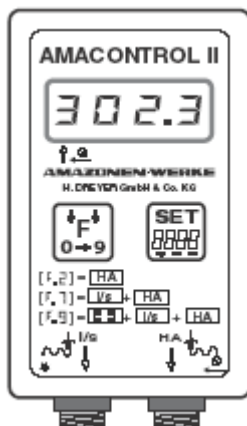


Operating Instructions

Assembly Instructions and Spare Parts List

Electronic Hectare Counter AMACONTROL II

with electronic monitoring of the drilling shaft
or the seed metering wheel tramline switching mechanism lay shaft
and display of the seed metering wheel tramline switching
mechanism switching position as special special optional
equipment;option;option



AMAZONEN-WERKE



Read and observe the Operating Instructions
DB695 - MG354



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1 Introduction

1.1 Manufacturer

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

1.2 Defined use

AMACONTROL II is intended exclusively for use as

- Display-
- Measuring and
- Monitoring device

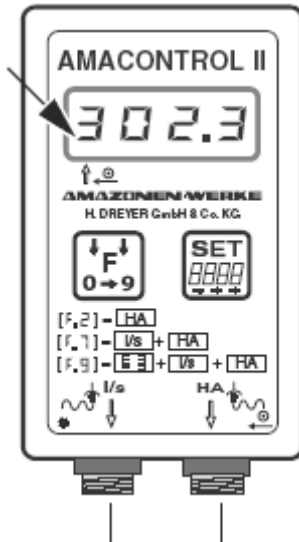
in agricultural applications. Any other use is considered improper. The manufacturer is not liable for damage caused by improper use. Unauthorised changes to the machine or implement render the manufacturer's warranty null and void.

1.3 Technical data

Model:	AMACONTROL II
Display capacity:	Floating point display, 4-places
Display:	Liquid Crystal Display
Current source:	2x 1.5 Volt Mignon cells
Ambient temperature:	-5° C to 45° C
Computer dimensions:	69 (B) x 39 (T) x 120 (H) mm
Weight (basic equipment):	0.7 kg (inc. mounting parts)
Sensor:	max. 167 impulse/sec.
Hectare counter:	max. 360 ha/h = 0.1 ha/sec.
Batch counter:	max. 0.167 item/sec.

1.4 Control elements / connections

Line below bar
flashes during
operation:
computer
receiving impulse
from sensor "HA"



Display

F-key

- Switch on/off-
- Select function
- Change values

SET-key

- Switch-on
- Program start/end
- Block to change values

Connection "I/s"
(special optional
equipment;option)

- Monitor drilling shaft
- Monitor lay shaft
- Display tramline switching mechanism position

Connection "HA"
(basic equipment)

- Hectare counter

The battery compartment for two Mignon cells is located on the back of the machine or implement.

2 EQUIPMENT + APPLICATION

2.1 Equipment Seed drills with dual-range gearbox

Fig. 2.1 shows the attachment points for the sensors and magnets on the gearbox input shaft (1), drilling shaft (2) and lay shaft (3).

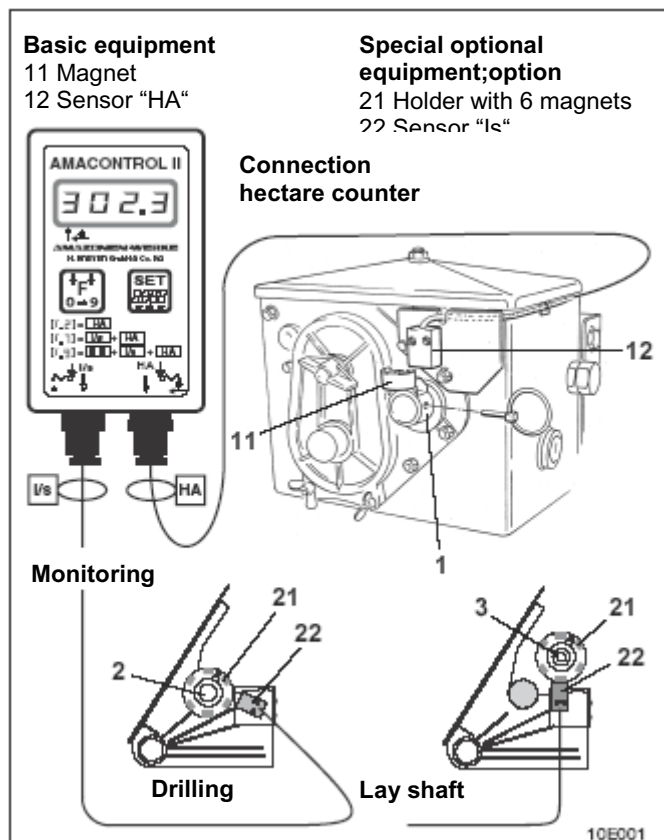


Fig. 2.1

2.2 Equipment

Precision airplanters ED 1

Fig. 2.2 shows the attachment points for the sensors and magnets on the gearbox input shaft (1).

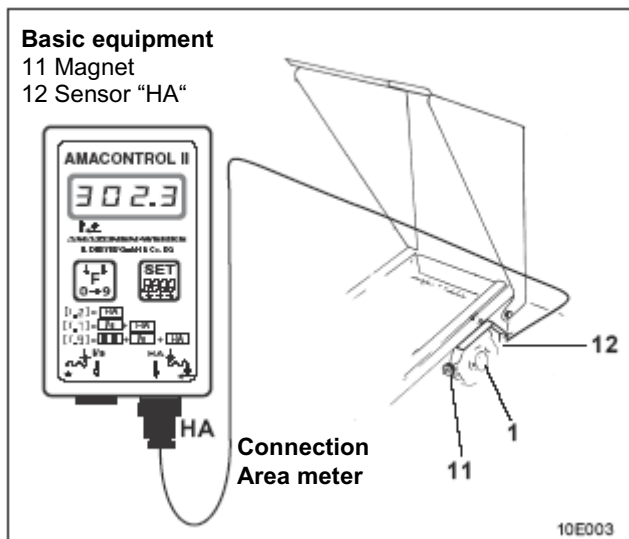


Fig. 2.2



“Is” connection on precision airplanters ED 1 is not possible!

2.3 Equipment

Tyre packer precision airplanters RP-ED 1

Fig. 2.3 shows the attachment points for the sensors and magnets on the gearbox input shaft (1).

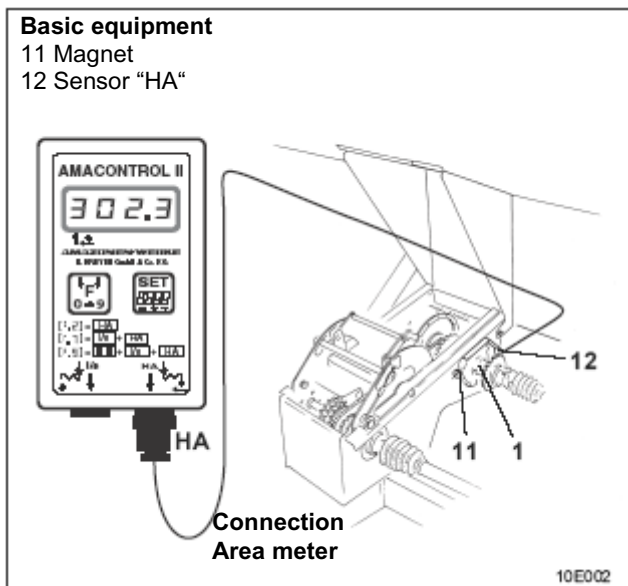


Fig. 2.3



**"Is" connection on precision airplanters
RP-ED 1 not possible!**

2.4 Potential applications

AMACONTROL II is a multi-functional computer for agricultural machines or implements, to which one or two sensors – depending on equipment – can be connected.

The Table shows the potential applications (functions) of AMACONTROL II:

Function	Connection	Attachment points for magnets „HA“ „Is“		
Metering area	“HA“	Gearbox input shaft	Omitted	
1. Metering area 2. Monitoring drilling shaft	“HA“ + “I/s“	Gearbox input shaft	Drilling shaft	*
1. Metering area 2. Monitoring drilling shaft 3. Displaying switching position	“HA“ + “I/s“	Gearbox input shaft	Drilling shaft	*
1. Metering area 2. Monitoring lay shaft 3. Displaying switching position	“HA“ + “I/s“	Gearbox input shaft	Lay shaft	*

* Special special optional equipment;option;option

3 OPERATION

3.1 Fitting batteries

The computer is supplied with two 1.5 V Mignon cells. The battery compartment is located on the back of the machine or implement.

Fitting batteries:

- ☐ Slide off battery compartment cover.
- ☐ Insert batteries into holder.
Check correct polarity (+/-)!
- ☐ Close battery compartment.



Switch-off computer before removing old batteries (see Section 6.1.2) to prevent loss of machine or implement data and readout values.

3.2 Switching on computer



Press F-key or SET-key.

- Display (short-term): Machine or implement version number:



- Automatic checking of battery voltage.

If voltage too low: Display [-bl].

3.3 Switching off computer



Press F-key for 5 seconds.

- Short-term display "STOP" .



The computer switches off automatically after 1.5 hours. This prevents loss of data.

3.4 Selecting function



Press the F-key until a function [F.2], [F.7], [F.8] or [F.9] is displayed.



Press the SET-key until the value flashes.



Press the F-key until the required function is displayed.



Press the SET-key for 2 seconds.

- Function selection is complete.



If the selection is not ended, the last value to be displayed is saved after 10 seconds.

3.5 Programming



F-key: Select function.



Press F-key again.

- Display: sub-functions.



Press the SET-key for 2 seconds until the value to be changed flashes.



F-key: Change value.



Press the SET-key for 2 seconds.

- Programming is complete.



The operation mode sections contain detailed descriptions.

4 - 2 Initial operation

4 INITIAL OPERATION

4.1 Function overview

The Table below shows the functions and setting options on the AMACONTROL II for seed drill operation.

Function	Sub-function	Symbol	Value
F.2 Hectare counter	Part area	HA.1	0.000-9999 ha
	Total area	HA.2	0.000-9999 ha
	Working width	I- - - I	00.01-99.99 m
	Factor	o	00.01-999.9 cm
F.7 1. Hectare counter 2. Monitoring drilling shaft	Alarm delay time	o_o_	5-25 seconds
	Part area	HA.1	0.000-9999 ha
	Total area	HA.2	0.000-9999 ha
	Working width	I- - - I	00.01-99.99 m
	Factor	o	00.01-999.9 cm
F.8 1. Hectare counter 2. Tramline switching mechanism position 3. Monitoring drilling shaft	Tramline switching mechanism	- - II-	1-9 Sec. / 1- 18
	Alarm delay time	o_o_	5-25 seconds
	Part area	HA.1	0.000-9999 ha
	Total area	HA.2	0.000-9999 ha
	Working width	I- - - I	00.01-99.99 m
	Factor	o	00.01-999.9 cm
F.9 1. Hectare counter 2. Tramline switching mechanism position 3. Monitoring lay shaft	Tramline switching mechanism	- - II-	1-9 Sec. / 1- 18
	Alarm delay time	o_o_	5-25 seconds
	Part area	HA.1	0.000-9999 ha
	Total area	HA.2	0.000-9999 ha
	Working width	I- - - I	00.01-99.99 m
	Factor	o	00.01-999.9 cm

4.2 Basic settings

The AMACONTROL II is delivered with the following basic settings:

Sub-function	Symbol	Value
Working width of seed drill	[I- - - -I]	3.00 (meters)
Factor/seed drill	[o]	123.7
Tramline switching mechanism	[- - II -]	[9 : 04]
		Switching time: 9 s No. of programs: 04
Alarm delay time	[o - o -]	24 (seconds)
Batch factor	[cou.F]	1,000

4.3 Programming seed drill data

Programming and checking the seed drill data prior to Initial operation.

4.3.1 Programming working width



Select function [F.2], [F.7], [F.8], [F.9].



Press the F-key until the [I- - - -I] symbol appears
• Display: Working width value.



Press the SET-key
• Display: 1st value flashes.



Press the F-key until the correct value appears.

4 - 4 Initial operation



Press the SET-key.
• 2nd value flashes.



Press the F-key until the correct value appears.

Proceed in this way until all values are correct. Then:



Press the SET-key for 2 seconds.
• Working width programmed.

4.3.2 Checking programmed working width



Select function [F.2], [F.7], [F.8], [F.9].



Press the F-key until the [I - - - I] symbol appears
• Display: Working width value.

4.3.2 Determining seed drill factor



Take seed drill factors from the Table below.

Initial operation 4 - 5

Fitting seed drills D8-SUPER / D8-SPECIAL					
Tyres	5.00-16	6.00-16	10.0/75-15	31x 15.50-15	11.5/80-15
Factor	116.1	123.7	127.6	132.3	144.3
Fitting seed drills AD 2 with tailwheel ø 1.18 m					
Factor	189.9				
Tyre packer fitting seed drill RP-AD 2					
Factor	170.1				
Tyre packer seed drills RPD with dual-range gearbox from machines or implements no. 954					
Factor	160,3				
Precision airplanter ED 1 / RP-ED 1					
Factor	170,1				



The factors are based on the turn values in the two Tables below.

The factors may not be taken from the Table above if the calibration test is taken at a different turn value or if sensor "HA" is not fitted to the gearbox. In this case, calculate factors as described in 4.3.4.

4 - 6 Initial operation

AMAZONE seed drills D8 SUPER/D8 SPECIAL with dual-range gearbox		Crank turns on wheel	
Tyres	Working width	1/40 ha	1/10 ha
5.00-16	2.5 m	49.5	197.0
	3.0 m	41.0	164.0
6.00-16	2.5 m	46.0	185.0
	3.0 m	38.5	154.0
10.0/75-15	4.0 m	28.0	112.0
31x 15.50-15	3.0 m	36.0	144.0
	4.0 m	27.0	108.0
	6.0 m	18.0	72.0
11.5/80-15	4.5 m	22.0	88.0
	6.0 m	16.5	66.0

AMAZONE				
Working width	Fitting seed drill AD 2		Tyre packer fitting seed drill RP-AD 2	
	1/40 ha	1/10 ha	1/40 ha	1/10 ha
2.5 m	27.0	108.0	59.0	235.0
3.0 m	22.5	90.0	49.0	196.0
4.0 m	17.0	67.5	37.0	147.0
4.5 m	15.0	60.0	33.0	130.5
6.0 m	-	-	24.5	98.0
	Crank turns on			
	Tailwheel ø 1.18 m		Intermediate drive	

4.3.4 Calculating seed drill factor

Drive the seed drill along a measuring section ("L") of at least 100 m.

- ☐ Count the rotations ("Z") made by the magnets on the gearbox input shaft or
- ☐ display the rotations using the **F3** function by setting
 - the batch counter [cou.] to [0.000]
 - the factor (counter) [cou.F] to [1.000]:



Select function [F.3].



Press the F-key until the **[cou.]** symbol appears

- Display: Memory content.



Press the SET-key for 2 seconds.

- Display: All values flash.



Press the F-key.

- Display: [0.000] (memory content cleared).



Press the SET-key for 2 seconds.

- End of programming.



Press the F-key until the **[cou.F.]** symbol appears

- Display: Programmed value.



Press the SET-key for 2 seconds.

- Display: 1. value flashes.



Press the F-key until the 1st value [1.000] is correct.

4 - 8 Initial operation



Press the SET-key for 2 seconds.

- Display: 2. value flashes.



Press the F-key until the 2nd value [1. 0 00] is correct.



Proceed in this way until all four values are set to **[1.000]**.
Then:



Press the SET-key for 2 seconds.

- Programming is complete.



Press the F-key until the **[cou.]** symbol appears

- Display: [0.000].



Start the measuring run immediately after making this setting.
Read-off magnet rotations from the computer at the end of the measuring run.

Calculating the factor



Calculate the factor from the determined values:

$$\text{Factor} = \frac{L \text{ (m)} \times 100}{Z} \quad \begin{array}{l} L = \text{Length of measuring section} \\ Z = \text{Magnet rotations} \end{array}$$

Example:
L = 100 m
Z = 59,5

$$\text{Factor} = \frac{100 \text{ (m)} \times 100}{59,5}$$

Factor = 168,1

4.3.5 Programming seed drill factor



Select function [F.2], [F.7], [F.8], [F.9].



Press the F-key until the **[o]** symbol appears.

- Display: Present factor.



Press the SET-key.

- Display: flashing comma.



Press the F-key until the comma is in the correct position.



Press the SET-key.

- Display: 1st value flashes.



Press the F-key until the first value is correct.



Press the SET-key.

- Display: 2nd value flashes.



Press the F-key until the second value is correct.

- ☐ Proceed in this way until the factor (e.g. **[168.1]**) is set.



Press the SET-key for 2 seconds.

- Programming is complete.

4.3.6 Checking seed drill factor



Select function [F.2], [F.7], [F.8], [F.9].



Press the F-key until the **[o]** symbol appears.

- Display: Seed drill factor.

5 OPERATION

5.1 Hectare counter (F.2, F.7, F.8, F.9)

AMACONTROL II features two memories:

- HA.1: stores part area.
- HA.2: stores total area.

Example: Display 15.00 = 15.0 ha = 150,000 m².

5.1.1 Displaying / clearing memory content HA.1 or HA.2



Select function [F.2], [F.7], [F.8], [F.9].



Press the F-key until the **[HA.1]** or **[HA.2]** symbol appears.

- Display: Memory content HA.1 (HA.2).



Press the SET-key for 2 seconds.

- Display: All values flash.



Press the F-key.

- Display: [0.000] (memory content cleared).



Press the SET-key for 2 seconds.

- Programming is complete.
-

5.1.2 Metering area

- Several fields are to be processed,
- the total area is to be displayed:

- ☐ Prior to commencing work
Clear memory contents HA.1 and HA.2 (see Section 5.1.1)!



Select function [F.2], [F.7], [F.8], [F.9].

- ☐ 1. Process field.



Memory content **HA.1**

- display
- record
- clear.

- ☐ 2. Process field.



Memory content **HA.1**

- display
- record
- clear.

- ☐ 3. Process field etc.



On completion of work:

Read-off total area of processed fields from memory
HA.2.

5 - 4 Operation

5.2 Monitoring drilling shaft (F.7, F.8)

- Sensor "HA" monitors the gearbox input shaft.
- Sensor "I/s" monitors the drilling shaft.

5.2.1 Alarm

AMACONTROL II generates an alarm if a defect causes the drilling shaft to stop while the gearbox input shaft continues to rotate.



AMACONTROL II generates no alarm if the drive chain jerks the gearbox, causing it to stop.

Alarm indicated by:

- two horn sounds and
- flashing display (e.g. **[21 : 15]**).

In the display:

[21 : 15]

Alarm duration

- Time (in secs.) since failure occurred
- max. 25 sec. can be displayed
- Display after 25 secs: **[-- 15]** .

Alarm delay time

- (settable)
- Time (in secs.) since start of failure to triggering of alarm
- Settable:
5...25 secs.
- Alarm OFF:
Set alarm delay time to min. 26 secs

5.2.2 Setting alarm delay time

- ☐ Set an alarm delay time, for example, of 15 seconds:



Select a higher alarm delay time for a slow journey and low gearbox setting than for a fast journey and high gearbox setting.



Select function [F.7] or [F.8].



Press the F-key until the [0 - 0 -] symbol appears.
• Display: Alarm delay time.



Press the SET-key for 2 seconds.
• Display: 1. value flashes.



Press the F-key until the 1st value [1 5] is correct.



Press the SET-key.
• Display: 2. value flashes.



Press the F-key until the 2nd value [1 5] is correct.



Press the SET-key for 2 seconds.
• Programming is complete.

Switching-off alarm:

- ☐ Set alarm delay time at 26 seconds or higher.
• Display: **OFF**.
-

5.3 Displaying the tramline switching mechanism position (F.8, F.9)

The display

- shows the position of the drilling wheel tramline switching mechanism during operation
- switches on automatically if the drive is interrupted when raising the seed drill to turn at the end of the field.

The switching time between shut-down of the drive and shift on to the next position can be set.

Example: The switching time is 6 seconds. The computer switches to the next position 6 seconds after the drive has shut down.

If the seed drill is raised briefly (less than 6 seconds) to avoid an obstacle, the computer does **not** switch onwards.

If the computer has switched onwards because more time is required, press the SET-key. The switching position is moved down.

Maximum settable switching time: 9 seconds.



If basic equipment is fitted (only 1 sensor "HA" connected) function F8 can be used to meter areas and display the switching position (switch-off alarm as per Section 5.4.4)!

5.3.1 Setting switching time and no. of programs prior to commencing work



e.g. 4-way switching mechanism, program switching time of 6 seconds.



Take no. of programs for 4-way switching mechanism from Table below and program in as follows:



Select function [F.8] or [F.9].



Press the F-key until the [- - II -] symbol appears.

- Display: Current switching position (e.g. [1]).



Press the SET-key for 2 seconds.

- Display, e.g.: [9 02] (the value "9" flashes) whereby
9: switching time (9 secs. for shift on)
02: no. of programs (2-way switching mechanism).



Press the F-key until the switching time (6 secs.) is correct.



Press the SET-key.

- Display: 1. Value for number of programs flashes.



Press the F-key until the 1st value [0 4] of the number of programs is correct.



Press the SET-key.

- Display: 2. Value for number of programs flashes.



Press the F-key until the 2nd value [0 4] of the number of programs is correct.



Press the SET-key for 2 seconds.

- Programming is complete.

5.3.2 Commencing work



Press the F-key until the [- - II -] symbol appears.

- Display: Current switching position (e.g. [. 3]).



Press the SET-key until the correct switching position is set.

5 - 8 Operation

No. of programs																	
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
Switch																	
1	2	3	4	5	6	7	8	9	10	11	12	---	5 / 13 le. ri.	3 / 7 le. ri.	6 plus		
Switching position																	
0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
1	0	1	1	1	1	1	1	1	1	1	1	1	2	2	2	0	2
	1	2	2	2	2	2	2	2	2	2	2	2	0	3	3	3	0
	2		3	3	3	3	3	3	3	3	3	3	4	4	0	4	0
				4	4	4	4	4	4	4	4	4	5	5	5	5	5
					5	5	5	5	5	5	5	5	6	6	6	6	6

[illegible]

5 - 10 Operation

5.3.3 During operation

- ☐ The seed metering wheel tramline switching mechanism is in position "1"
 - Display: Current switching position [1].
- ☐ Change from switching position "1" to "2":
 - Signal: 2 x short hoots
 - Display: [2].
- ☐ Change to switching position "0":
 - Signal: 1 x long hoot and
 - Display: [0].



The computer is not connected to the seed metering wheel tramline switching mechanism.

AMACONTROL II can therefore only be considered a visual aid.

The display does not have to concur with the actual switching position.

5.4 Monitoring the lay shaft of the seed metering wheel tramline switching mechanism [F.9]

The lay shaft can only be monitored when no. of programs and switching position are correctly set (see Section 5.3).

- ☐ Sensor "HA" monitors the gearbox input shaft
- ☐ Sensor "Is" monitors the lay shaft.

5.4.1 No alarm

- ☐ Creating tramlines in switching position "0":
 - The lay shaft stops, seed is not conveyed.

5.4.2 Alarm

- ☐ Creating tramlines in switching position "0":
 - The lay shaft rotates, seed is conveyed.
 - Signal: 2 x hoots
 - Display: [II A. 0], letter "A" flashes.
- ☐ Seeding operation in switching position "1", "2", "3" etc.
 - The gearbox input shaft rotates while the lay shaft is at a standstill.
 - Signal: 2 x hoots
 - Display: [-A. 1], letter "A" flashes.

5.4.3 Alarm delay time

- The time (alarm delay time) between the failure occurring and the alarm being triggered can be set.
- Settable alarm delay time: 5...25 secs.



Do not set the alarm delay time too low. This will avoid false alarms.

5 - 12 Operation

5.4.4 Setting alarm delay time

- ☐ Set an alarm delay time, for example, of **15** seconds:



Select function [F0.9].



Press the F-key until the [o - o -] symbol appears.

- Display: [- - - -] .



Press the SET-key for 2 seconds.

- Display: pre-programmed alarm delay time, the first value flashes.



Press the F-key until the first value [1 5] is set.



Press the SET-key.

- Display: 2. Value for alarm delay time flashes.



Press the F-key until the second value [1 5] is set.



Press the SET-key for 2 seconds.

- Display: [- - - -] .
- Programming is complete.

Switching-off alarm:

- ☐ Set alarm delay time at 26 seconds or higher.
- Display: **OFF**.

5.4.5 False alarm

Causes of false alarm:

- The lay shaft requires more time to make a rotation during a slow journey with low gearbox setting than during a fast journey with high gearbox setting.
-

In order to avoid false alarms, the alarm delay time must be greater than the lay shaft requires for 1/6 rotation (6 magnets).

- If when turning at the end of the field, the mechanism switches to position "0", the wrap spring clutch requires up to 1/6 rotation of the lay shaft, in order to bring it to a standstill. In order to avoid false alarms, the alarm delay time must be greater than the wrap spring clutch requires to bring the lay shaft to a standstill.
- Vibrations:
Even when the lay shaft is at a standstill in switching position "0", the computer can receive impulses from the sensor. Vibrations of the magnets generate the impulses.

The computer only triggers the alarm if more than two impulses are received within a defined time.

This time is settable and corresponds to the **alarm time**. The alarm delay time (e.g. 15 secs.) is multiplied internally by the factor 5.

Example

Set alarm delay time: 15 seconds
(15 seconds x 5 = 75 seconds).

The computer triggers an alarm if more than two impulses, generated by magnet vibration, are received.

5.5 All AMACONTROL II functions

Besides the 4 functions for seed drill operation, AMACONTROL II has 9 other functions.

This makes AMACONTROL II suitable for other applications as indicated in the Table below.

5 – 14 Operation

Function		Subfunction		Input (I) Display (O)	Display
Speed counter	F.1	Speed	-.-.-	0	0.0-999.9 km/h
		Factor or wheel scop	o	I	00.00-999.9 cm
Seed drill operation Hectare counter	F.2	Part area	HA.1	0	0.000-9999 ha
		Total area	HA.2	0	0.000-9999 ha
		Working width	I- -I	I	00.01-99.99 m
		Factor	o	I	00.01-999.9 cm
Batch counter	F.3	Batch counter	cou.	0	0.001-9999 Items
		Factor (counter)	cou.F	I	0.001-9999 Items
Rev. counter	F.4	R.p.m.	r.	0	0012-9999 rpm
		Rotation time	-.-.-	0	00:00-9999 hrs.
Notice: During operation, magnet must be stroked on sensor .					
working hours counter		Working hours	-.-.-	0	00.00-9999 hrs.
Note: During operation, the magnet must be fixed before the sensor.					

Operation 5 - 15

Film winding counter	F.6	Winding counter	PUL5	0	0-99 revs..
		No. of windings	PUL5	I	2-99 revs.
		Ball counter I	bAL1	0	0-9999 balls
		Ball counter II	bAL2	0	0-9999 balls
		Alarm	0 - 0 -	0	5-25 Sec.
Seed drill operation 1. Seed drill monitoring 2. Hectare counter	F.7	Alarm delay time	0 - 0 -	I	5-25 Sec.
		Part area	HA.1	0	0.000-9999 ha
		Total area	HA.2	0	0.000-9999 ha
		Working width	I - - I	I	00.01-99.99 m
		Factor	o	I	00.01-999.9 cm
Seed drill operation 1. Switching position Seed metering wheel Tramline switching mechanism 2. Monitoring drilling shaft 3. Hectare counter	F.8	Tramline switching mechanism position	- - II -	0	Switching position
		Switching time	- - II -	I	1-9 Sec.
		No. of programs	- - II -	I	1-18
		Alarm	0 - 0 -	0	5-25 Sec.
		Alarm delay time	0 - 0 -	I	5-25 Sec.
		Part area	HA.1	0	0.000-9999 ha
		Overall area	HA.2	0	0.000-9999 ha
		Working width	I - - I	I	00.01-99.99 m
		Factor	o	I	00.01-999.9 cm

5 - 16 Operation

Function	Subfunction		Input (I) Display (O)	Display
	Tramline switching mechanism position	- - II -		
F.9 Seed drill operation 1. Seed drill tramline switching mechanism position 2. Lay shaft monitoring 3. Hectare counter	Switching time	- - II -	I	1-9 Sec.
	No. of programs	- - II -	I	1-18
	Alarm	0 - 0 -	0	5-25 Sec.
	Alarm delay time	0 - 0 -	I	5-25 Sec.
	Part area	HA.1	0	0.000-9999 ha
	Total area	HA.2	0	0.000-9999 ha
	Working width	I - - I	I	00.01-99.99 m
	Factor	o	I	00.01-999.9 cm
For future machines or implements with static monitoring of lay shaft				
F.10				

6 BREAKDOWN MEASURES

6.1 Switching off computer

- decreases power consumption
- increases battery life
- switches off the display.

The computer is in dwell position

- until it receives a impulse from the sensor or
- a key is pressed.

If the computer is automatically or manually switched off, all data is saved.



Before replacing the batteries, switch off the computer to prevent the loss of data.

6.1.1 Automatic computer switch-off

AMACONTROL II is automatically switched off if

- the computer receives no impulse for 1.5 hours
- no key is pressed for 1.5 hours.

6.1.2 Manual computer switch-off



Press F-key for 5 seconds.

- Display: **[STOP]** .



6 - 2 Breakdown measures

6.2 Isolate sensor cable plug from computer Before the seed drill is uncoupled from the tractor:

- ☐ Pull sensor cable plug from the computer and attach at a suitable humidity-proof location (e.g. below the seed box on the side wall).

6.3 Protecting the computer

High temperatures occur inside vehicles parked in bright sunshine.



Do not expose the computer to high temperatures for prolonged periods. This can damage the computer.

During the winter months, keep the computer in a frost-proof room.

7 FUNCTION CHECK

If the computer is not functioning correctly, check whether

- the battery voltage is too low
- the computer or
- the sensors are defective.

7.1 Checking battery voltage

- ☐ Switch off computer
(Press F-key until [StOP] appears in the display).
- ☐ Switch on computer
 - display shows **[-bl-]**: Voltage too low.
 - Switch off computer.
 - Fit new batteries: see Section 3.1.

7.2 Checking computer for correct functioning

7.2.1 Checking computer input "HA"



For this test, the factor (counter) [cou.F] must be set to [1.000].

- ☐ Screw off sensor cable "HA" from computer.
 - ☐ Select function [F.3] (batch counter).
 - ☐ Press the F-key until the **[cou.]** symbol appears.
 - Display: Memory content (e.g.: [0.023]).
 - ☐ Bridge pin on connecting sleeve with a small screwdriver (see Fig. 7.1).
 - The computer processes the simulated impulse and indicates the total in the display.
 - If the computer fails to process the impulses correctly:
 - Replace computer.
-

7 - 2 Function check

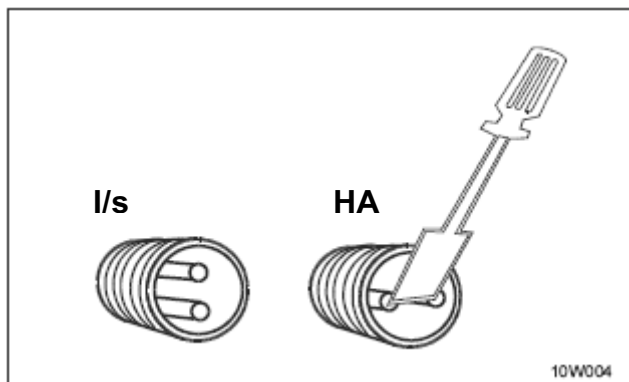


Fig. 7.1

7.2.2 Checking computer input "I/s"



For this test, the alarm must not be switched off (see Section 5.2.2).

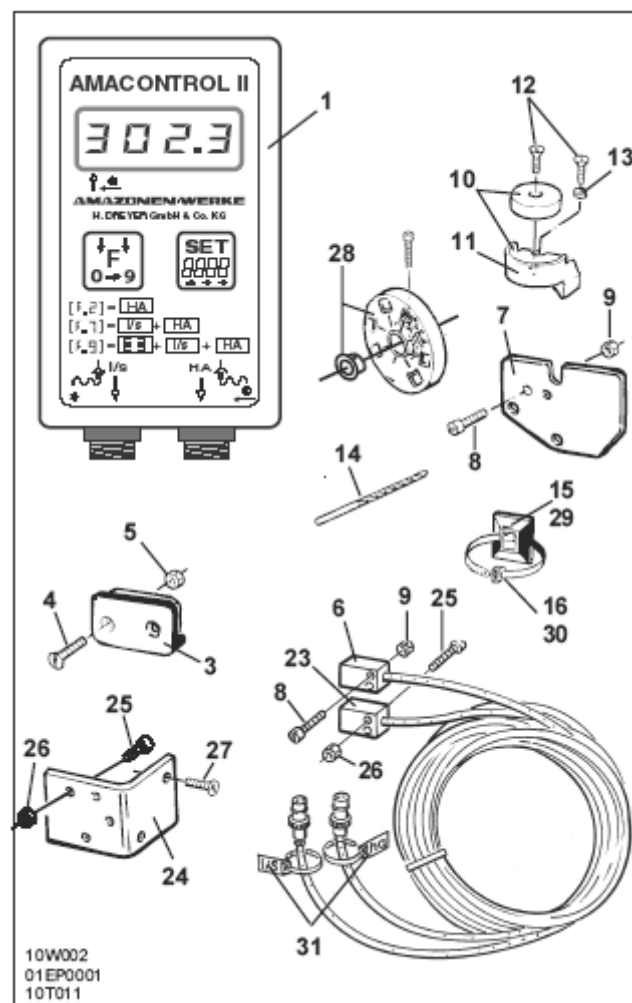
- ☐ Screw off both sensor cables from computer.
 - ☐ Select function [F0.7].
 - ☐ Bridge pins on both connecting sleeves with a small screwdriver 10 x in rotation.
(Simulating impulses).
 - ☐ Bridge pin pair "HA" until alarm is triggered (depending on set alarm delay time 5...25 secs).
 - Signal: 2 x hoots.
 - If the computer fails to process the impulses correctly:
 - Replace computer.
-

7.3 Checking sensors

After checking the computer as described in Section 7.2, the sensors must be tested:

- ☐ Connect sensor cable "HA" to computer.
 - ☐ Check input "HA" (as described in Section 7.2.1):
Stroke a magnet directly before the sensor (to simulate impulses).
 - ☐ Connect sensor cable "I/s" to computer.
 - ☐ Check input "I/s" (as described in Section 7.2.2):
Stroke a magnet directly before the two sensors (to simulate impulses).
 - The computer receives the simulated impulse and indicates it
in the display.
 - If the computer fails to receive the impulse:
 - replace the relevant sensor.
 - If the computer is working correctly:
 - Decrease distance between sensor and magnet on the seed drill.
-

8 - 2 Scope of delivery and spare parts list



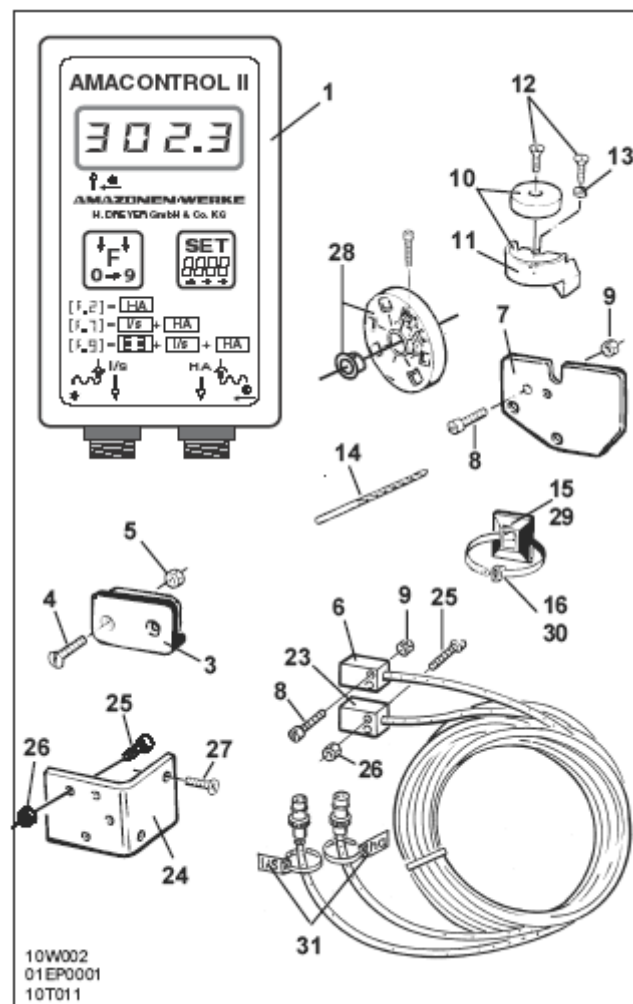
Scope of delivery and spare parts list 8 - 3
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8 SCOPE OF DELIVERY AND SPARE PARTS LIST

8.1 Basic equipment

No.	Order No.	Designation	Qty
1	951901	Electronic hectare counter AMACONTROL II 1 comprising No. 3 to No. 17:	
3	-----	Bracket for computer.....	2
4	-----	Countersunk screw M4 x 25.....	4
5	-----	Counter nut M4.....	4
6	NE253	Sensor with 7m cable and plug.....	1
7	951857	Sensor holder for dual-range gearbox....	1
8	-----	Socket head bolt M4 x 0.....	2
9	-----	Counter nut M4 x 25.....	2
10	3419310	Magnet, compl. (with No. 11, No.12 and No.13)	1
11	-----	Magnet holder	1
12	-----	Self-tapping screw M4 x 10.....	2
13	-----	Lock washer	1
14	-----	Borer (ø 3.6 mm)	1
15	KE041	Bonding plate 29x29	15
16	0935410	Cable tie	20
17	MG341	Operating and Installation Instruction and Spare Parts list for AMACONTROL II	1

8 - 4 Scope of delivery and spare parts list



Scope of delivery and spare parts list 8 - 5
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8.2 Special special optional equipment;option;option

No.	Order No.	Designation	Qty
	952160	Tramline – Control - Sensors for the electronic monitoring of drilling shaft or lay shaft seed metering wheel tramline switching mechanism.....	1
		comprising No. 23 to No. 31:	
23	NE253	Sensor with 7m cable and plug.....	1
24	951592	Sensor holder for sowing housing.....	1
25	-----	Countersunk screw M4 x 20.....	2
26	-----	Counter nut M4.....	2
27	-----	Self-tapping screw M4 x 10.....	2
28	NE200	Holder for 6 magnets.....	1
29	KE041	Bonding plate 29x29	11
30	0935410	Cable tie.....	11
31	-----	Cable tie with title box.....	2

9 - 2 Fitting – Basic equipment

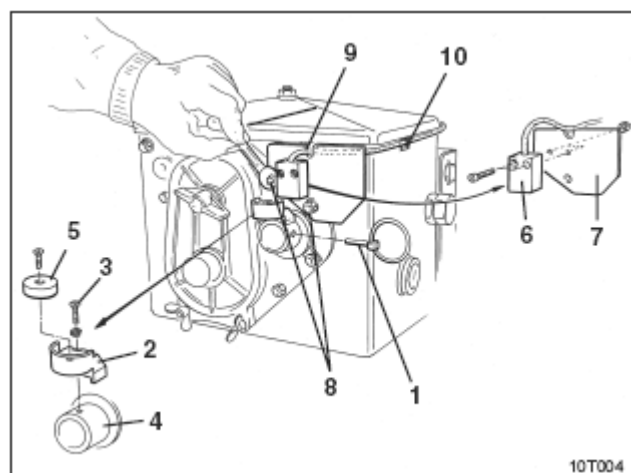


Fig. 9.1

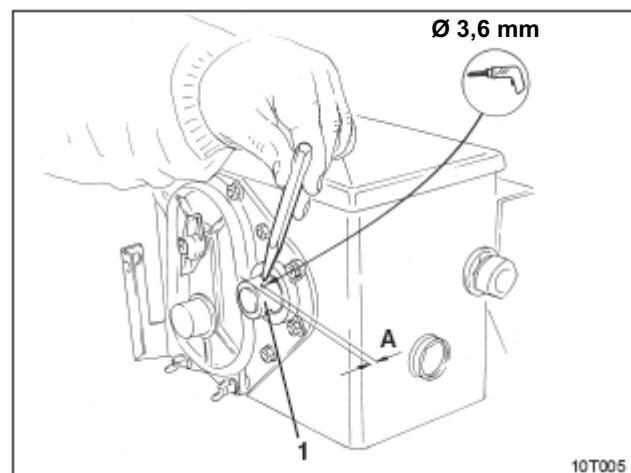


Fig. 9.2

9 INSTALLATION INSTRUCTION BASIC EQUIPMENT

9.1 Fitting magnet and sensor(“HA”) on the dual-range gearbox



Observe Installation Instruction (next page)!

- ☐ Remove lynch pin (Fig. 9.1/1. connecting agitator shaft to drive).
- ☐ Bolt the magnet holder (Fig. 9.1/2) on to the hollow gearbox input shaft (Fig.1/4) using M4 x 10 self-tapping screw (Fig. 9.1/3) and lock washer.

On older drilling machines or implements without attaching hole in the hollow gearbox input shaft, proceed as follows:

- ☐ Using the borer provided, drill a hole (\varnothing 3.6 mm) in the hollow gearbox input shaft (Fig. 9.2/1).
 - **The hole must be offset by 9°** to the existing hole for the lynch pin.
Distance A (see Fig. 9.2) from edge of hollow shaft to centre of bore is **5 mm. Mark hole.**
- ☐ Bolt magnet (Fig. 9.1/5) to magnet holder using a M4 x 10 self-tapping screw.
- ☐ Bolt sensor (Fig. 9.1/6) to sensor holder (Fig. 9.1/7).
- ☐ Bolt sensor holder (Fig. 9.1/7) to gearbox using two housing nuts (Fig. 9.1/8).
- ☐ Fitt sensor cable (Fig. 9.1/9) to tractor cab.



Fit sensor cable so as to protect it from damage when work is being carried out.

9 - 4 Installation – Basic equipment

Attach cable to seed drill using bonding plates
(Fig. 9.1/10) and cable ties.

The adhesive surfaces must be grease-free and clean.

- ❑ Insert lynch pin (Fig. 9.1/1. into hollow gearbox input shaft).



Installation instruction:

If AMACONTROL II is fitted with two sensors:

- sensor "HA" monitors the gearbox shaft, sensor "Is" monitors the drilling shaft or lay shaft.
- AMACONTROL II generates an alarm if the drilling shaft or lay shaft (apart from at switching position "0") stops.
- AMACONTROL II generates no alarm if the drive chain jerks the gearbox causing the seed drill drive to fail.

If AMACONTROL II generates an alarm on total seed drill drive failure, attach:

- Magnet (Fig. 9.3/1) onto the drive axis
- Sensor holder (Fig. 9.3/2, Order no.: 950725) with sensor "HA" (Fig. 9.3/3) next to magnets (Fig. 9.3/1).

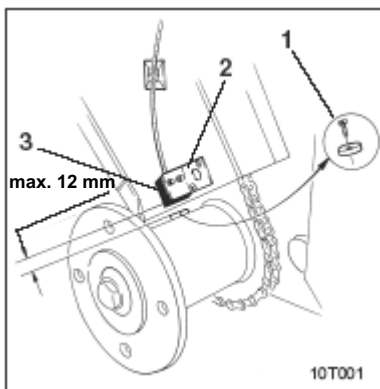


Fig. 9.3

9.2 Fitting computer

- ☐ Attach computer bracket (Fig. 9.4) in tractor cab.



Protect computer from frost and direct sunlight.

- ☐ Push computer onto bracket.
- ☐ Connect sensor cable to computer.

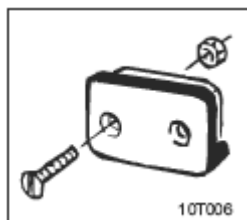


Fig. 9.4



In order to avoid confusion when attaching the two sensor cable plus (special optional equipment;option) to the computer:

Attach cable ties with title box (Fig. 9.5/1) to the two sensor cables.
Write "HA" / "I/s" in title boxes.

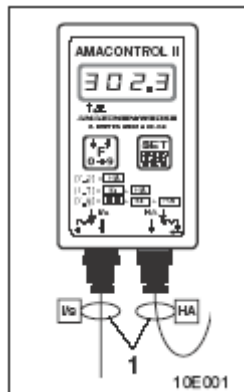


Fig. 9.5

9 - 6 Installation – Basic equipment

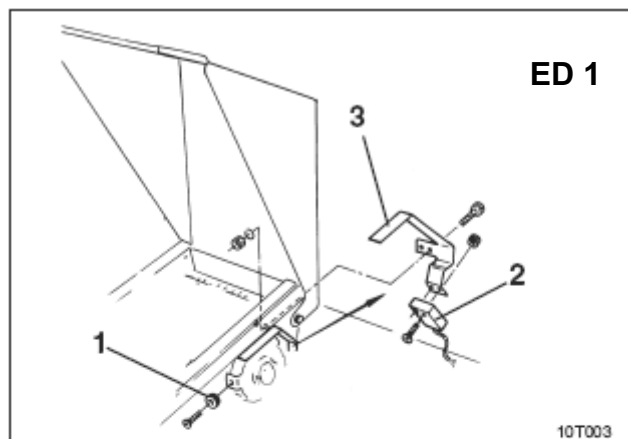


Fig. 9.6

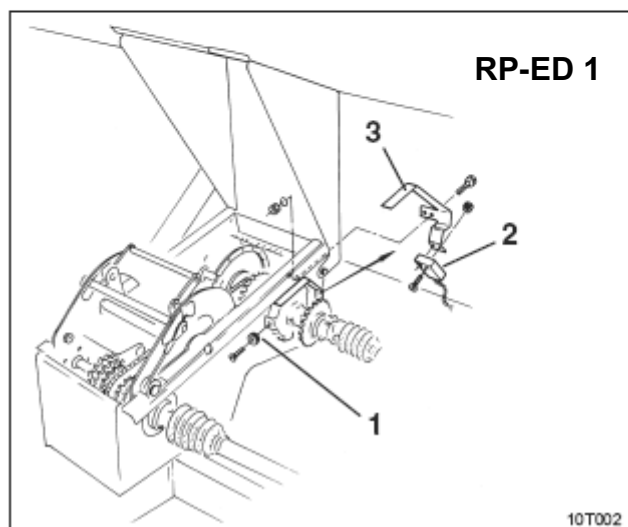


Fig. 9.7

9.3 Fitting magnet and sensor ("HA") on precision airplanters ED 1 / RP-ED 1

Attach sensor and magnet for **ED 1** (Fig. 9.6) and/or **RP-ED 1** (Fig. 9.7) to input of chain wheel adjustment gear:

- ☐ Bolt magnet (Fig. 9.6/1 / Fig. 9.7/1) with self-tapping screw M4 x 10 onto impulse disc of gearbox input shaft.
- ☐ To attach the sensor, loosen impulse holder (Fig. 9.6/3 and/or Fig. 9.7/3) and then re-bolt.
- ☐ Bolt sensor (Fig. 9.6/2 or Fig. 9.7/2) to impulse holder (Fig. 9.6/3 and/or Fig. 9.7/3).
- ☐ Fit sensor cable to tractor cab.
Attach cable to seed drill using bonding plates and cable ties
The bonding plates must be grease-free and clean.



Fit sensor cable so as to protect it from damage when work is being carried out.

10 - 2 Fitting – Basic equipment

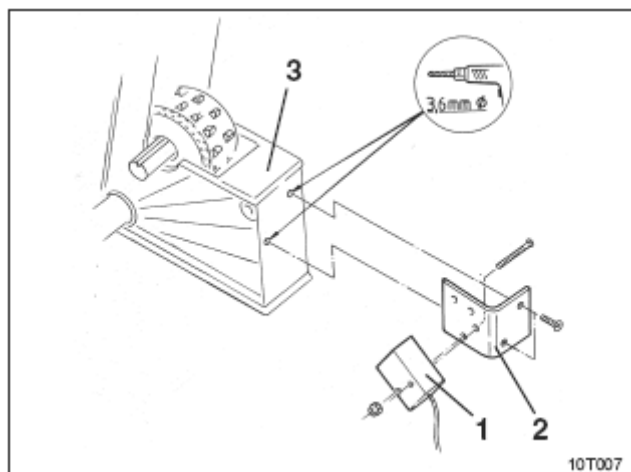


Fig. 10.1

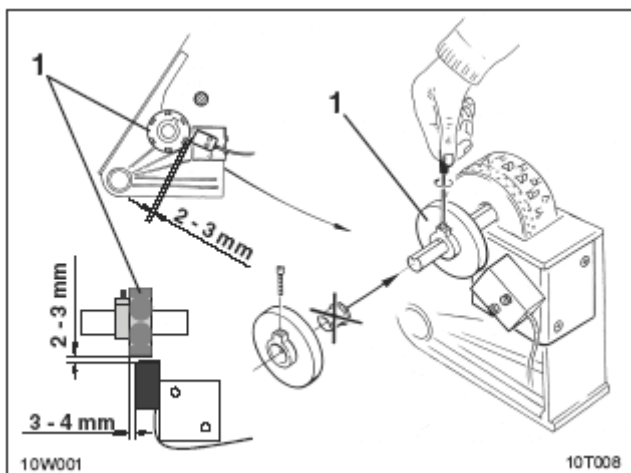


Fig. 10.2

10 INSTALLATION INSTRUCTION SPECIAL OPTIONAL EQUIPMENT;OPTION

10.1 Fitting holder with 6 magnets and sensor ("Is") for monitoring the seed metering wheel

- ☐ Bolt sensor (Fig. 10.1/1) to sensor holder (Fig. 10.1/2).
- ☐ Using the borer supplied, make two holes (Ø 3,6 mm) in the last sowing housing (Fig. 10.1/3), outside left.
- ☐ Bolt sensor holder (Fig. 10.1/2) to sowing housing (Fig. 9.1/7).
- ☐ Attach magnet holder (Fig. 10.2/1) with 6 magnets to drilling shaft.
- ☐ Fit sensor cable to tractor cab.
Attach cable to seed drill using adhesive plates and cable ties
The adhesive surfaces must be grease-free and clean.



**Fit sensor cable so as to protect it from damage
when work is being carried out.**

10 - 4 Fitting – Special optional equipment;option

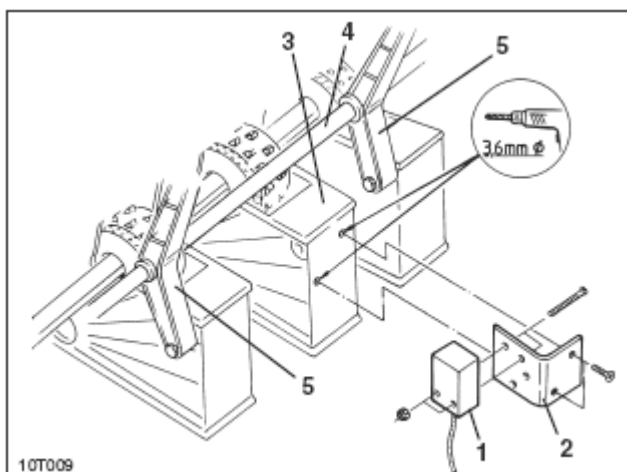


Fig. 10.3

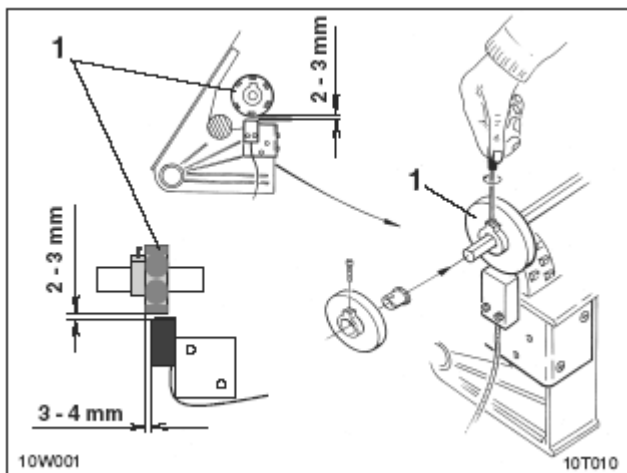


Fig. 10.4

10.2 Fitting holder with 6 magnets and sensor ("Is") for monitoring the lay shaft

- ☐ Bolt sensor (Fig. 10.3/1) to sensor holder (Fig. 10.3/2).
- ☐ Using the borer supplied, make two holes (\varnothing 3,6 mm) in a sowing housing (Fig. 10.3/3). Choose a sowing housing located between two bearings (Fig. 10.3/5) on the lay shaft (10.3/4).
- ☐ Bolt sensor holder (Fig. 10.3/2) to sowing housing (Fig. 9.1/7).
- ☐ Attach magnet holder (Fig. 10.4/1) with 6 magnets to lay shaft.
- ☐ Fit sensor cable to tractor cab.
Attach sensor cable to seed drill using adhesive plates and cable ties.
The adhesive surfaces must be grease-free and clean.



Fit sensor cable so as to protect it from damage when work is being carried out.

Notes

Notes

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