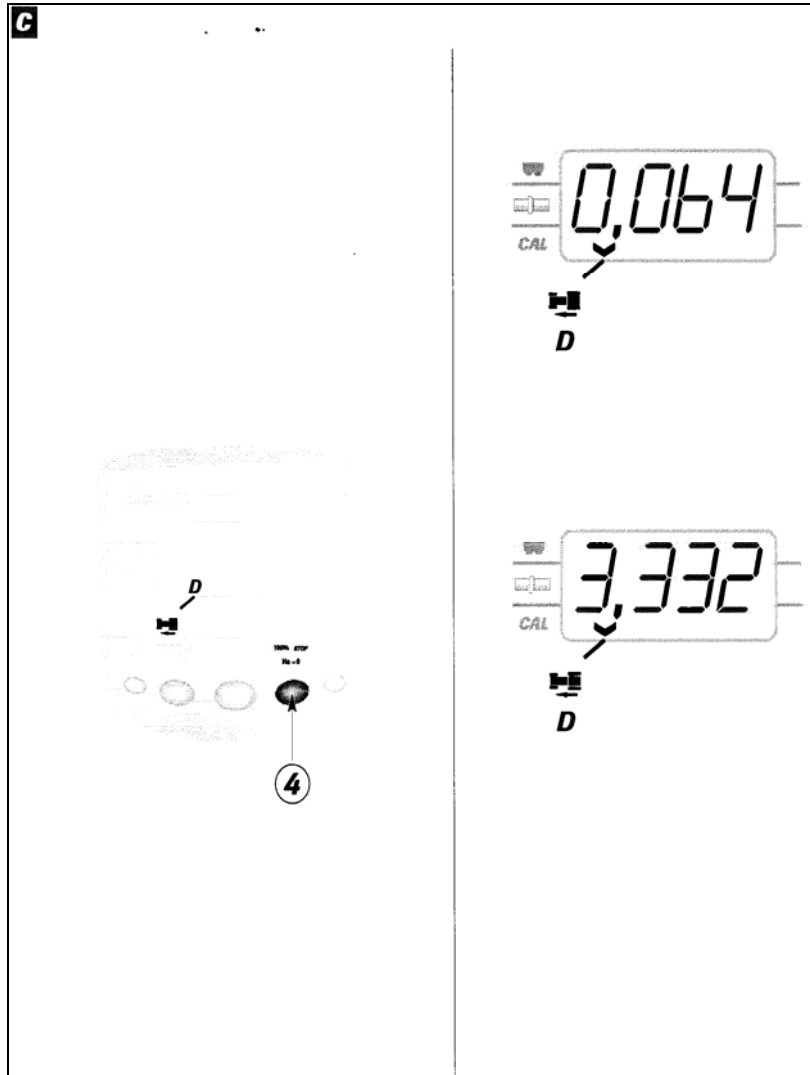
- The coefficient is displayed

3) Press ④ with your other hand to start automatic programming

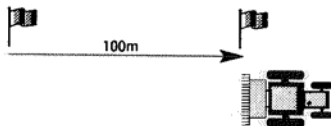
- The "AUTO" coefficient will be displayed

- **Release**

Using the Ultron MS for Seed Drills



- **Travel** the distance of 100 metres
→ The number of pulses is displayed.

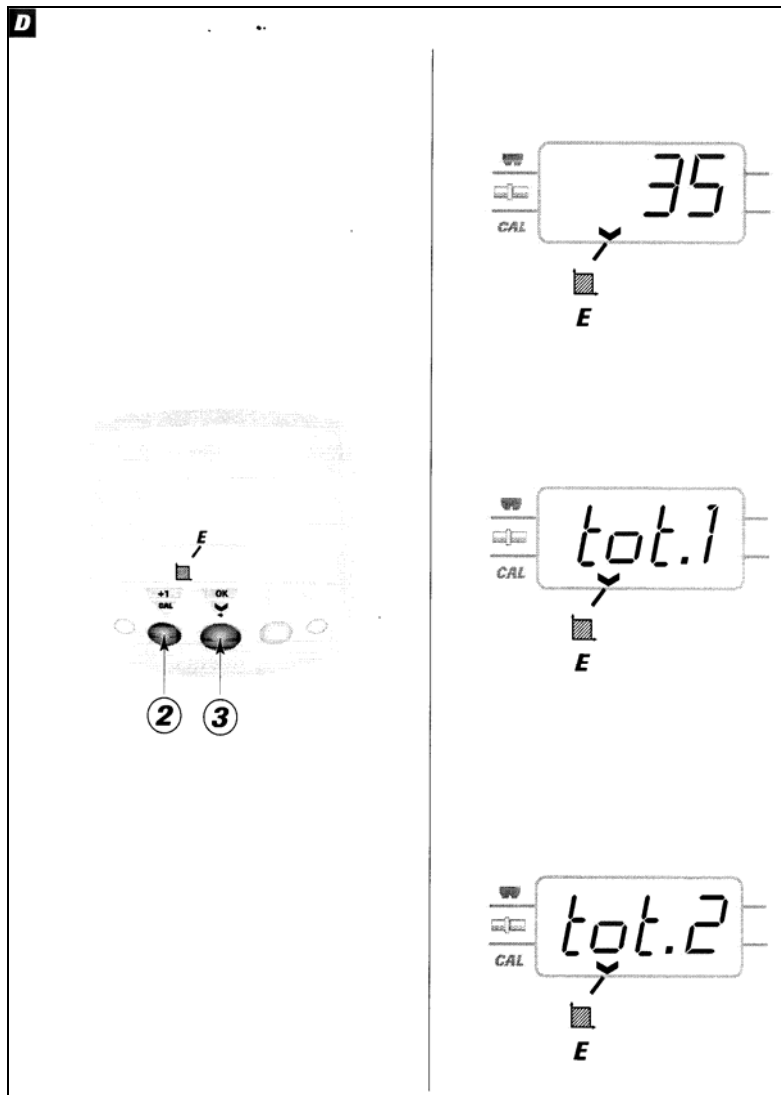


- **Press** ④ at the end of the 100 metres:
→ the coefficient is then displayed.

→ The unit stores this coefficient in memory and cancels the previous value.

Note :
the difference between the theoretical coefficient and the coefficient obtained through testing is generally very low.

Using the Ultron MS for Seed Drills



D The hectaremeter function

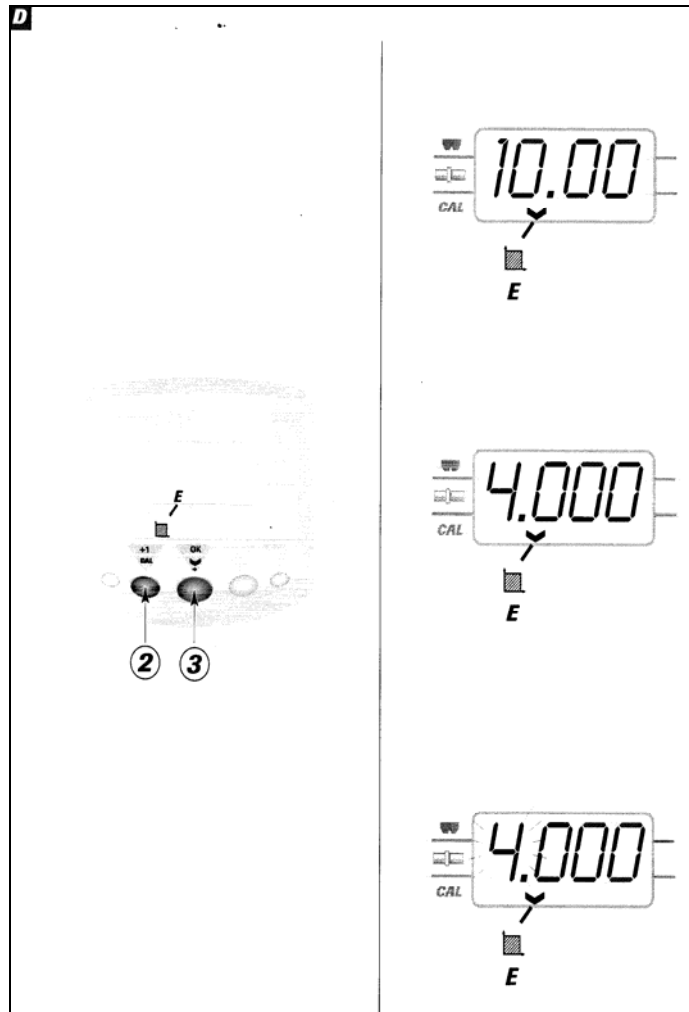
- Press button ③ to move the cursor.
- Move the cursor over



SELECTING THE "TOTAL 1 OR 2" METER:

- Press button ② to select a meter.
- "total.1" or "total.2" will appear when you press button ②.
- The area reading will appear when you release button ②.

Using the Ultron MS for Seed Drills



CHECKING THE WORKING WIDTH:

▪ **Press ② and hold down:**

The width appears

- if it is correct **release**
- if it is incorrect **keep held down**

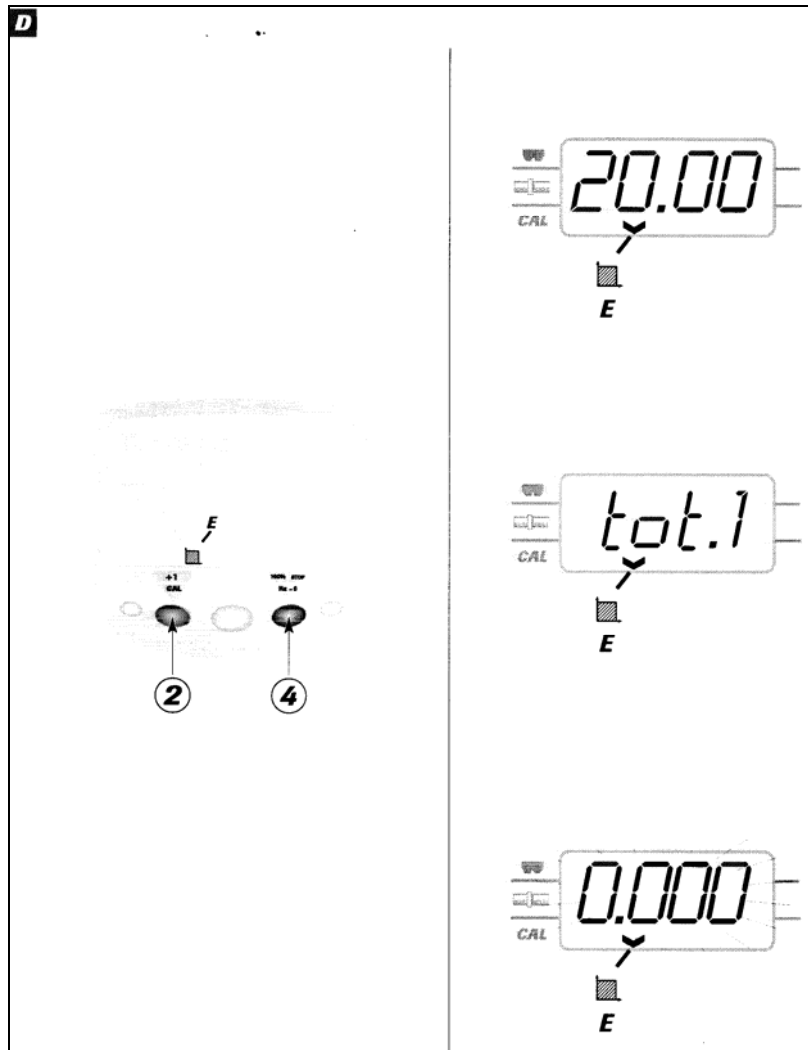
▪ **Press ③** with your other hand to modify the figure which is flashing.

▪ **Release** when the required figure appears

3m seed drill "3.000"
3.5 m seed drill "3.500"

4 m seed drill "4.000"
4.5 m seed drill "4.500"
4.8 m seed drill "4.800"
5 m seed drill "5.000"
6 m seed drill "6.000"

Using the Ultron MS for Seed Drills

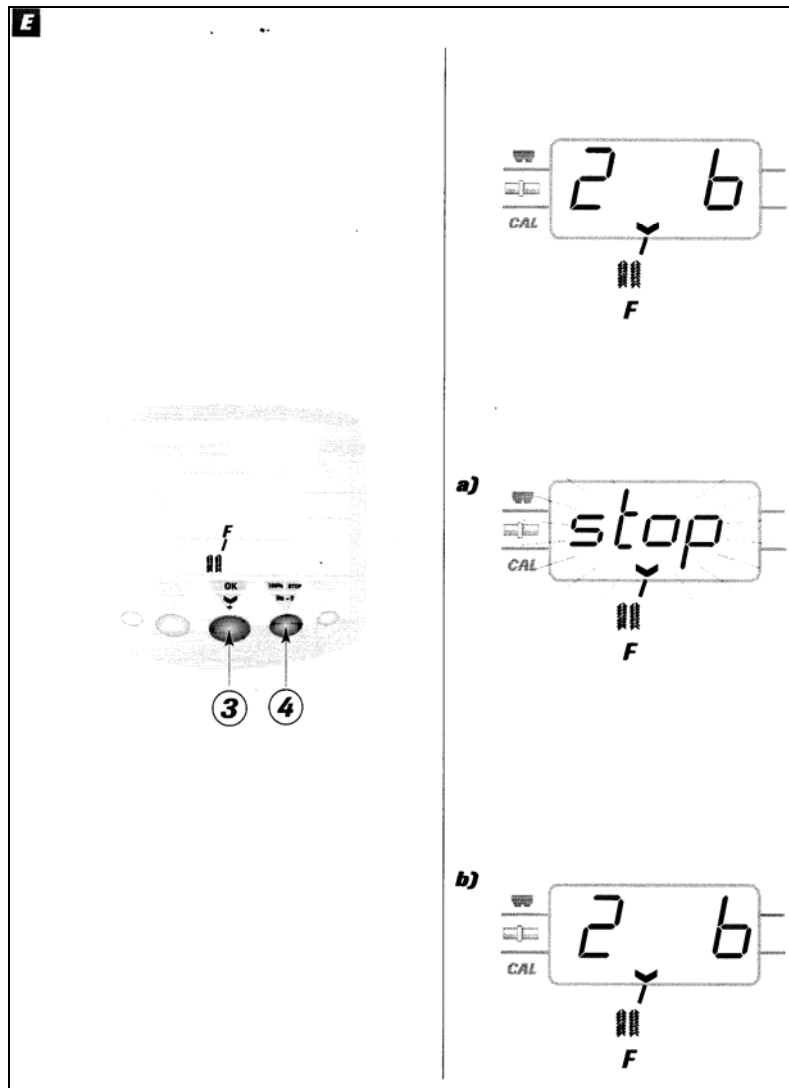


RESETTING THE METER TO ZERO:

- **Press** and select which of the totals is to be reset to zero "total.1" or "total.2"
- **Release** when the total is displayed.
- **Press** button ④ until the meter is reset to zero.
→ The meter will beep 5 times when the area reading is about to be deleted.

"total.1" or "total.2" give you two hectaremeter levels (e.g. 1 daily and 1 seasonal)

Using the Ultron MS for Seed Drills



E The marking-out function

- Press button ③ to move the cursor.
- Move the cursor to

F → |||

LH figure: count
RH figure: programmed figure

Counting is done by the markers being reversed.
The unit beeps when the metering devices begin disengaging.

a) ▪ STOPPING THE COUNT WHILE WORK IS IN PROGRESS

- in order to reverse the markers in mid plot
- because the tramline will not be used

- Press button ④, once
- the display will switch between a flashing "stop" message and the tramline setting.

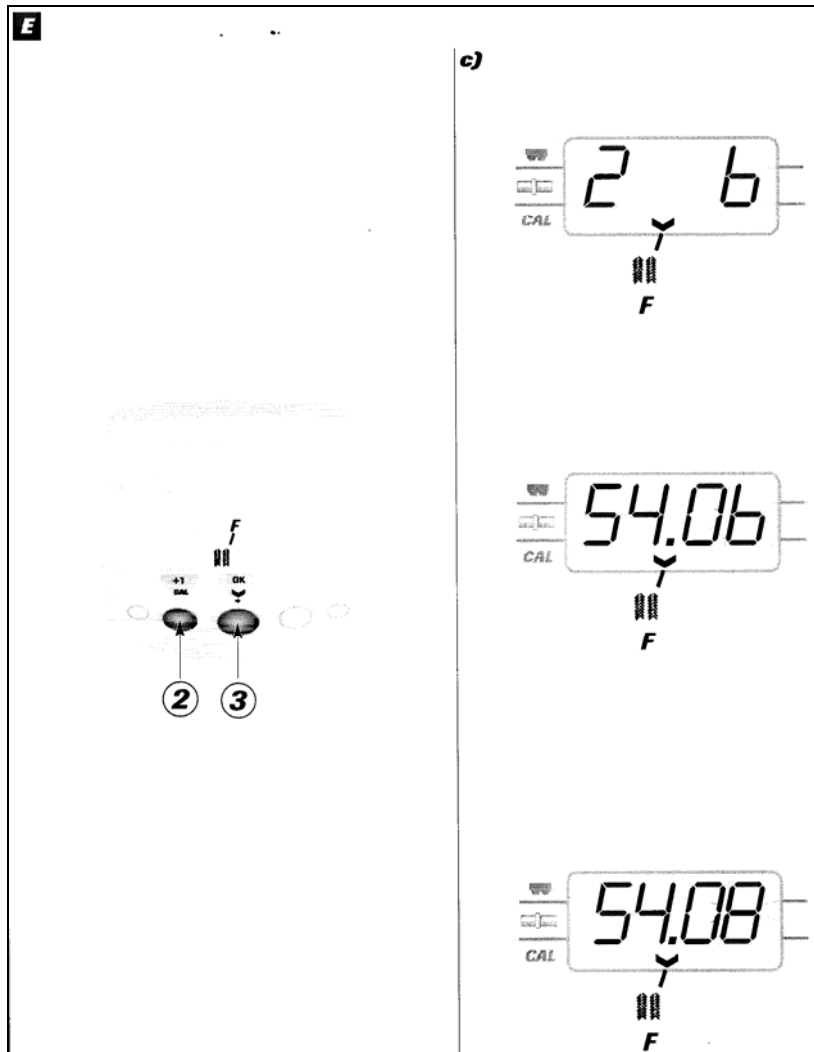
Note :

Do not let the programme reach the pass number that is stored in memory.

b) ▪ RESTARTING THE COUNT WHILST WORK IS IN PROGRESS:

- Press button ④, once
- The "stop" message will disappear and the two tramline settings will reappear.

Using the Ultron MS for Seed Drills



c) Programming :

- Press button ② and keep pressed in throughout the programming operation

- The figure on the RH side will flash
- The caption that appears on the left indicates the tramlining mode:

RR To-and-fro seed drill tramlining (asymmetrical on the right) . *Not used.*

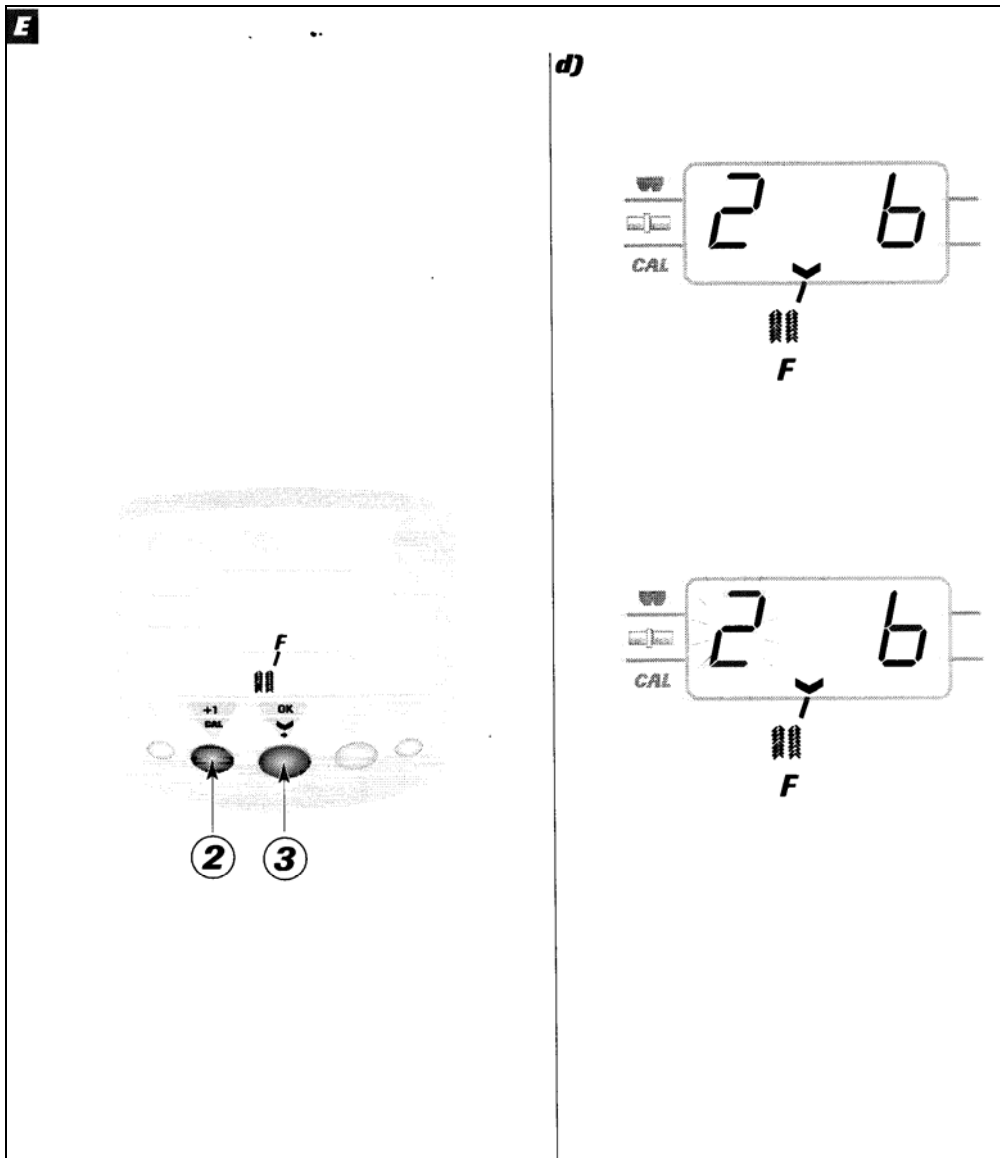
RL To-and-fro seed drill tramlining (asymmetrical on the left)

SS Centre seed drill tramlining (symmetrical)

- Press button ③ with your other hand to alter the flashing figure.

- If the unit is in **RR** mode, scroll through the figures until you reach number 12 to enter **RL** mode, and then scroll to number 12 again to enter **SS** mode and vice versa.

Using the Ultron MS for Seed Drills



d) Manual counting advance:

To begin the plot:

- **Press** to select the marking-out function.

To mark directly:

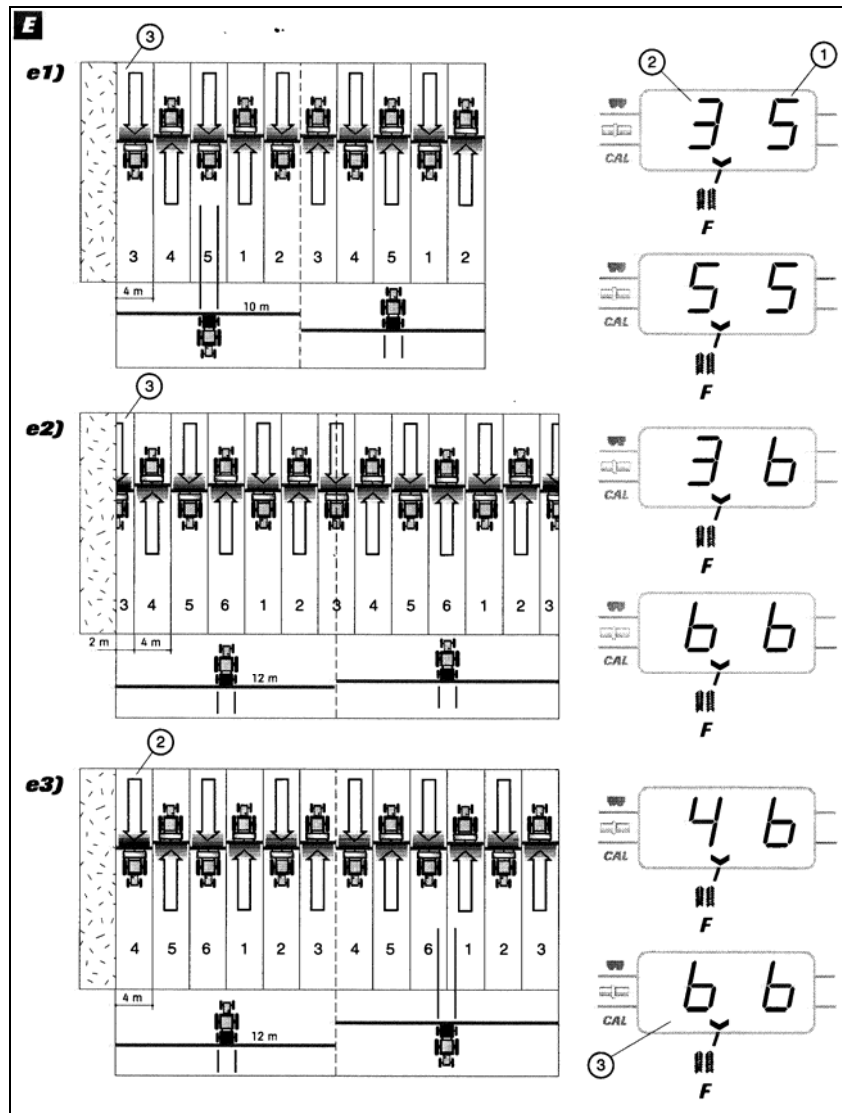
- **Press** ② to display the number preceding the programming number.
- **Raise** the marker using the hydraulic control. The counter changes directly to the programming number and flashes.
- **Lower** the other marker so that it acts on the seed drill's

hydraulic and electrical clutch system.

Notes :

- The manual advance function is only possible if one of the markers is lowered.
- Do not forget to release the hydraulic pressure once the digits have started flashing in order to activate the seed drill disengaging system.

Using the Ultron MS for Seed Drills



e) - Examples of tramlining

e1) Marking at the centre of the seed drill (symmetrical)

e.g. 20 m boom, 4 m seed drill

20 = 5 - Odd number of passes
4

- ① - Programme the unit to **5Y-05**
- ② - Set the count number to 3
- ③ - Begin the plot with a full seed drill pass. At each field end, the count number should increase by 1, up to 5. Invert the hydraulic markers before starting the 5th pass. The number should return to 1 for the next pass.

e2) Marking at the centre of the seed drill (symmetrical)

e.g. 24 m boom, 4 m seed drill

24 = 6 - Even number of passes
4

- ① - Programme the unit to **5Y-06**
- ② - Set the count number to 3.
- ③ - Begin the plot with a half seed drill (see drill manual). At each field end, the count number should increase by 1, up to 6. Invert the hydraulic markers before starting the 6th pass. The number should return to 1 for the next pass.

e3) Marking over an Outward and Return pass (asymmetrical)


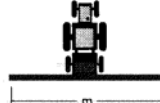

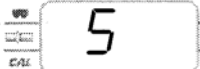
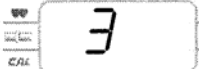
e.g. 24 m boom, 4 m seed drill

24 = 6 Even number of passes
4

Pay attention to which side of the seed drill is marking when starting the plot.

- ① - Programme the unit to **FL-06**
- ② - Set the count number to 4. Start the plot on the right-hand edge.
- ③ - At each field end, the count number should increase by 1, up to 6. Invert the hydraulic markers before starting the 6th pass. The number should then return to 1 and mark again on this pass.

Using the Ultron MS for Seed Drills

E							
							
		<i>SY</i>	<i>AL</i>	<i>SY</i>	<i>AL</i>	<i>SY</i>	<i>AL</i>
3	9 12 15 18 21 24	• • •		3 4 5 6 7 8	 4 6 8	2 2 3 3 4 4	 3 4 5
3,5	21 28	• •		6 8	6 8	3 4	4 5
4	12 16 20 24 28 32 36	• • •		3 4 5 6 7 8 9	 4 6 8	2 2 3 3 4 4 5	 3 4 5
4,5	18 36	• •		4 8	4 8	2 4	3 5
4,8	24			5		3	
5	15 20	• 		3 4	 4	2 2	 3
6	12 18 24 36	• • •		2 3 4 6	2 4 4 6	1 2 2 3	2 3 4

D **▪ Programming values :**

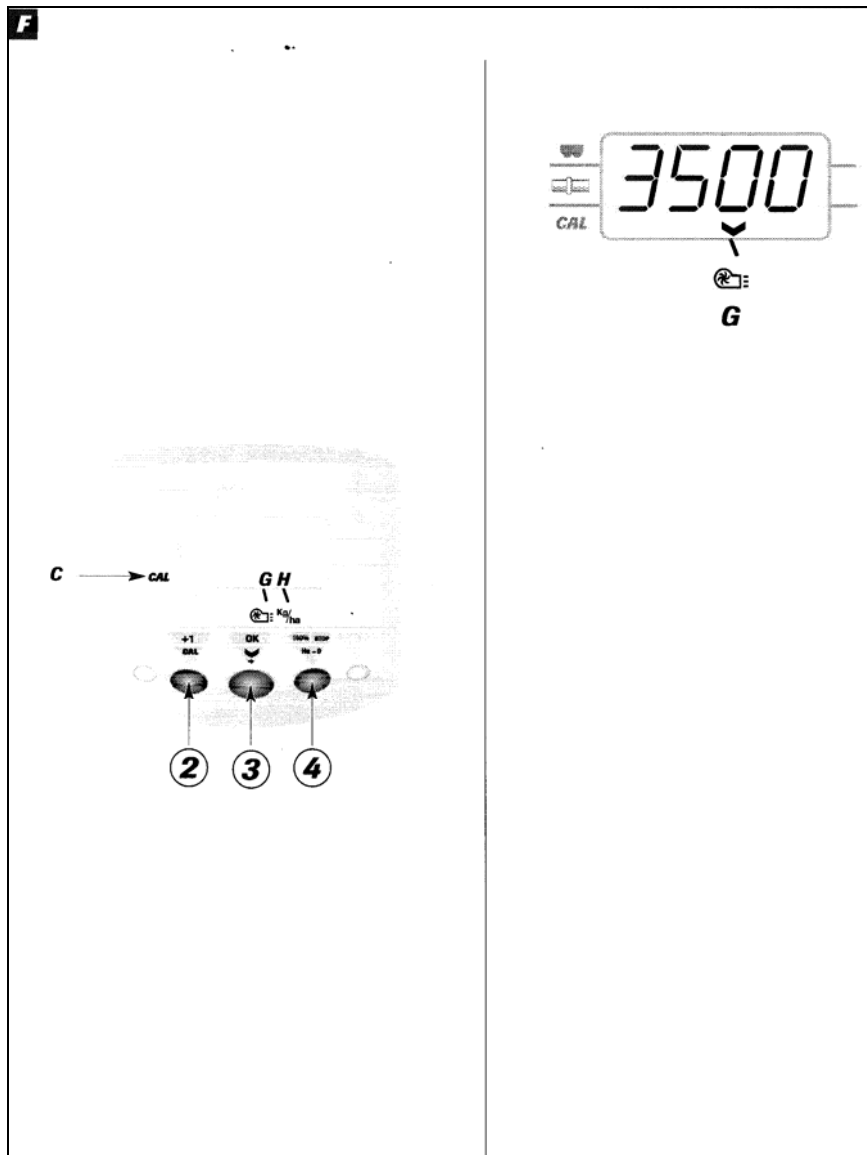
SY *Tramlining at the centre of the seed drill*

AL *Tramlining over an Outward & Return pass*

Note :

- *In the case of Asymmetrical tramlining, check that the metering devices are only disengaged on one side.*
- *Do not forget to match the position of the rear markers with the disengaged metering devices.*

Using the Ultron MS for Seed Drills



F The turbine function

- **Use**
- **Select** the function using button ③.
- **Move** the cursor over

G →

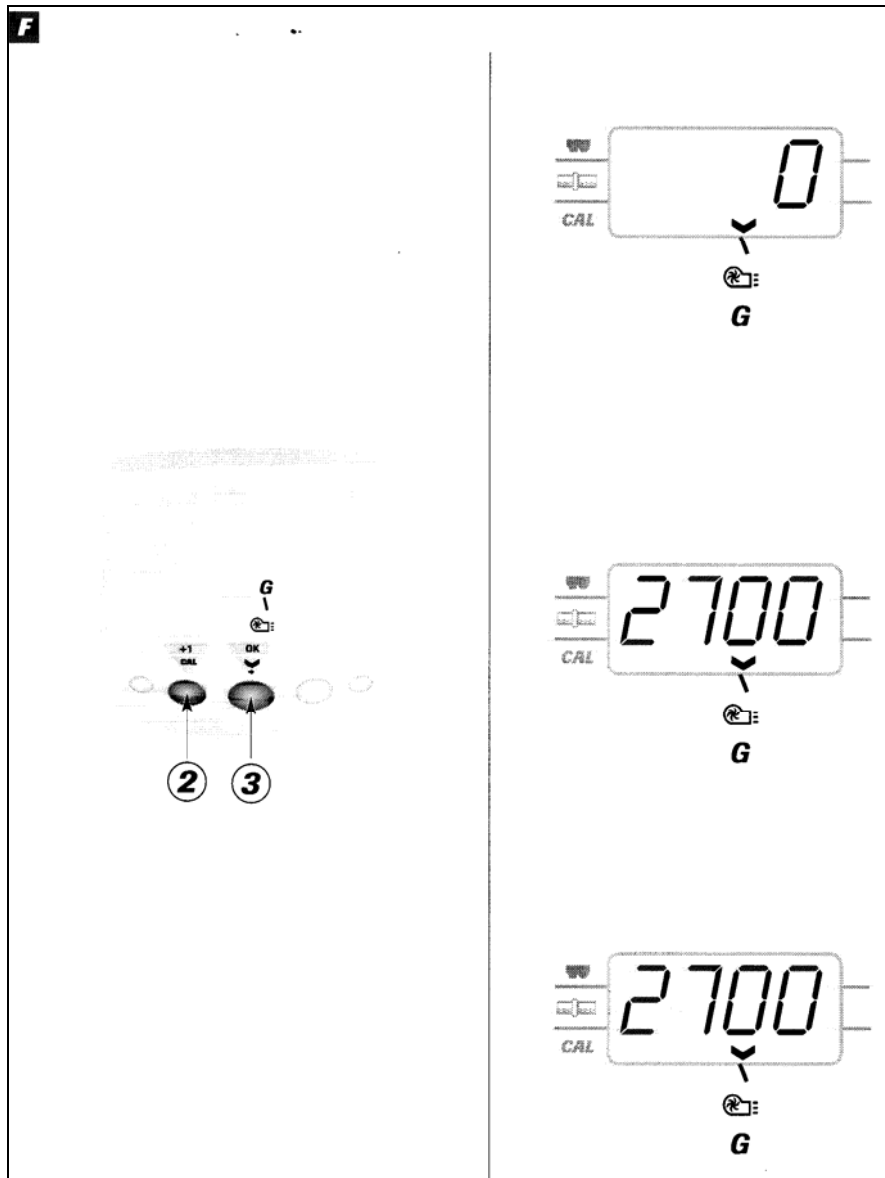
→ The turbine rpm setting will appear, e.g. 3,500

- **Use** button ③ to change the settings whilst keeping button ② pressed.

SELECT THE TURBINE RPM (READ RPM)

→ This speed should be between 2,300 and 3,800 rpm. If the turbine speed drops, the cursor will automatically move over the function, followed by a beep. The unit will also warn if the turbine is over-rewing.

Using the Ultron MS for Seed Drills



▪ **Programming :**

Setting the minimum rotation for the alarm.

▪ **Press ② and hold down:**

the value is displayed

→ If it is correct **release**

→ If it is incorrect **keep held down** throughout programming

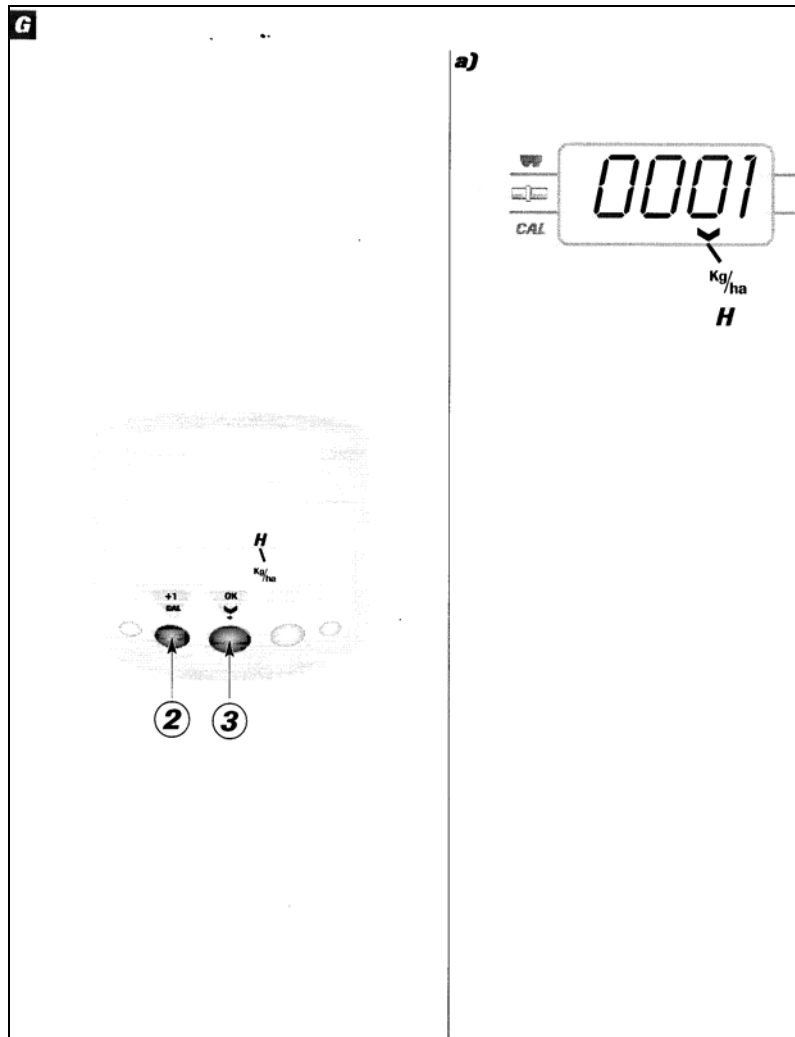
▪ With your other hand, **press ③** to change the figure which is flashing.

▪ **Release** when the required figure appears.

▪ **Repeat** this operation for the other figures

Value : **"2700 rpm"**

Using the Ultron MS for Seed Drills



G Alarm function

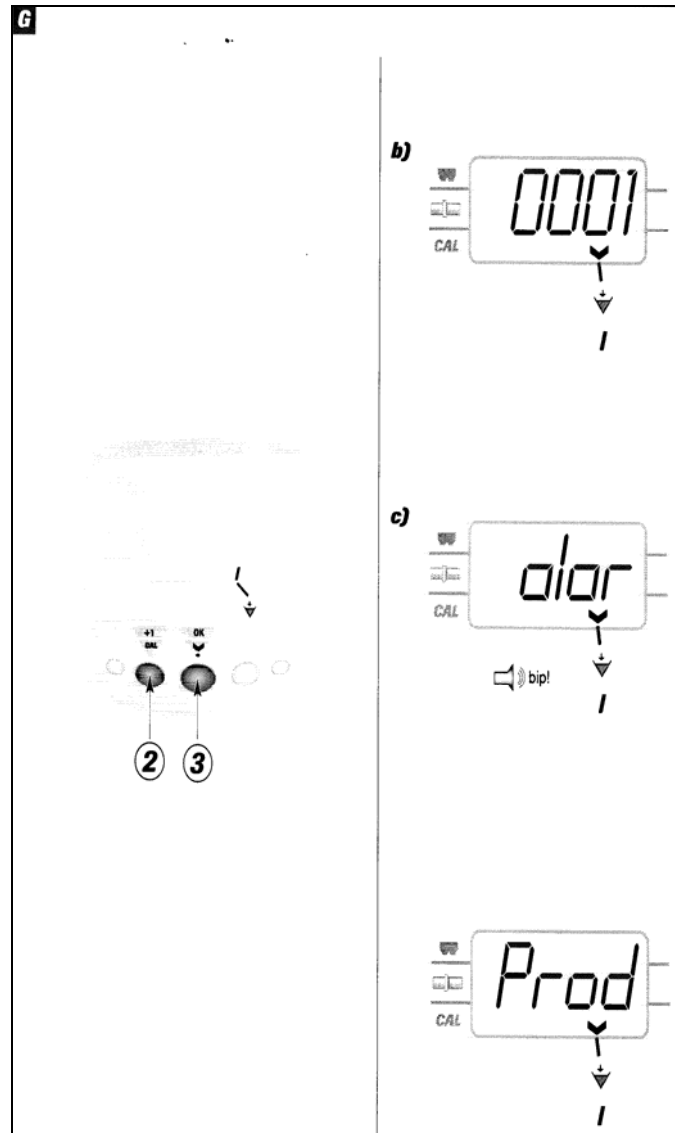
a) **DISTRIBUTION SHAFT**

- Press button ③ to select the function.
- Move the cursor over

H → Kg/ha

- The figure given shows the number of pulses when the shaft is turning.
If the distribution shaft is not turning, the cursor will move over the function automatically, followed by a warning beep.

Using the Ultron MS for Seed Drills



b) Hopper end

PURPOSE:

Warns when the hopper is almost empty.

- Adjust the height of the sensor in the hopper according to the type of seed. When the alarm sounds the cursor will move over the relevant function.

PROGRAMMING:

The alarm can be disabled.

e.g. sowing rapeseed.

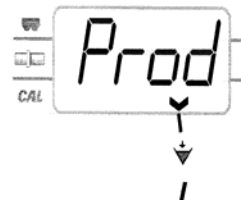
- Use button ③ to select a function.
- Move the cursor over



b)



c)



- Press button ②, and keep pressed in whilst using button ③ to set the hopper end alarm.

- = 1 to confirm alarm
- = 0 to cancel alarm

- The alarm is activated and disabled in turn each time the button is pressed.

c) When the alarm sounds

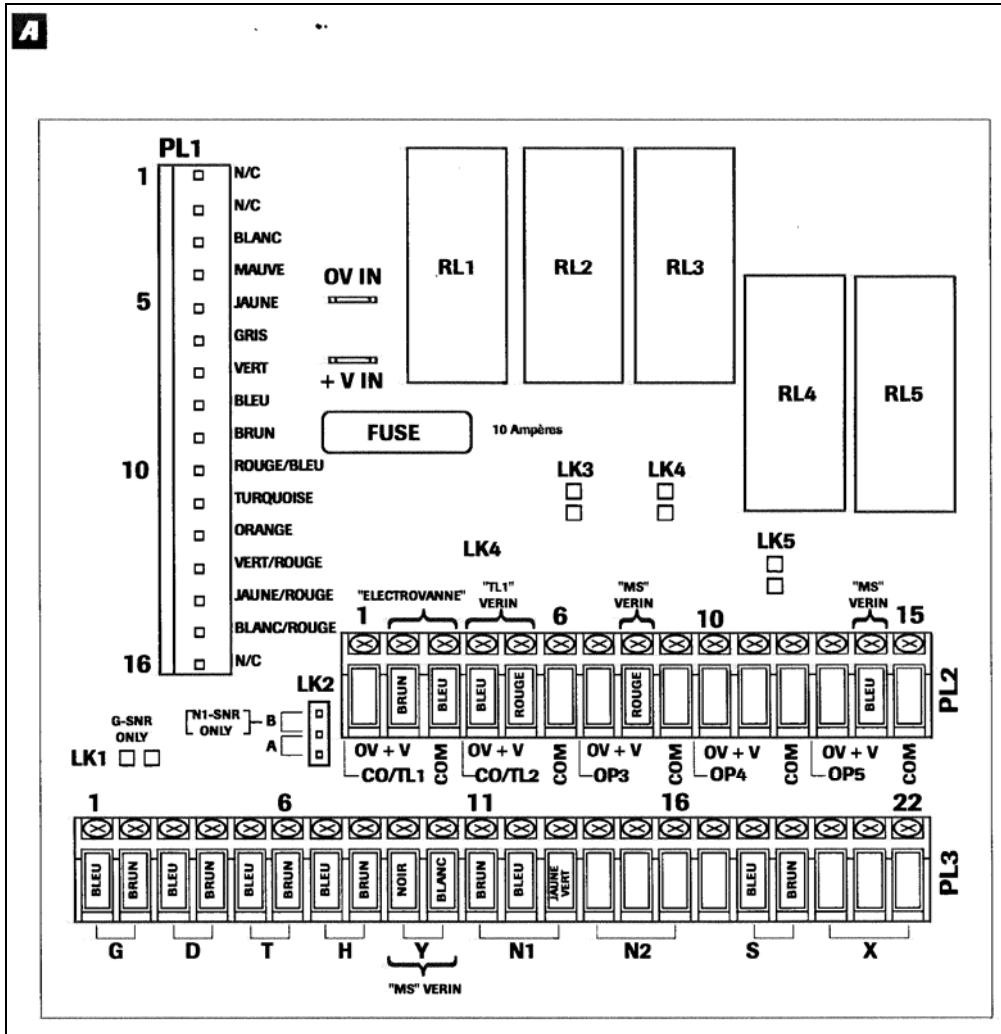
As soon as the alarm is triggered, the cursor will move over the relevant function.



- A series of warning beeps will sound and the "alar" message will appear together with the following indications:

- Distribution **ROTA**
- Hopper end **PROD**

Information



A System outline

- G** LH marker
- D** RH marker
- T** Turbine
- H** Surface
- S** Metering device
- Y** Dose adjustment actuator
- TL1** Tramlining actuator

B Maintenance

a) Electronic control box

- The control box does not require any maintenance.
- It must nevertheless be kept in a dry place during winter.

b) Sensors

- The inductive sensors do not require maintenance. However, care must be taken to avoid knocks as these could throw their positional settings out of line.
- The seed drill should be cleaned thoroughly after use to prevent damage caused by rodents.
- Do not aim the high-pressure cleaning spray at the actuators or solenoid valves.

Information

C ***Troubleshooting***

<i>Problems</i>	<i>Solutions</i>
The control box does not come on.	Check the 12 V DC connection. Check the 7.5 amp fuse.
The control box comes on and then goes off.	Check the + / - polarity.
The information reading is incorrect	Check the speed coefficient Check the position of the sensor on the shaft
The hectare count is incorrect	Check the speed coefficient Check the working width in the programme Check the position of the sensor on the shaft
The automatic count function is not working when tramlining (or is counting double)	Check the position of the sensor on the markers' reversing mechanism.
Stainless steel sensor control	100Ω