Instruction Manual
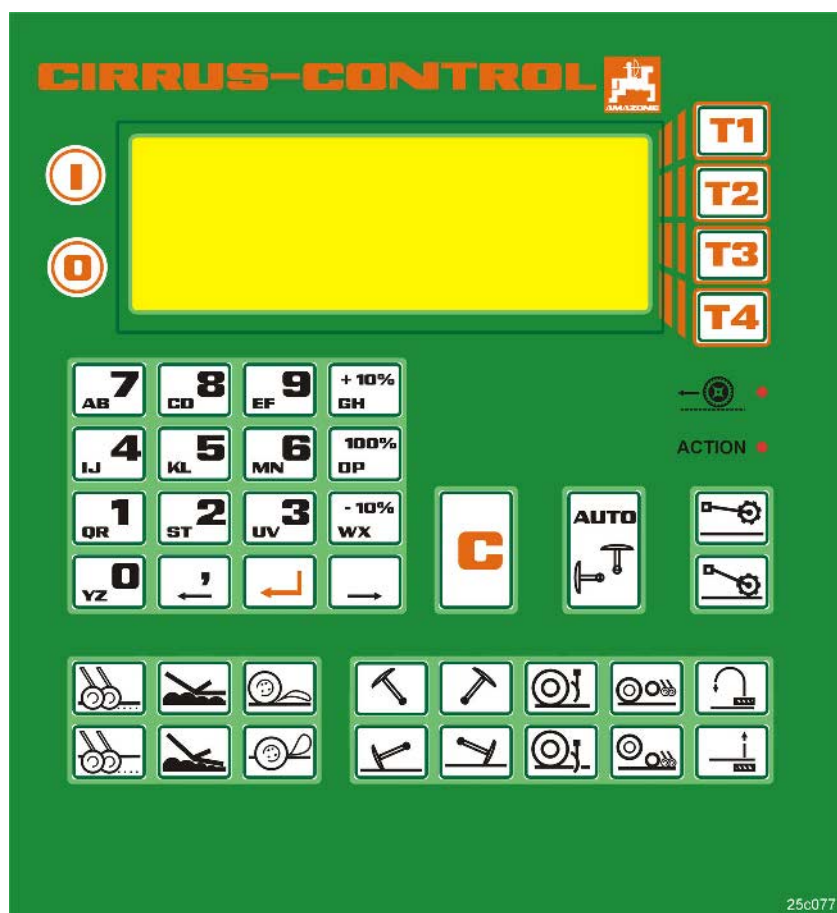
AMAZONE
On Board Computer
Cirrus Control

for
Packer coulter drill combination
Cirrus 8000 and Cirrus 9000

GB

CE

⚠ **Before starting operation carefully read and adhere to this instruction manual and the safety advice contained therein.**

The AMAZONE **Cirrus-Control** on-board computer is yet another product from the comprehensive range supplied by
AMAZONEN-Werke, H. Dreyer GmbH & Co. KG.

In order to ensure that you obtain trouble free operation, we recommend that you carefully read and observe the information within this instruction manual and adhere to the advice given therein.

Please ensure that this instruction manual is made available to any operator before he or she starts to operate the **Cirrus-Control** on-board computer.

Advice for this instruction manual

Keep this instruction manual so that it is always at hand. In case you sell the on-board computer, this instruction manual should be passed to the new owner.

At the time of printing all data and information is to the latest specification.

As AMAZONE is always endeavouring to introduce improvements, we reserve the right to change this at any time without any prior notice.

Symbols in this instruction manual

In this instruction manual warnings, precautionary hints and advice are identified by symbols (see below).

General danger symbol (DIN 4844 W9)

The danger symbol indicates the dangerous points on the machine. Observing these symbols ensures the safety of all persons using this machine.

Attention symbol

This symbol refers to safety advice. Not adhering to this safety advice could result in danger to the implement and its functions.

Hint symbol

Hints regarding machine's specification, which have to be followed in order to obtain a faultless function of the machine are identified with the hint symbol.

Contents

1. Details about the implement

1.1 Range of application

The packer coulter drill combination Cirrus 8000 and Cirrus 9000 are controlled with the aid of **Cirrus-Control**. Function faults are displayed both visually and audibly.

The computer has been equipped with a memory and a lithium back-up battery the allow the relevant values to be stored for about 10 years even if the power supply to the computer is switched off ensuring all operational data is available when re-connected.

1.2 Manufacturer

AMAZONEN-Werke, H. Dreyer GmbH & Co. KG, Postfach 51, D-49202 Hasbergen-Gaste / Germany.

1.3 Declaration of conformation

Cirrus-Control fulfils the requirements of the EMV-guide line 89/336/EC.

☞ **The type plate is of documentary value and may not be changed or obliterated.**

1.4 Declined use

Cirrus-Control has exclusively designed for the normal operation as a display, monitoring and control system for AMAZONE machines Cirrus 8000 and Cirrus 9000

Any use other than that stipulated above is no longer regarded as the declined use. The manufacturer does not accept any responsibility for damage resulting from this. Therefore, the operator himself will carry the full risk.

Under "declined use" the operator must adhere to the manufacturer's prescribed operation, maintenance, and repair conditions, and with the exclusive use of original AMAZONE spare parts.

The applicable advice for accident prevention as well as any further generally accepted safety, working, medical and road traffic rules should be adhered to.

AMAZONE machines have been manufactured with great care, however, certain deviations from the application rate cannot totally be excluded. These deviations may be caused, e.g. by:

1. Blockage (e.g. by foreign particles, bag residues, deposits, etc.)
2. Wear of frequently replaced
3. Damage by external influence
4. Wrong drive R.P.M. and travelling speed
5. Incorrect machine settings

Before any operation and also during the operation check the device for proper function and for acceptable application accuracy of the machine.

Claims regarding to damage outside those occurring on the **Cirrus-Control** itself will be rejected. This also applies to any crop loss or damage due to sowing errors. Arbitrary modifications to the **Cirrus-Control** may result in damage and therefore, the manufacturer does not accept liability for such damage.

2. Safety

2.1 Danger from not adhering to safety advice

Not adhering to the safety advice given

- may result in endangering the user or other persons, the environment and/or the machine itself.

- may result in the loss of any claim for damages.

2.2 Qualification of operator

The implement may only be operated, maintained and repaired by persons, who are acquainted with it and have been informed of the relevant dangers.

2.3 Symbols in this instruction manual

2.3.1 General danger symbol

Not adhering to this safety advice in instruction manual may cause danger to health and life of persons. They are identified by the general danger symbol (Safety symbol according to DIN 4844-W9).

2.3.2 Attention symbol

Advice to what may cause damage to the machine and it's function when not being adhered to, are identified with the Attention symbol.

2.3.3 Hint symbol

Hints regarding the machine's specific peculiarities, which have to be adhered to for the faultless function of the machine are identified with the hint symbol.

2.4 Safety advice for retrofitting electric and electronic devices and/or components

The function of the implements' electronic components and parts may be affected by the electric-magnetic transmittance of other surrounding devices. Such affects may endanger people when the following safety advice is not be adhered to:

When retrofitting electric and electronic devices and / or components to the implement where connection is made to the on-board electrical circuit, the user must himself ensure that the installation will not cause any disturbance to either the tractor's electronic, or other components.

Special attention must be paid that any retrofitted electric and electronic parts correspond to the EMV-guide line 89/336/EWG in the relevant valid edition and that they bear the CE sign.

For retrofitting mobile communication systems (e.g. radio, telephone) the following requirements must be fulfilled:

Only install devices that have officially been authorised in this country.

Install the device securely

Adhere to the fitting instructions of the apparatus manufacturer for cabling and installation as well as for the maximum permissible current supply.

Safety advice for repair work

Before carrying out any repair work on the electrical system or arc welding on either the tractor or attached implement, disconnect all connections to the Cirrus-Control.

3.   Description of product

The machines Cirrus 8000 and Cirrus 9000 (Fig. 3.2) are controlled by the on-board computer **Cirrus-Control** (Fig. 3.1)

Possible function faults occurring on the machine are displayed both visually and/or audibly.

During operation **Cirrus-Control** shows

- Operational speed (km/h)

- Blower fan speed (1/min.)

- Application rate (kg/ha)

- Gearbox setting lever position

- Track marker position

- Tramline rhythm count, e.g. when a 4 bout rhythm has been pre-set

- Status of the intermittent tramline function and length of both sown and un-sown frequency

- Status of half side shut-off control

- Axle height lift limit that has been pre-set for turning and actual lift height of machine.

Fig. 3.1

Cirrus-Control stores a maximum of 12 'jobs'

- area drilled(ha)

- kilometres travelled during this area (km)

- seed sown (kg)

- the operational time (h = hours) of
- the machine,
- the tractor
- the operator.
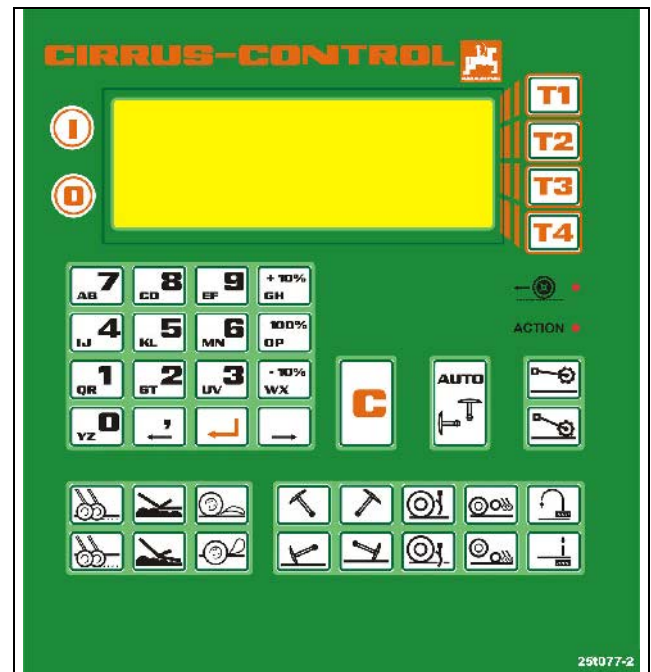
Fig. 3.2

3.1 Computer

Equipment

- Alphanumeric display (Fig. 3.3/1)
- Soft keys (Fig. 3.3/2),
  with exchangeable functions that are pre-
  determined by the software programme
- Light emitting diode "operation" (Fig. 3.3/3)
- Light emitting diode "action" (Fig. 3.3/4).

Display

Cirrus-Control offers a divided alphanumeric display (Fig. 3.3/1) with 4 lines x 20 characters.

Light emitting diodes

The light emitting diode „action" (Fig. 3.3/4) shows the operational position, the light emitting diode "Operation" (Fig. 3.3/3) must flash whilst travelling at a tractor speed in excess of 2 km/h.
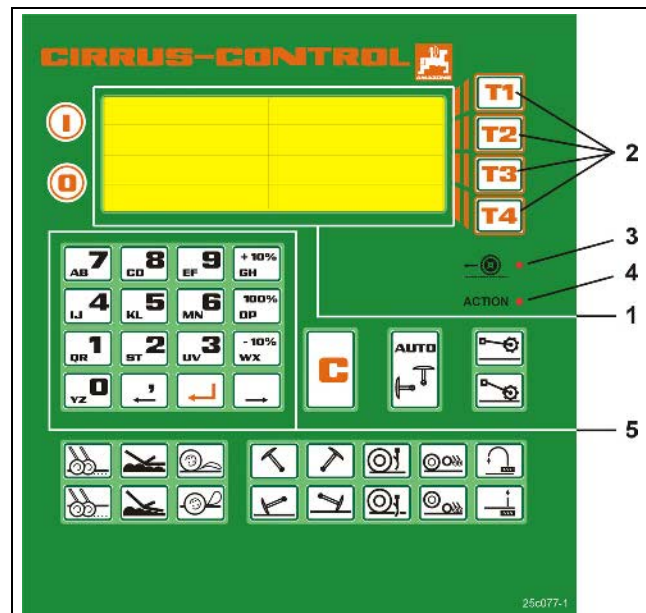
Press keys (Fig. 3.3/5) for data input once (numeric) or repeatedly (letters).

The cursor advances either automatically or can be moved forward with key [→] or backwards with key [↵] Existing values will be overwritten.

Confirm correct input with key [↵].

Delete wrong input with key [C].

Fig. 3.3

3.2 Contrast control of display

Contrast darker:
simultaneously press keys [C] [C] + [↗].

Contrast brighter:
simultaneously press keys [C] + [↗].

3.3 Keypad layout
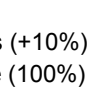
Headland automatic*			
Start of work	- Blower fan on - Land wheel down - Wheel mark eradicator down - Bout marker down (on automatic operation) - Machine down	**End of work**	- Land wheel up - Wheelmark eradicators up - Bout marker up - Machine up (until the pre-set limit value see para. 7 (fig. 7.7) - Blower fan off.
AUTO	**Automatic bout marker and tramline rhythm** Change between automatic and manual bout marker operation **Automatic operation** Changes the bout markers and shifts on the tramline rhythm counter when the keys or are pressed. **Manual operation** The track markers must be operated manually. Tramline rhythm will not be shifted on, not even manually.	☞	**Automatic operation** The +" sign will appear in the display as long a function is being carried out. During this time no other key should be pressed.
	Bout marker (left hand) up		Bout marker (right hand) up
	Bout marker (left hand) down		Bout marker (right hand) down
☞	**Automatic operation** Pre-select initially the correct bout marker by key pressure. Display: = Bout marker in use = Bout marker which will be in use on the next bout in the field	☞	**Manual operation*** Press the keys to bring the bout markers into the operation and transport position.
	Land wheel up		Land wheel down
	Bout marker up		Bout marker down
	Machine up		Machine down
	Cultivating discs or levelling tines shallower (depending on execution)		Cultivating discs or levelling tines deeper (depending on execution)
	Reduce Exact harrow pressure		Increase Exact harrow pressure
	Seed placement depth shallower		Seed placement depth deeper
+10% GH **100% OP** **-10% WX**	**Seed rate** - increase in 10% steps (+10%) - re-set to pre-set value (100%) - reduce in 10% steps (-10%).		

*Faster than 2 km/h operational speed (Diode "operation" [Fig. 3.3/3] flashes) Briefly press keys.
Slower than 2 km/h operational speed Press keys until functions have been carried out.

Fig. 3.4

4. Fitting instructions

4.1 Console and computer

Fit console (option) in the tractor cab within reach and sight to the right hand side of the operator. It must be vibration free and earthed electrically. The distance from any radio transmitter or antenna should be at least be 1 m.

Fit the bracket (Fig. 4.1/1) on to the console (option) and fix in the desired position by using the thumb bolt (Fig. 4.1/2).

Slide the computer from above onto the profile (Fig. 4.1/3) and secure by using the two thumb bolts (Fig. 4.1/4).

> ✋ **Via the console the computer casing must have an electrical earth connection to the tractor chassis. Scratch off the paint in the contact area.**

Fig. 4.1

4.2 Electr. Connection

Connect the computer through a suitable 12V socket.

If no 12 V socket is available on the tractor connect the computer via the battery connecting lead (option) directly with the battery (12V operating voltage).

Carefully route the cable and shorten if necessary.

Fit the round connector for the earth '-' cable (blue) and the end sleeve for the '+' cable (brown) with suitable pliers.

The lead end sleeve for the '+' cable can be found in the fuse carrier connector.

brown   =   + 12 Volt

blue   =   mass/earth

> ✋ **Connect the negative pole of the battery with the chassis of the tractor.**

4.3 Computer connection cable

After coupling the machine to the tractor connect the three plugs to the switched off computer.

"Electric" Implement plug

The 30-pole "Electric" plug (Fig. 4.2/1) provides the computer with sensor information.

"Hydraulic" Implement plug

The hydraulic functions of the machine are controlled via the 39-pole "Hydraulic" plug (Fig. 4.2/2).

Fitting to a signal socket or sensor "X"

With the aid of the impulses received from a signal socket or from a sensor "X" the computer determines the operating speed. Fit either one or the other plug to the computer socket (Fig. 4.2/3).

When the tractor is equipped with a signal socket DIN 9684 then sensor "X" is not required.

Then using cable (Fig. 4.3, Order No. NE282) connect the computer with the signal socket DIN 9684.

Alternatively, If no signal socket DIN 9684 is available on the tractor, install (see. para 4.3.1) sensor "X" (Order No. NE196) and connect with the on-board computer.
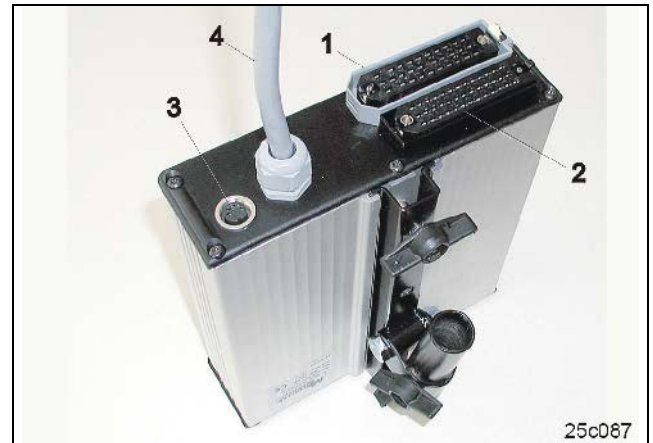
Fig. 4.2

Fig. 4.3

4.3.1   Fitting Sensor "X"

Sensor "X" (Order No. NE196) can be fitted to either an easily accessible 4-wheel cardan drive shaft or to the tractor front wheel.

When fitting to the tractor front wheel distribute the magnets (Fig. 4.4/2) evenly around the circumference of the tractor front wheel rim using the V4A (stainless steel) bolts provided.

The number of magnets depends on the size of the tractor wheel. When the tractor moves one magnet must pass the sensor at least every 60 cm.

Example for calculation:

Wheel circumference   : 60 cm = number of magnets

256cm   : 60 cm = 4,27

At least 5 magnets are required.

Mount the sensor (Fig. 4.4/1) using the supplied bracket onto the axle stub bearing with a distance of 5 to 10 mm from the magnet.

Fig. 4.4

When it is intended to fit the Sensor "X" to an easily accessible four-wheel cardan drive shaft, affix the magnet (Fig. 4.5/2) on the cardan shaft by using a jubilee clip.

The sensor (Fig. 4.5/1) should be fitted vibration-free with a distance of 5 to 10 mm from the magnet (Fig. 4.5/2).

Fig. 4.5

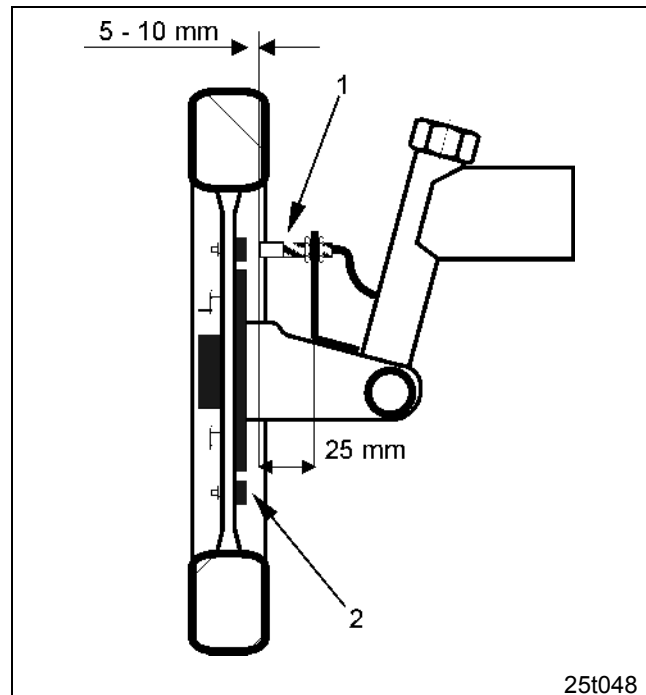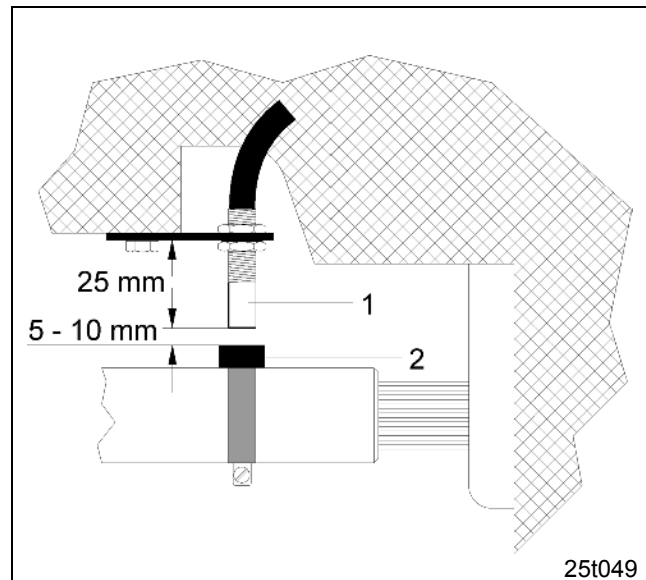# 5. Operation

Couple the implement to the tractor and connect the computer connecting cables (see para. 4.3 with the computer switched off.

5.1 Switch on computer

Switching on Cirrus-Control: Press key

Switching off Cirrus-Control: Press key

Briefly shows the display (Fig. 5.1) after switching on:

15:02:02		T1
2:00	Francais	T2
SäMachine	English	T3
Angeschaltet	Deutsch	T4

Fig. 5.1

- Selection of language (press T2, T3 or T4)

- Creation date of software, e.g. 15:02:02

- Version number of software, e.g. 2:00

- Seed drill connected (switched on).

Whenever the supply voltage drops below 10 volts, e.g. when starting the tractor, the computer automatically switches off and has to be switched on again as described above.

After the computer has been switched on, the display menu "data" (Fig. 5.2) will appear for approx. 10 seconds.

Data		Order	T1
		Memory	T2
Menu		Machine	T3
		Operat.	T4

Fig. 5.2

By pressing key T1 the menu data (Fig. 5.2) can be displayed at any time.

Fold down implement as described in para. 7.1.

Enter the implement data as described in para. 6.

6. Entering the implement specific data

👉 **Before entering the specific implement data, set up a job (see para. 8) with the desired information (enter the desired seed rate as a minimum).**

Press key T1 for the menu *data* (Fig. 6.1).

Data	Order	T1
	Memory	T2
Menu	Machine	T3
	Operat.	T4

Press key **T3**

Fig. 6.1

The display will show, e.g..:
1187 Implement =   Imp./100m
   0 Gearbox   =   Gearbox value
  115 Radar   =   calibration figure of the signal
                    socket or the sensor "X".

Impuls./100m	Menu	T1
1187 Impl.	Calibrat.	T2
0 Gearb-		T3
115 Radar	Next	T4

Fig. 6.2

Do not change the displayed implement, gearbox and radar values. This data will be determined and entered at a later calibration. (see para. 6.1)

Press key **T4**

Enter the working width, e.g.: 9,00

Machine	Menu	T1
Working-		T2
width		T3
9,00m	Next	T4

Fig. 6.3

Press key ↵

Press key **T4**

Press key **T3** to calibrate the gearbox setting lever position.

Machine	Menu	T1
Gearbox-		T2
Position	Calibrat.	T3
0	Next	T4

Fig. 6.4

Press key **T2** or key **T3** until the gearbox setting lever (Fig. 6.5/1) has moved on the scale to 100 (Fig. 6.5/2).

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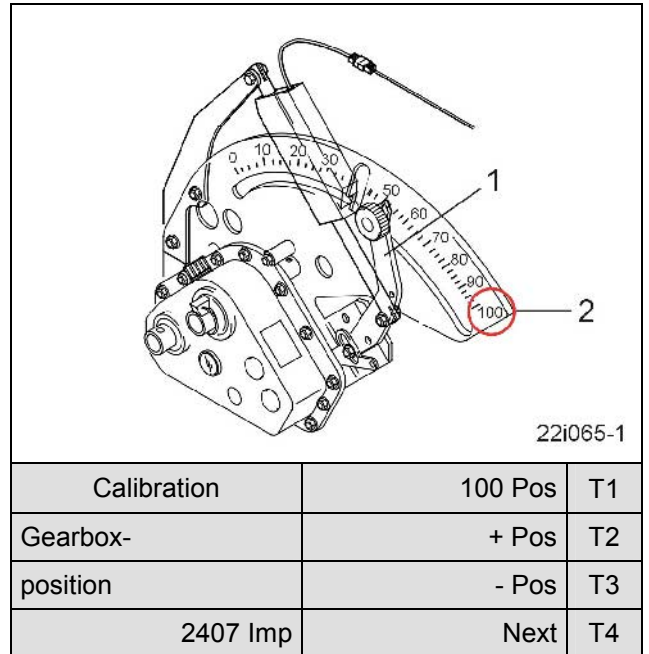| Calibration	100 Pos	T1
Gearbox-	+ Pos	T2
position	- Pos	T3
2407 Imp	Next	T4

Fig. 6.5

Press key **T1**

Press key **T4**

For the initial calibration test set the gearbox setting lever on one of the following gearbox setting figures:

Sowing with the fine seed metering wheels: 15

Sowing with the main metering wheels: 50

Machine	Menu	T1
Gearbox-		T2
position:	Calibrat.	T3
50	Next	T4

Fig. 6.6

Enter gearbox setting figure, e.g.: 50

Press key ↵

Press key **T4**

The display will show, e.g. the value 3,412.

Machine	Menu	T1
Calibration		T2
1/40 ha	Calibrat.	T3
3,412	Next	T4

Fig. 6.7

Press key T3

Calibrate the implement for 1/40 ha, e.g. turn the land wheel in the indicated direction until the audible signal sounds.

Calibration	Back	T1
Calibrate 1/40 ha,		T2
determine kg, put in kg,		T3
Press "Input"		T4

Fig. 6.8

Weigh the seed collected from all metering units and enter the weight (kg),
e.g. 1,3 kg

Calibration		T1
0,0250 ha		T2
1,2365 kg		T3
1,3 kg	Cancel	T4

Fig. 6.9

Press key ↵

Press key T4

The gearbox setting lever will then move to the scale position which the computer has calculated for the desired seed rate.

Machine	Menu	T1
Calibration		T2
1/40 ha	Calibrat.	T3
0 kg	Next	T4

Fig. 6.10

For checking the pre-set seed rate press key T3 and repeat the calibration test from Fig. 6.7 until the displayed seed collection weight, e.g. 1,2365kg (see Fig. 6.9, line 3) coincides with the actual seed collection weight.

If the displayed seed weight coincides with the weighed seed weight

Press key ↵

Press key T4

Do not enter any data here.

Press key **T4**.

Machine		Menu	T1
1000 grain-		.	T2
weight			T3
0,00 g		Next	T4

Fig. 6.11

Enter the relevant system data for Cirrus 8000 and Cirrus 9000 as follows:

Adjustment mode: 1

pneumatic (0/1): 1

Press key **T4**

Adjustment		Menu	T1
Mode: 1			T2
pneumatic:			T3
(0/1) 1		Next	T4

Fig. 6.12

Look for the correct tramline rhythm sequence found in the table and enter (see para. 16),
e.g.: 4-fold.

Press key ⏎

Press key **T4**

Machine		Menu	T1
Tramline			T2
Position:			T3
4-fold		Next	T4

Fig. 6.13

When creating tramlines the seed rate must not be reduced. The reduction effects on all the distribution heads, including those also that are not connected to the tramline coulters.

Therefore, always enter the value 0% here

Press key ⏎

Press key **T4**

Machine		Menu	T1
Seed rate-			T2
reduction		.	T3
0%		Next	T4

Fig. 6.14

Do not change the displayed control constant.

Press key **T4**

Machine		Menu	T1
Control			T2
constant		.	T3
0,50		Next	T4

Fig. 6.15

6.1 Calibrating the machine

The machine calibration is required for calculating the worked areas and the operational speed.

Calibrate your machine

- prior to the first operation

- when varying soil conditions prevail (wheel slip)

- in case of deviation between the seed rate determined by the calibration test and the seed sown in the field.

- in case of deviations between the displayed area and the actual worked area.

Carefully measure the test distance of 100 m in the field.

Mark beginning and end of the test distance and bring tractor (Fig. 6.16) to start position.

Lower the star wheel.
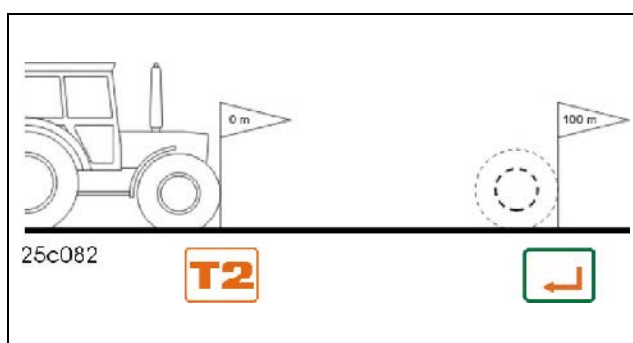
Fig. 6.16

Press key T1 to select the menu *"data"* (Fig. 6.17)

Press key **T3**

Data		Order	T1
		Memory	T2
Menu		Machine	T3
		Operat.	T4

Fig. 6.17

Press key **T2**

Impuls./100m		Menu	T1
58 Impl.		Calibrat.	T2
0 Gearb.			T3
121 Radar			T4

Fig. 6.18

Start driving.

The counter returns to "0".

The impulses received will be displayed.

After driving the test distance of exactly 100 m

press key ⏎

The key can be pressed either with the tractor stopped or also whilst driving past the finish point.

Press key **T4**.

Calibration		Back	T1
Drive exactly 100 m			T2
then stop and press			T3
"Input"			T4

Fig. 6.19

Hint: the calibration procedure can be stopped at any time by pressing key **T1**.

The values resulting from the calibration run will be displayed (e.g. as illustrated in Fig. 6.20)

1187 Implement = Imp./100m
   0 Gearbox   = Gearbox figure
 115 Radar   = Calibration value of the signal socket or of the sensor "X".

The implement value shown corresponds to the condition of the soil on which the calibration run has been carried out. The theoretical mean implement value for Cirrus 8000 and Cirrus 9000 is „1187".

Press key **T1**

Impuls./100m		Menu	T1
1187 Impl	Calibrat.		T2
0 Gearb.			T3
115 Radar		Next	T4

Fig. 6.20

7. Displaying and changing the actual data of the implement during operation

Press key T1 to select the menu *"data"* (Fig. 6.1) .

Data		Order	T1
		Memory	T2
Menu		Machine	T3
		Operat.	T4

Fig. 7.1

Press key T4

Display of the implement's
actual data during operation:

- Operational speed (12,456 km/h)

- Blower fan speed (3800 1/min.)

- Seed rate (123 kg/ha)

- Tramline rhythm sequence Fg (1),
  e.g. at the pre-set 4-bout rhythm.

12,456 km/h		Menu	T1
3800 1/min.	Li	TB aus	T2
123 kg/ha	Re	TB aus	T3
Fg: 1		Next	T4

Fig. 7.2

Hint:
The tramline rhythm indicator, e.g. „Fg: 1" will only
be displayed when automatic operation of the bout
marker and the tramline sequence is selected (key
). If the automatic operation of the bout marker
and tramline is not actuated, the display shows
"manual" instead of "Fg: ..."

Important: On 'manual' operation the tramline is not
automatically advanced.

In the display the bout markers are identified by
arrows ( ) .

The bout markers which are in the transport position
but which will come into operation when drilling the
next bout ( ) are identified by a flashing
arrow ( ) .

In our example (Fig. 7.2) the right hand bout marker
is in transport position, the left hand bout marker is in
operational position.

Either side of the machine can be switched on and off individually (TB). In the display always appears the next function that can be set.

12,456 km/h		Menu	T1
3800 1/min.	Li	TB ein/aus	T2
123 kg/ha	Re	TB ein/aus	T3
⬚ Fg: 1 ⬙		Next	T4

Fig. 7.3

Display with left hand machine
side **switched on**:   **Li   TB aus**

Display with left hand machine
side **switched off**:   **Li   TB ein**

By pressing key **T2** or key **T3** the next function that can be set is activated.

Press key **T4**

Display of the actual data
of the implement during operation:

-    Position of gearbox setting lever (50)

-    Tramline rhythm sequence (1),
     e.g. at the pre-set 4-bout rhythm.

Gearbox 50	Menu	T1
Tramline 1	Traml. +1	T2
	Terminat	T3
	Next	T4

Fig. 7.4

Press key **T2** =   The tramline rhythm sequence
                             is advanced.

Hint: The tramline rhythm sequence can only be advanced when the bout markers are working on automatic (key ▭).

Press key **T4**

Display of the actual implement data
during operation:

-    Length not sown down the tramline, e.g. 2 m

-    Length sown down the tramline, e.g. 10 m

-    Intermittent tramline status (on)

Interm. traml.		Menu	T1
On:	2 m	On	T2
Off:	10 m	Off	T3
Condit:	On	Next	T4

Fig. 7.5

Press key **T2** =   switch on intermittent tramline

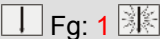Press key **T3** =   switch off intermittent tramline

Press key **T4**

Display of the actual implement data
during operation:

Gebläse		T1
3800 1/min.	Programm	T2
	On	T3
	Next	T4

Fig. 7.6

Blower fan speed (3800 1/min.)

Press key **T3** =   switch on or off
          blower fan

Press key **T2** when key T3 had been pressed.

Press key **T4**

Lifting height limiting of the implement

Before turning at the headlands lift the implement so
that no working part of the machine remains in
contact with the ground. To avoid any unnecessarily
high raising the maximum lift height can be limited.

Axle position	Menu	T1
		T2
Limit: 55	Programm	T3
Actual: 65	Next	T4

Fig. 7.7

The lift height corresponds to the limit value (e.g..
limit: 55).

The actual lift height or position of the machine is
also displayed (e.g. actual: 65).

Press key **T4** or enter the lift height limit of the
machine as follows:

Press key or key until the desired lift height
is achieved.

Press key **T3**

Press key **T4**

7.1   Folding implement in and out

Press key T1 to select the menu *"data"* (Fig. 6.1).

Data		Order	T1
		Memory	T2
Menu		Machine	T3
		Operat.	T4

Fig. 7.8

Press key **T4** repeatedly until Fig. 7.9 appears.

Prior to field operation fold out the wings of the implement and fold in prior to transport. In order to avoid damage to the machine, stop the machine and lift fully before folding the wings in and out.

		Menu	T1
Klappen		Einklappen	T2
		Ausklappen	T3
		Next	T4

Fig. 7.9

⚠ **Before pressing the keys advise people to leave the operational area of the machine.**

To lift the machine when it has been stopped

Press key ⊚ᴼᵂ   until the machine has been fully lifted. Otherwise folding the wings in and out is not possible.

Press key **T3** =   Fold out wings.

or

Press key **T2** =   Fold in wings.

Press key **T4**.

8. Creating a new job

Press key T1 to select the menu *"data"* (Fig. 8.1).

Data		Order	T1
		Memory	T2
Menu		Machine	T3
		Operat.	T4

Fig. 8.1

Cirrus Control can create 12 jobs. The 13th job overwrites the first job.

Before creating a new job, finish and store the previous job (see para. 10.1)

Press key **T1**

Name/Address, enter if wanted,
e.g.: plot 1.

Order		Menu	T1
No.: 1			T2
Name/Address			T3
plot 1		Next	T4

Fig. 8.2

Press key ↵
Press key **T4**

Entering the required value **(desired seed rate)**,
e.g.: 50,0 kg/ha.

Order		Menu	T1
Application		Grain/m^2	T2
Rate			T3
50,0 kg/ha		Next	T4

Fig. 8.3

Press key ↵
Press key **T4**

Comment 1, enter if wanted,
e.g.: dry

Press key ↵

Order		Menu	T1
Comment			T2
dry			T3
Wind speed 3		Next	T4

Fig. 8.4

Comment 2, enter if wanted,
e.g.: Wind speed 3

Press key ↵

Press key **T1**

9.   Calibration without creating a new job

Press key T1 to select the menu *"data"/* (Fig. 9.1) .

Press key **T1**

Press key **T4**

Data		Order	T1
		Memory	T2
Menu		Machine	T3
		Operat.	T4

Fig. 9.1

Enter required value **(desired seed rate)**, e.g: 150,0 kg/ha.

Press key ⏎

Press key **T1**

Order		Menu	T1
Application		Grain/m^2	T2
Rate			T3
150,0 kg/ha		Next	T4

Fig. 9.2

Press key **T3**

Press key **T4**

Press key **T4**

Data		Order	T1
		Memory	T2
Menu		Machine	T3
		Operat.	T4

Fig. 9.3

For the calibration test set the gearbox setting lever to one of the following gearbox setting figures or to a gearbox setting figure of your choice:

Sowing with the fine seed metering wheels: 15

Sowing with the main metering wheels: 50

Machine		Menu	T1
Gearbox			T2
position:		Calibrat.	T3
50		Next	T4

Fig. 9.4

Enter gearbox setting figure, e.g.: 50

Press key ⏎

Press key **T4**

Displayed is, e.g. the figure 3.4120.

Machine	Menu	T1
Calibration		T2
1/40 ha	Calibrat.	T3
3.4120	Next	T4

Fig. 9.5

Press key T3

Calibrate the implement for 1/40 ha, e.g. turn the land wheel in the indicated direction until the audible signal sounds.

Calibration	Back	T1
Calibrate 1/40 ha,		T2
determine kg, put in kg		T3
and press "Input"		T4

Fig. 9.6

Weigh the seed collected from all the metering units and enter the weight (kg),
e.g. 13,0 kg

Press key ↵

Press key T4

Calibration		T1
0,0250 ha		T2
12,365 kg		T3
13,0 kg	Cancel	T4

Fig. 9.7

The gearbox setting lever moves to the scale position which the computer has calculated for the desired seed rate.

For checking the seed rate set, press key T3 and repeat the calibration test from Fig. 9.5 until the indicated seed rate, e.g. 12,365 kg (see Fig. 9.7, line 3) coincides with the weighed seed rate.

Machine	Menu	T1
Calibration		T2
1/40 ha	Calibrat.	T3
0 kg	Next	T4

Fig. 9.8

If the displayed seed rate coincides with the weighed seed rate

Press key ↵

Press key T1

10. Job related display of the worked area and the seed rate

Press key T1 to select the menu *"data"* (Fig. 10.1).

Press key **T1**

Press key **T4** repeatedly until display appears (Fig. 10.2).

Data		Order	T1
		Memory	T2
Menu		Machine	T3
		Operat.	T4

Fig. 10.1

Display 1 of the data of the actual job (day counter).

- Seed quantity drilled (324,0 kg)
- Area worked (35,45 ha)

Press key **T4** .

Daily Total		Menu	T1
324,0 kg		Total	T2
35,45 ha			T3
		Next	T4

Fig. 10.2

Display of the sum of all data since the last reset (total counter).

- Seed qauntity drilled (5689,0 kg)
- Area worked (523,54 ha)

Press key **T2** = delete data (kg)

or

Press key **T3** = delete data (ha)

or

Press key **T4**

Total		Menu	T1
5689,0 kg		Delete	T2
523,54 ha		Delete	T3
		Next	T4

Fig. 10.3

Display 2 of the data of the actual job.

- Distance travelled (3,928 km)
- operational hours of machine (7,49 h Mas.)
- operational hours of tractor (7,49 h Zugm)
- operational hours of operator (7,49 h Fahr).

Press key **T4**

3,928 km	Menu	T1
7,49 h Mach.		T2
7,49 h Tract.		T3
7,49 h Oper.	Next	T4

Fig. 10.4

10.1   Finish job

Press key T1 to select the menu *"data"* (Fig. 10.5).

Press key **T4**

Press key **T4**

Data		Order	T1
		Memory	T2
Menu		Machine	T3
		Operat.	T4

Fig. 10.5

Press key **T3**

Gearbox 50		Menu	T1
Tramline 1		Traml. +1	T2
		Terminat	T3
		Next	T4

Fig. 10.6

Press key **T1** or

Press key **T2** = do not finish the job or

Press key **T3** = finish the job.

Order		Menu	T1
to finish a.		No	T2
save results?		Yes	T3
			T4

Fig. 10.7

When pressing key T3 the job is stored and finished. Cirrus Control opens then the menu for a new job creation.

11. Display of the stored jobs

By pressing key T1 select the menu *"data"* (Fig. 11.1)

Press key **T2**

Data		Order	T1
		Memory	T2
Menu		Machine	T3
		Operat.	T4

Fig. 11.1

Press key **T3** repeatedly until the number of the desired memory (job No. 1 to 12) is shown.

12 jobs in maximum can be stored under the memory location 1 to 12.
There after the first job will be overwritten.

Press key **T4** repeatedly until the desired memory contents appears.

Press key **T2** = delete all jobs (1 to 12).

Press key **T1** = return to data.

Memory:	1	Menu	T1
		Delete	T2
Mach.No	0	Next Mem.	T3
Seed drill		Next	T4

Fig. 11.2

12. Transport

When travelling at forward speeds faster than 15 km/h the computer indicates the forward speed (Fig. 12.1).

26,4 km/h	T1
	T2
	T3
	T4

Fig. 12.1

13. Automatic headland operation

With the aid of the automatic headland system the hydraulic functions that are needed for the turn procedure are combined. By a single key press the hydraulic functions will then operate in a pre-determined sequence.

Beginning of the field
At the beginning of the field the automatic headland system is activated by pressing key ⬚. Then the following functions sequence automatically:

- the blower fan is switched on
- the land wheel is set into work position
- the wheel mark eradicators are set to the pre-set working depth.
- the bout marker is set to operational position with the bout marker and automatic tramline control being activated. In manual operation the correct track marker is brought to the operational position by pressing the key.
- the machine is set into the operational position by finally lifting the transport axle.

End of the field
At the end of the field the automatic headland system is activated by pressing the key ⬚. Then the following functions sequence automatically:

- the land wheel is lifted
- the wheel mark eradicators are lifted out of the soil
- the bout marker is set into the transport position
- the tramline rhythm is advanced
- the machine is raised until the lift height limiter (see para. 7.1)
- the blower fan is switched off.

☞ **When pressing the keys ⬚ or ⬚ the 2km/h limit is valid, i.e. if the machine is moved faster than 2km/h, a brief key pressure is sufficient. If the speed is slower than 2 km/h press the key until all functions have been carried out.**

✋ **While the functions are being carried out the display shows the sign "+". During this time do not press any other keys as this will disturb the function sequence.**

14. Track marker and automatic tramline control

If by pressing key ⊥ the automatic headland function is activated at the beginning of the field, the pre-determined sequence (see para. 13) of the hydraulic functions is as follows:

The automatic headland control contains the bout markers and automatic tramline rhythm. Bout markers are set to the operational position and tramlines are created as pre-selected.

The bout marker and automatic tramline rhythm can be switched on or off by pressing key ⊟ .

When pressing key ⊡ the bout markers are set to transport position, regardless whether the bout markers and tramline control are operated automatically or manually

**Automatic operation
of track markers and tramline control**

In automatic operation the keys ⟵ ⟶ ⟵ ⟶ serve as pre-select keys.

Prior to operation pre-select the correct track marker. Then press key ⊥ .

Manual operation

In manual operation the keys ⟵ ⟶ ⟵ ⟶ are activating keys.

When pressing key ⟵ the left hand bout marker is set to the operational position, when pressing key ⟶ the right hand bout marker is set.

Correspondingly the bout markers are set to the transport position by pressing the keys ⟵ or ⟶ .

For manual operation the 2km/h limit is valid, i.e. if the machine is moved faster than 2km/h, a brief key pressure would be sufficient. If the speed is slower than 2 km/h press the keys until all functions have been carried out.

The display shows the status of the bout marker and automatic tramline rhythm by "Fg: ..." or "manual".

Display of the actual data of the machine during operation when the track marker and automatic tramline control is activated, e.g.:

▯ Fg: 1 ✳ ,

deactivated, e.g:

▯ manual

During manual operation the tramline can not be advanced.

12,456 km/h		Menu	T1
3800 1/min.	Li	TB aus	T2
123 kg/ha	Re	TB aus	T3
▯ Fg: 1 ✳		Next	T4

Fig. 14.1

12,456 km/h		Menu	T1
3800 1/min.	Li	TB aus	T2
123 kg/ha	Re	TB aus	T3
▯ Manual		Next	T4

Fig. 14.2

The track markers being in operational position are identified in the display by an arrow ( ).

Track markers that will start to operate when beginning the next bout ( ), are identified by a flashing arrow ( ).

In our example (Fig. 14.3) the left hand track marker is in operational position, the right hand track marker is in transport position.

By pressing key the left hand track marker is set to transport position and the tramline control shifts forward.

12,456 km/h		Menu	T1
3800 1/min.	Li	TB aus	T2
123 kg/ha	Re	TB aus	T3
Fg: 1		Next	T4

Fig. 14.3

After pressing key the left hand arrow flashes ( ) and the right hand track marker ( ) is set to operating position.

12,456 km/h		Menu	T1
3800 1/min.	Li	TB aus	T2
123 kg/ha	Re	TB aus	T3
Fg: 2		Next	T4

Fig. 14.4

If, after turning at the field end the right hand track marker shall be operated once more, press keys and . The display changes.

The left hand arrow is faded out and the right hand track marker is now in the operational position and is identified by the flashing arrow ( ).

12,456 km/h		Menu	T1
3800 1/min.	Li	TB aus	T2
123 kg/ha	Re	TB aus	T3
Fg: 2		Next	T4

Fig. 14.5

In automatic operation also both track markers can be set to the operational position at the beginning of the field. For this press keys and when then both arrows will flash in the display ( ).

12,456 km/h		Menu	T1
3800 1/min.	Li	TB aus	T2
123 kg/ha	Re	TB aus	T3
Fg: 2		Next	T4

Fig. 14.6

If during automatic operation no track markers are to be set to operation at the beginning of the field, press the keys and . The arrows in the display will then be faded out.

12,456 km/h		Menu	T1
3800 1/min.	Li	TB aus	T2
123 kg/ha	Re	TB aus	T3
Fg: 3		Next	T4

Fig. 14.7

15.   Setting the seed placement depth

During operation the coulters are supported on the pre-running packer rollers. This way the seed placement depth is always accurately maintained.

The machine is equipped with four setting segments for setting the seed placement depth. The seed placement depth is set by the reinsertion the eccentric depth limiter pins (Fig. 15.1/2) into every segment.

For setting the seed placement depth lift the packer coulters by pressing key ⌷ until the levers (Fig. 15.1/1) go loose on the depth limiter pins (Fig. 15.1/2).

After removing the lynch pins (Fig. 5.2/2) these can now be reinserted in the segment underneath the levers

Fig. 15.1

The depth setting pins have an eccentric square head, the sides of which are at different distances to the centre of the pins. These sides are marked with the figures 1 to 4 (Fig. 15.2/3). Ensure that the depth setting pins are inserted in the same hole and rest on all levers with equal figure.

The deeper the depth setting pins are inserted in the setting segments and the higher the figure (Fig. 15.2/3) on the sides resting on the levers, the deeper the seed placement depth will be.

The different distances due to the square head of the depth-setting pin allow s for "fine tuning" of the seed placement depth.
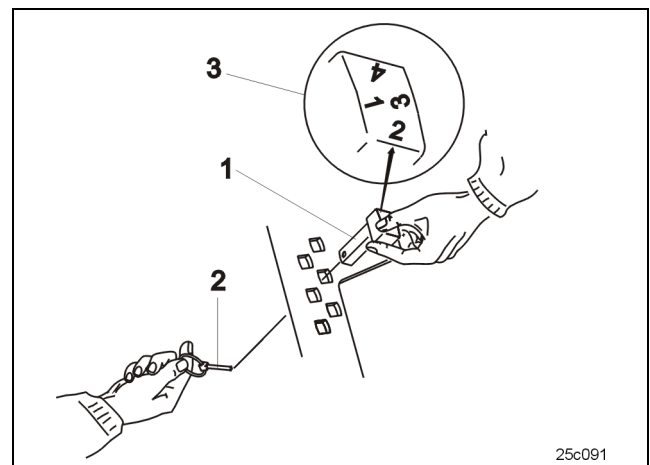
Fig. 15.2

⚠ **When reinserting the depth setting pin (Fig. 15.2/1) hold it in such a way that the hand can never get between pin and lever.**

⚠ **Danger of crushing -**
Only carry out any settings with the engine switched off and the ignition key removed.

🖐 **Always secure the eccentric depth pins with lynch pins (Fig. 15.2/2) after every adjustment.**

After setting, start to drive forwards with the machine and keep key ⌷⌷⌷ pressed until the stop (Fig. 15.3/1) rest on the depth setting pin (Fig. 15.3/2).

Fig. 15.3

16. Tramline rhythm

Tramline rhythm	1	2	3	4	5	6	7	8	9	10	11	12	13	14
tramline sequence	0	0	0	0	0	0	0	0	0	1	1	0	0	0
	1	0	1	1	1	1	1	1	1	2	0	1	1	1
		1	2	2	2	2	2	2	2	3	3	2	2	2
		2		3	3	3	3	3	3	0	4	3	3	3
				4	4	4	4	4	4	5	5	4	4	4
					5	5	5	5	5	6	6	5	5	5
						6	6	6	6	0	7	6	6	6
							7	7	7	8	8	7	7	7
								8	8	9	0	8	8	8
										10	10	9	9	9
												10	10	10
												11	11	11
													12	12
														13

Tramline rhythm	15*	16	17	20	21	22	23	26
tramline sequence	1	0	0	0	0	0	0	0
	2	1	1	1	0	0	0	1
	3	2	2	2	1	1	1	2
	4	3	3	3	2	2	2	3
	5	4	4	4	3	3	3	4
	6	5	5	5	4	4	4	5
	7	6	6	6		5	5	6
	8	7	7	7		6	6	7
	9	8	8	8			7	8
	10	9	9	9			8	9
	11	10	10					10
	12	11	11					
	13	12	12					
	14	13	13					
	15	14	14					
		15	15					
* no tramlines are created			16					