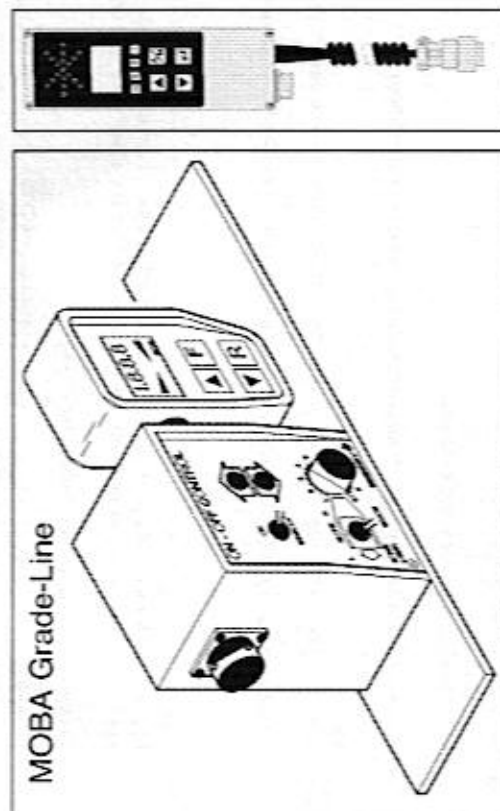


DYNAPAC



MOBA-matic

Operating Instructions



05

Levelling Systems
Typ MOBA Grade-Line / MOBA-matic

1.3 Automatic slope control

The slope control unit is used to automatically adjust the laying system to the inclination angle defined for the road. This instrument is a kind of electronic level that continuously compares the actual slope to the set angle and, if necessary, corrects the value.

Slope controls can be operated in conjunction with grade controls, i.e. the grade control unit controls the left-hand or right-hand side of the laying system whereas the slope control unit adjusts the other side to keep the transversal slope constant when the layer thickness changes.

Continuous height control and automatic correction make it possible to achieve the best possible accuracy during laying when using an automatic levelling system. Any deviation detected by the grade control unit is automatically transferred to the control valve to correct the layer thickness. The slope control unit (pendulum) forms an artificial horizon that can be adjusted in position (transversal slope) and controls one side of the screed. The slope control unit is installed on a cross arm linked to the screed's crossbeams in the line of sight of the driver. When the levelling system is switched off, the height of the screed can be adjusted from the operating panel or from the remote control. The entire system consists of two controllers that operate independently. If a deviation occurs, both controllers act on electromagnetic valves that in turn adjust the levelling cylinders, thus correcting the layer thickness.

2 Application methods

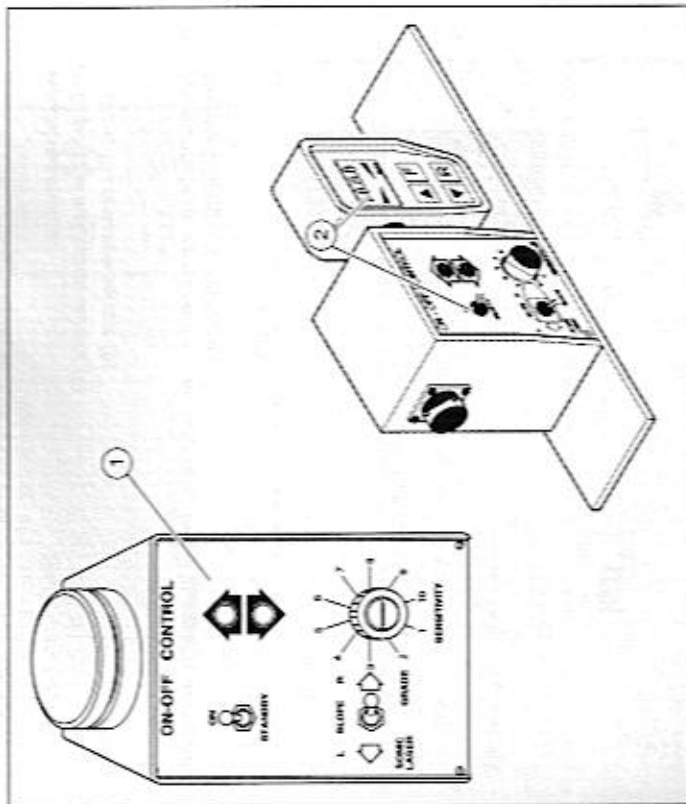
There are two different application methods:

- The grade control unit scans one side using a defined reference line and transfers adjustments to the other side via the slope control unit (pendulum).
- The grade control unit scans both sides using defined reference lines. The slope control unit is not used.

3 Models

3.1 MOBA Grade-Line

The grade control unit (1) can be used for simple height adjustment or in combination with the slope control unit (2).



Installation and adjustment of the automatic levelling system is described in the chapter "Set-up and modification".

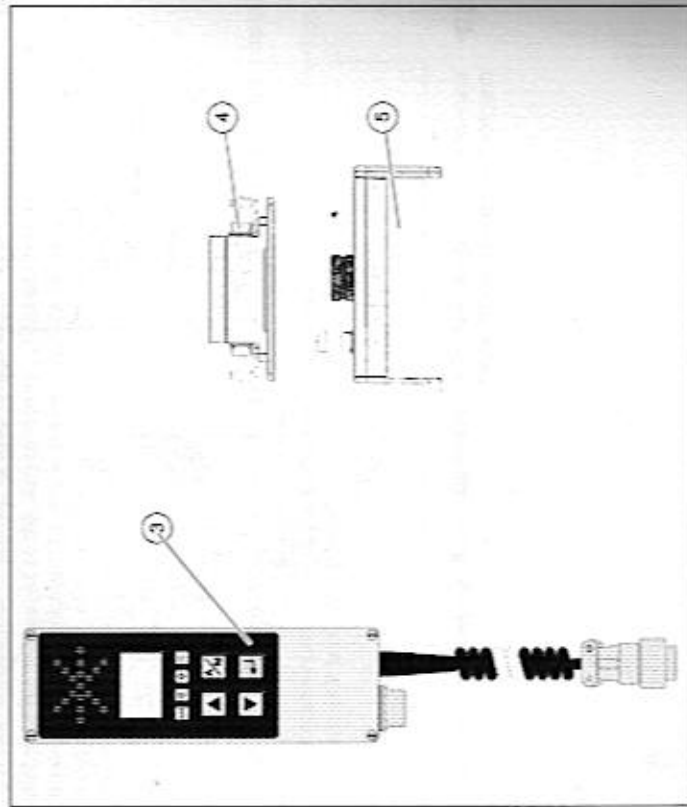
3.2 MOBA-matic

The MOBA-matic model (3) is a control system for construction machines. The digital controller is based on modern microprocessor technology and uses a digital interface, thus making it possible to connect different types of sensors (4 and 5) to the digital controller. The digital controller automatically recognizes the connected sensors when switched on. If a different sensor type is used, the change must be acknowledged by pressing any key after the machine has been switched on.

Available sensors:

- Dig-Slope inclination sensor (4)
- Sonic-Ski distance sensor (5)

Installation and adjustment of the automatic levelling system is described in the chapter "Set-up and modification".



C Operation

1 MOBA Grade-Line model

1.1 Grade control

The grade height control unit can be used for simple height adjustment or in combination with the slope control unit.

- Valve switch (1)

Position	Function
On	Switched on
Standby	Ready for operation (normal position)

- Control lamps (2)

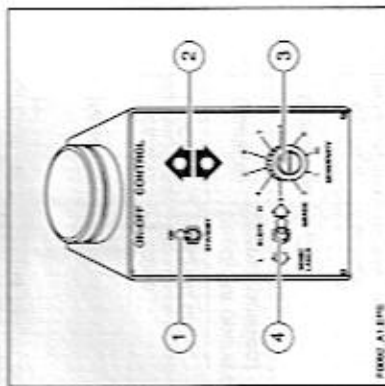
Position	Function
Top	Point of traction further upwards
Bottom	Point of traction further downwards

- Sensitivity adjuster (3)

Position	Function
< 5	Coarse scanning
> 5	Fine scanning

- Selector switch (4)

The switch is blocked mechanically when the levelling system is used as a grade control.



1.2 Slope control (O)

Operating elements 1, 2, 3 have the same function as for simple height control (see 1.1).

- Valve switch (1)

Position	Function
On	Switched on
Standby	Ready for operation (normal position)

- Control lamps (2)

Position	Function
Top	Point of traction further upwards
Bottom	Point of traction further downwards

- Sensitivity adjuster (3)

Position	Function
< 5	Coarse scanning
> 5	Fine scanning

- Selector switch (4)

Position	Function
Slope L	Control of the left-hand side
Slope R	Control for the right-hand side
	or, with sensors (option)
Sonic/Laser	Ultrasonic/laser scanning
Grade	Mechanical scanning

- Remote control unit (5) - can be removed:

Adjustment and display of the transversal slope

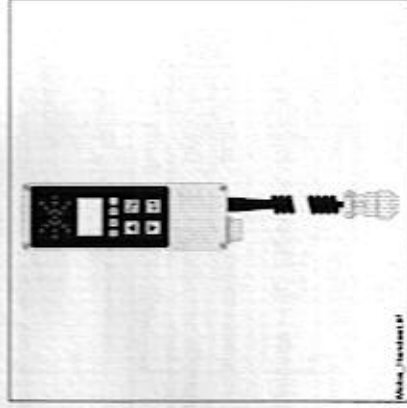
2 MOBA-matic model

2.1 Basic operation of the digital control unit

The following part of the present operating instructions provides a general description of how the system is operated. The operating instructions for the individual sensors require that the operator is familiar with the basic operating procedures.

Description of the digital control unit

The digital control unit can be used for all types of machines. It is fitted with a digital display, four function lamps and four operating keys.



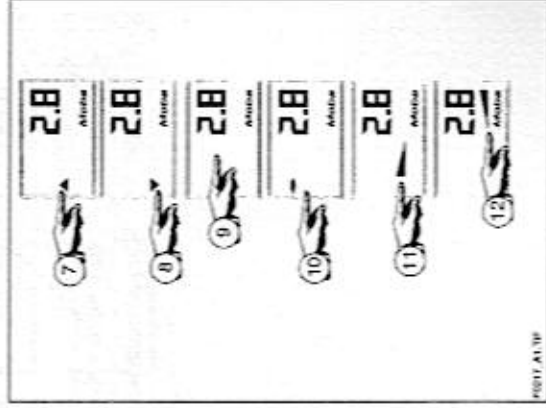
2.2 Liquid crystal display

Owing to the integrated illumination, the liquid crystal display (6) is easy to read even under unfavorable light conditions.



The displayed symbols have the following meaning:

Symbol	Meaning
Arrows RAISE (7) / LOWER (8)	Activated controller output
Value without sign (9)	Positive display value
Value with negative sign (10)	Negative display value
Bar tapering off to the right (11)	Slanted to the right
Bar tapering off to the left (12)	Slanted to the left



2.3 Function lamps

The function lamps have the following meaning:

- Lamp "AUTO" (13)



Lamp	Function
On	Automatic operation
Off	Manual operation

- Direction lamps (14, 15) - special function for "Sonic-Ski"

Lamp	Display	Function
LEFT	Off	Rope is outside the left-hand sensor range (set status)
	Flashing	Rope is within the left-hand sensor range
RIGHT	Off	Rope is outside the right-hand sensor range (set status)
	Flashing	Rope is within the right-hand sensor range

If one of the lamp starts flashing, the "Sonic-Ski" must be readjusted (centered).
If both lamps start flashing, they indicate an alarm.

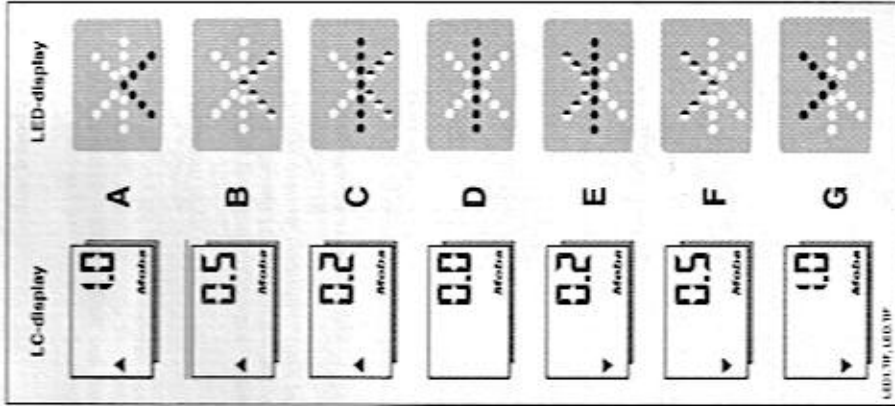
- Rope lamp (16) - for "Sonic-Ski" operation only

Lamp	Function
On	Rope mode active
Off	Ground mode active (generation of a mean value)

2.4 LED display

The LEDs are used to clearly indicate the status of the valve output that is currently being controlled to the operator. They simply provide an enlarged and more detailed representation of the functions indicated by the arrow symbols on the LC display.

The LED display is especially useful in situations where the operator is further away from the controller or where work is carried out in bright sunlight.



LC display	LED display	State
A Arrow lit continuously	Arrow lit continuously	Major controller deviation
B Arrow flashes	Arrow flashes	Average controller deviation
C Arrow flashes	Bar lit / arrow flashes	Minor controller deviation
D No arrow	Bar lit	No controller deviation
E Arrow flashes	Bar lit / arrow flashes	Minor controller deviation
F Arrow flashes	Arrow flashes	Average controller deviation
G Arrow lit continuously	Arrow lit continuously	Major controller deviation

When all LEDs are flashing, an alarm state is pending.

2.5 Keyboard unit

Four keys are available for operating the MOBA-matic model. They are easy to use, being assigned with an additional function only for some settings.

- Up/Down keys (17)

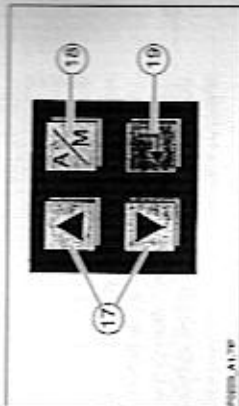
During automatic operation, these keys are used to modify the set value. During manual operation, they are used to activate the respective valve outputs.

- Automatic/Manual key (18)

This key is used to toggle between the automatic and the manual mode (manual operation).

- Enter key (19)

This key is used for zeroing and/or for adjusting the set value to the actual value.



2.6

Brief instructions

Always use the manual mode to make the basic settings!
The function lamp must be off.

- Lift/lower the screed to its initial position.

- Align the sensor.

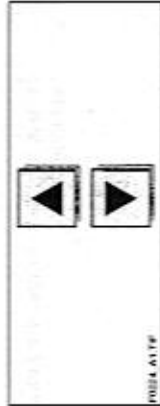
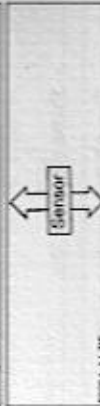
- In the case of the "Sonic-Ski" sensor, rope / ground scanning is set by pressing the UP/DOWN keys simultaneously.

- Press the Enter key.

- The function lamp is lit.

Use the A/M key to activate automatic operation. The MOBA-matic system now keeps the screed at the set height.

- The set value can be modified using the UP/DOWN keys.



- Lift/lower the screed to its initial position.



- The MOBA-matic control unit indicates the inclination angle of the screed in percent. If the indicated inclination angle is not correct, adjust the actual value (see chapter "Set-up and modification").



- Press the Enter key.

The current position of the screen is adopted as the set value for the automatic levelling system.

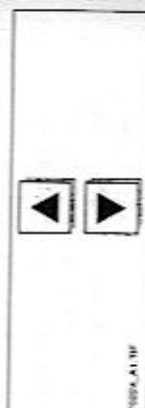


- The function lamp is lit.

Use the A/M key to activate automatic operation. The MOBA-matic system now keeps the screed at the set inclination angle.



- The set value can be modified using the UP/DOWN keys.



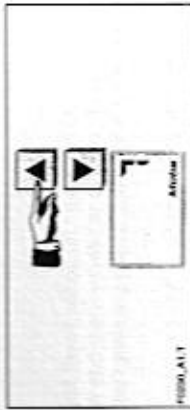
- Press the A/M key and the Enter key simultaneously.



- The display toggles from "SE" to the standard value "6".



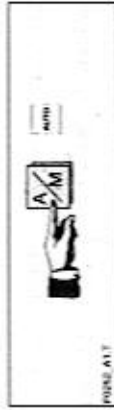
- Pressing the UP or DOWN key changes the value accordingly. (Example: setting the value 7)



- Pressing the A/M key switches the system back to the working mode. If no changes were made, the controller automatically toggles back to the working mode.



- Automatic operation can be switched off using the A/M key. The function lamp goes out.



D Set-up and modification

1 Special notes regarding safety

Inadvertent starting of the engine, the traction drive, the conveyor, the auger, the screed or the lifting devices can endanger persons. Only carry out the required work with the finisher motor at a standstill unless the instructions state the opposite!

- Secure the paver finisher so that it cannot be switched on inadvertently: Set the drive lever to the center position and the preselector to zero; if necessary, remove the traction drive safeguard in the operating panel; pull out the ignition key and the battery main switch.
- Mechanically protect lifted machine parts (e.g. screed or hopper) from lowering.
- Always replace spare parts in a proper manner or have them replaced.

When connecting or disconnecting the hydraulic hoses or working on the hydraulic system, hot hydraulic oil can spurt out at high pressure. Switch off the motor and depressurise the hydraulic system! Protect the eyes!

- Before starting operation again, properly reattach all guards.
- For all working widths, the walkway plate must reach across the entire screed width.
The hinged walkway plate (option for Vario screeds) may only be folded up under the following conditions:
 - if the machine has to be backed up very closely to a wall or another obstacle,
 - if the machine is transported on a low trailer.

2 MOBA Grade-Line model

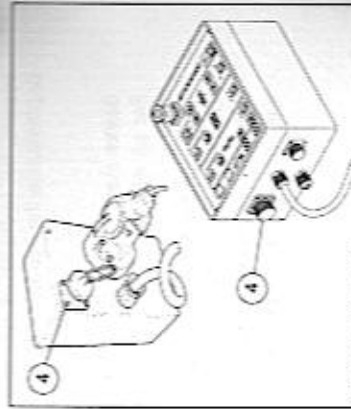
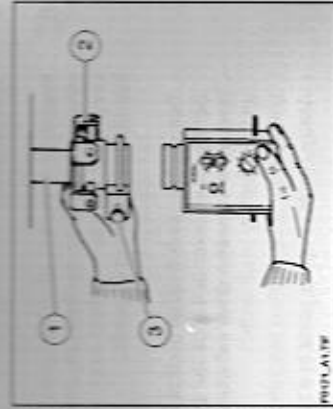
2.1 Installing the grade control

Height scanning can be carried out from the curb, from a wire or rope stretched tight between posts, from the top surface of an already laid layer of material, or from a long levelling shoe.

Bolt the grade control bracket (1) to the frame provided on the side of the screed, hook the grade control unit into the clamping bracket (2) and secure it from being twisted by tightening the clamping screw (3).

Adjust the telescopic tube so that scanning occurs at the level between the auger and the rear wall.

Connect the power supply cable to the socket (4) on the remote control.



Next, the scanning arm (5) with the scanner tube (when using a wire or rope) or with the small scanner shoe (when using the curb or an already laid layer) must be fitted.

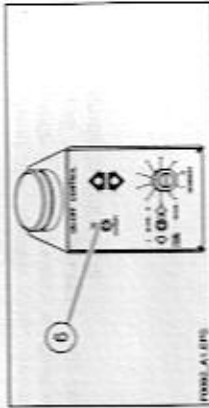
Make sure that the hex screw of the scanning arm presses against the chamfer of the sensor shaft and that it is firmly tightened!

The counterweight on the scanning arm (only used in conjunction with the scanner tube) must be adjusted in such a manner that vibrations cannot cause the system to be lifted off the scanning level. When using a wire, the scanner tube must be relieved by the counterweight so that the rope is not pressed down.

The counterweight is not used in conjunction with the small scanner shoe!

2.2 Setting up the grade control

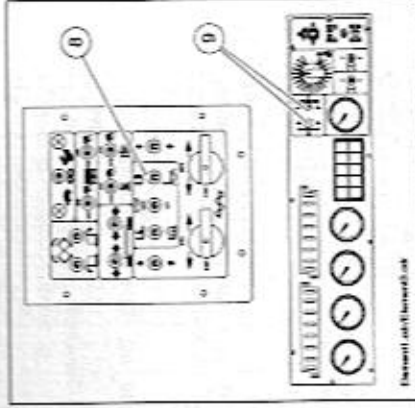
- Start the engine. Move the finisher to the required position.



For all set-up work, the screed must be in the floating position (switch (8) in the bottom position!)

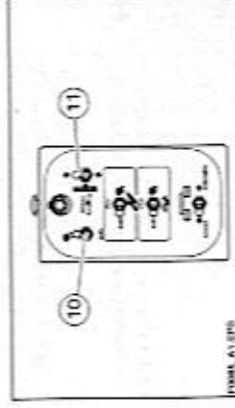
- Set the toggle switch (6) of the grade control to "Standby" and switch (10) of the remote control to "manual".

- Lower the screed onto two wooden blocks or a material carpet with a length of approx. 1 m.

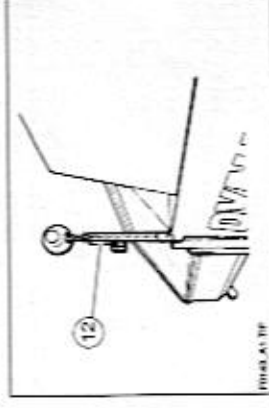


Height: material layer plus 20-25 % (for final compaction).

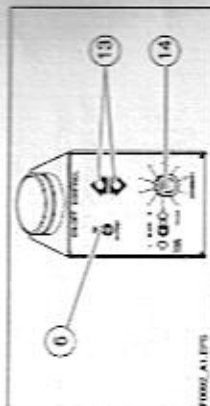
- Using switch (9) (or (11) on the remote control), set this height at the scales (12) of the levelling cylinders.



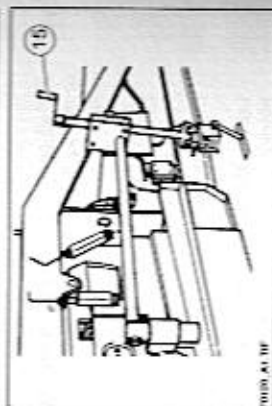
- Set switch (10) on the remote control to "auto".



- Using the spindle (15), move the grade control upwards or downwards until the control lamps (13) on the grade control go out.

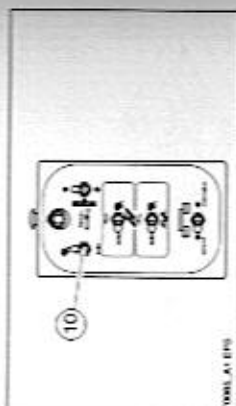


- Set the sensitivity adjuster (14) to the required position:
 - Normal position: approx. "5".
 - For very precise scanning, the setting must be > "5".
 - For coarse scanning, the setting must be > "5".
- Set the toggle switch (6) of the grade control to "On" and switch (10) on the remote control to "auto".



If automatic height scanning is to be carried out on both sides, the set-up procedure described above must be repeated for the other side.

When switching the machine on, make sure that the set height does not change. If necessary, readjust the grade control using the spindle (15).

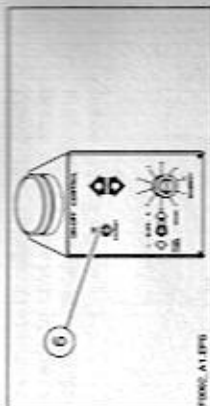


The response time of the screed to any changes made to the height (layer thickness) is approx. 1 complete finisher length.

2.3

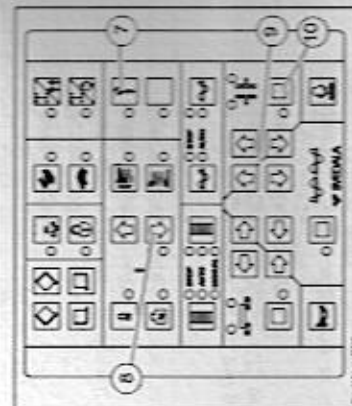
Setting up the grade control (Pavers equipped with PLC system ○)

- Start the engine. Move the finisher to the required position.



For all set-up work, the screed must be in the floating position (key (7) and key (8) activated (LED ON))

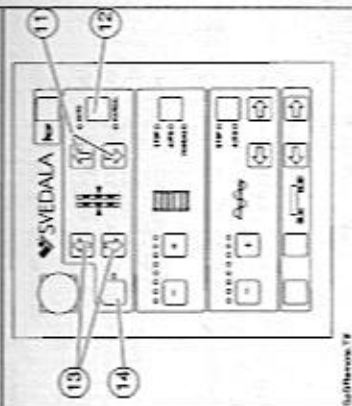
- Set the toggle switch (6) of the grade control to "Standby" and key (12) of the remote control to "manual".
- Lower the screed onto two wooden blocks or a material carpet with a length of approx. 1 m.



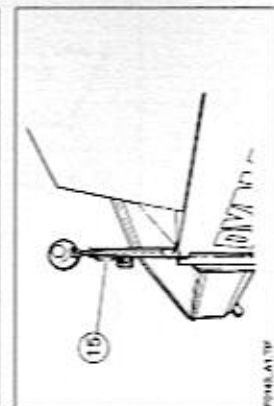
Height: material layer plus 20–25 % (for final compaction).

Use the keys (11) on the remote control or the keys (9) on the operating panel (key (10) activated (LED ON)) to set this height at the scales (15) of the levelling cylinders

Adjusting the levelling cylinders on the other side of the paver by using key (13) on the same remote control possible, if key (14) is activated.



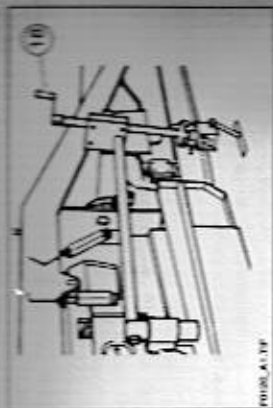
- Set key (12) on the remote control to "auto".



- Using the spindle (10), move the grade control upwards or downwards until the control lamps (16) on the grade control go out.



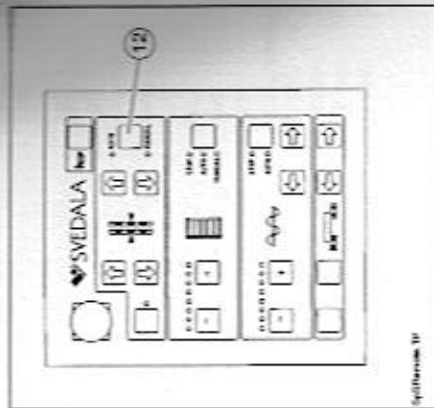
- Set the sensitivity adjuster (17) to the required position.
 - Normal position: approx. "5".
 - For very precise scanning, the setting must be > "5".
 - For coarse scanning, the setting must be > "5".
- Set the toggle switch (6) of the grade control to "On" and **Taste** (12) on the remote control to "auto".



If automatic height scanning is to be carried out on both sides, the set-up procedure described above must be repeated for the other side.

When switching the machine on, make sure that the set height does not change. If necessary, readjust the grade control using the spindle (18).

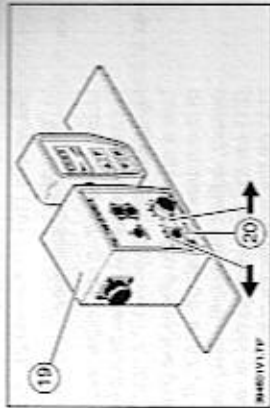
The response time of the screed to any changes made to the height (layer thickness) is approx. 1 complete finisher length.



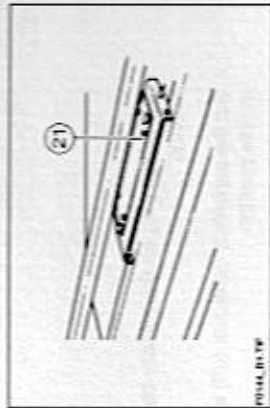
2.4 Installing the slope control

If the slope control (○) is to be used, the unit must be installed as follows:

- Bolt the slope control unit (19) to the transversal slope beam (21).

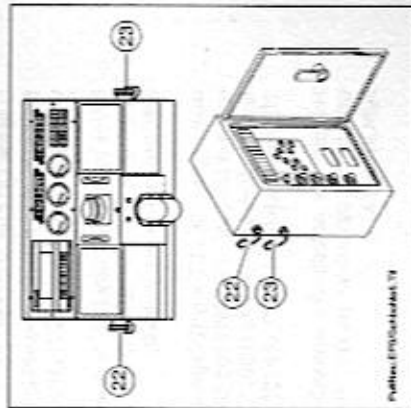


- Connect the connection cable of the unit to the appropriate socket:



- If the slope control is to be used to control the **left-hand** side, connect the cable to the socket (22).

- In this case, set the "Slope" switch (20) to **left** (←).



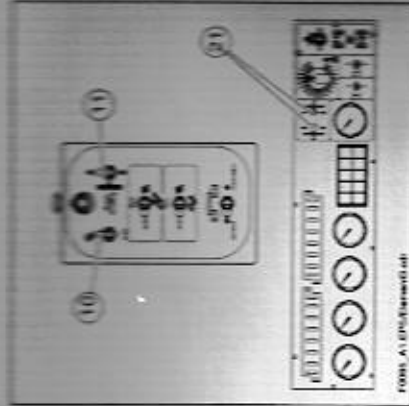
- If the slope control is to be used to control the **right-hand** side, connect the cable to the socket (23).

- In this case, set the "Slope" switch (20) to **right** (→).

2.5 Setting up the slope control

If the slope control (C) is to be used, the following settings must be made:

- Set switch (10) on the remote control to "manual".
- Using the levelling cylinders, align the transverse slope beam so that it is in a horizontal position.
Use a spirit level to check the position of the transverse slope beam; if necessary, adjust the beam using switch (21) on the operating panel or switch (11) on the remote control.



FORM A 10/04/2001/01/01

- Set switch (10) on the remote control to "auto".

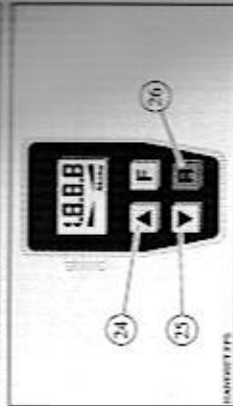
- Set the sensitivity controller (28) to the middle position.

- Use the UP (24) or DOWN (25) key on the handset to adjust the working point until both control lamps (27) go out.

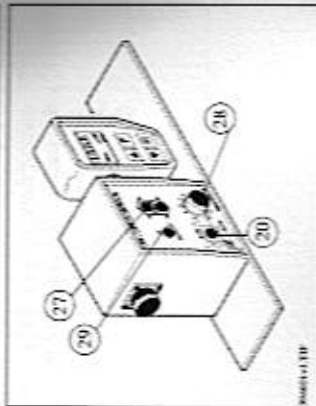
- Press the RESET key (26) and keep it down until both UP and DOWN symbols are permanently visible.

- Keeping the RESET key (26) pressed, use the UP (24) or DOWN key (25) to set the displayed value to 0.00. Then release the RESET key (26).

- Repeat the adjustment procedure if one of the control lamps (27) should light up or flash.



FORM A 10/04/2001/01/01



FORM A 10/04/2001/01/01

- After 4 seconds, the controller transfers the alignment parameter into its permanent memory.
- Check that the "Slope" switch (20) is set to the correct side (left/right). Set switch (23) to "On".



When switching the machine on, make sure that the set heights do not change; if necessary, readjust the slope control.



The response time of the screed to any changes made to the transverse slope is approx. half a finisher length.

2.6 Setting up the slope control (Pavers equipped with PLC system C)

If the slope control (C) is to be used, the following settings must be made:

- Set key (12) on the remote control to "manual".
- Using the levelling cylinders, align the transverse slope beam so that it is in a horizontal position. Use a spirit level to check the position of the transverse slope beam; if necessary, adjust the beam by using the keys (11) on the remote control or the keys (9) on the operating panel (key (10) activated (LED ON)).

You can adjust the levelling cylinder on the other side using the keys (13) of the same remote control if the key (14) has been pressed.

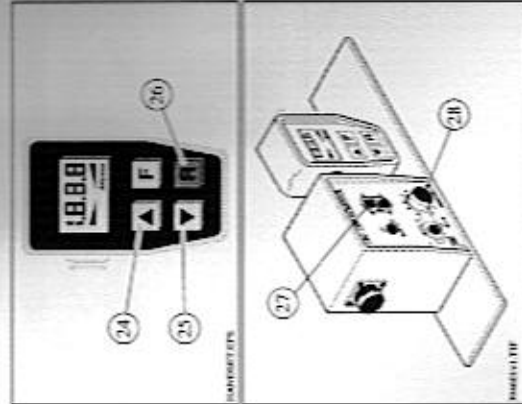
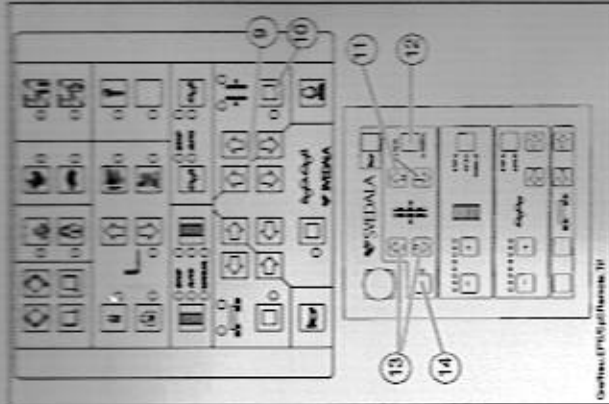
- Set key (12) on the remote control to "auto".
- Set the sensitivity controller (28) to the middle position.
- Use the UP (24) or DOWN (25) key on the handset to adjust the working point until both control lamps (27) go out.

Press the RESET key (26) and keep it down until both UP and DOWN symbols are permanently visible.

Keeping the RESET key (26) pressed, use the UP (24) or DOWN key (25) to set the displayed value to 0.00. Then release the RESET key (26).

Repeat the adjustment procedure if one of the control lamps (27) should light up or flash.

After 4 seconds, the controller transfers the alignment parameter into its permanent memory.



- Check that the "Slope" switch (20) is set to the correct side (left/right). Set switch (20) to "On".

When switching the machine on, make sure that the set heights do not change; if necessary, readjust the slope control.

The response time of the screen to any changes made to the transverse slope is approx. half a fischer length.

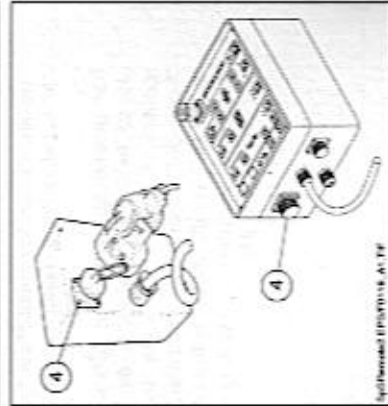
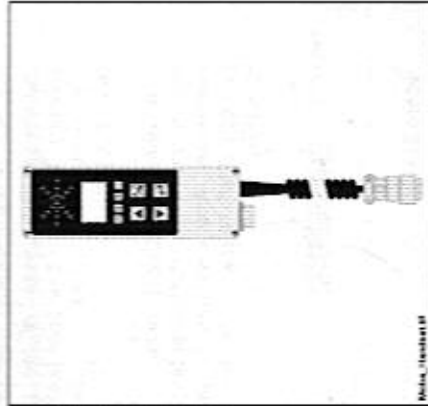
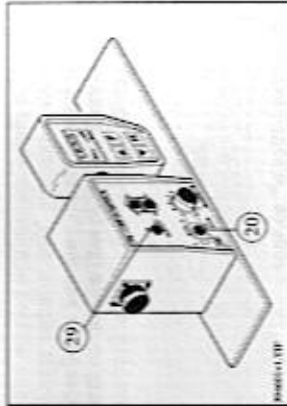
3 MOBA-matic model

3.1 Digital control unit

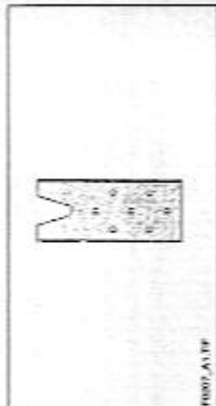
The digital control unit should be installed in a position where it is protected from splashes and dirt. When installing the unit, also make sure that the keys are easy to reach and that the digital display is easy to read. The unit must be installed in a vertical position (cables facing downwards).

Connect the power supply cable to the socket (4) at the remote control.

When installing the digital control unit, make sure that the connectors on the bottom side can be accessed. Provide sufficient space so that the plugs can be removed without having to remove the digital control unit.

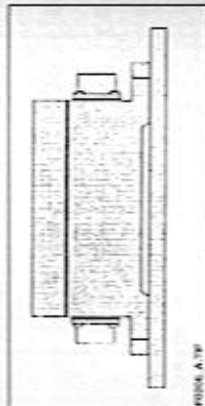


The digital control unit can be supplied with a bracket. This bracket should be installed in such a manner that the digital control unit fitted with a knob on the rear can be inserted in the holder from above.

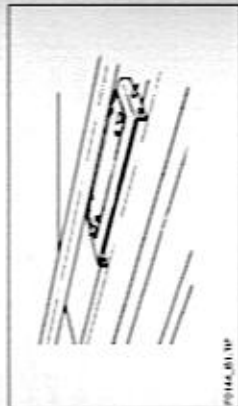


3.2 "Digi-Slope" sensor

The "Digi-Slope" sensor must be installed at the reference level (at the transverse slope beam of the paver finisher). There are four bore holes on the sensor for fastening it on the mounting plate.



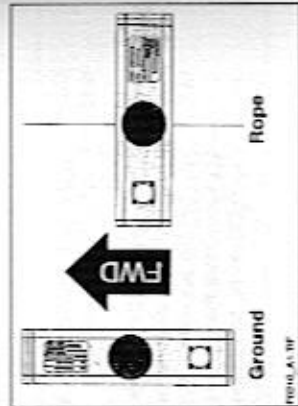
The connectors must be accessible so that the connection cable can be easily connected. Also heed the installation position (FWD arrow in the travelling direction).



3.3 Sonic-Ski

The direction of movement of the "Sonic-Ski" is defined as follows:

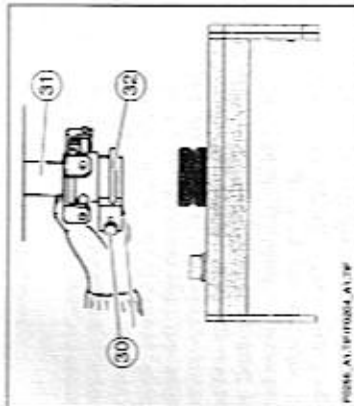
For ground scanning, the "Sonic-Ski" should move in longitudinal direction (generation of a mean value by the "Sonic-Ski"). For rope scanning, the "Sonic-Ski" should move in transverse direction so that the full operating width of 25 cm is available.



Installing the "Sonic-Ski" unit

Height scanning can be carried out from the curb, from a wire or rope stretched tight between posts, from the top surface of an already laid layer of material, or from a long levelling shoe.

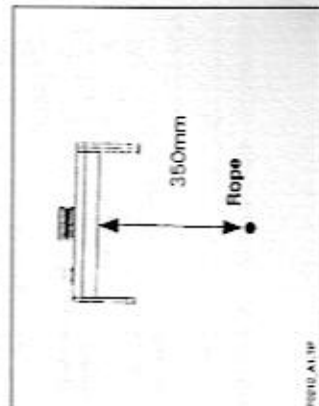
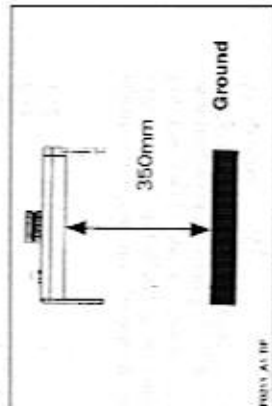
Bolt the grade control bracket (31) to the frame provided on the side of the screed, hook the grade control unit into the clamping bracket (32) and protect it from being twisted by tightening the clamping screw (30).



Adjust the telescopic tube so that scanning occurs at the level between the auger and the rear wall.

3.4 Working range

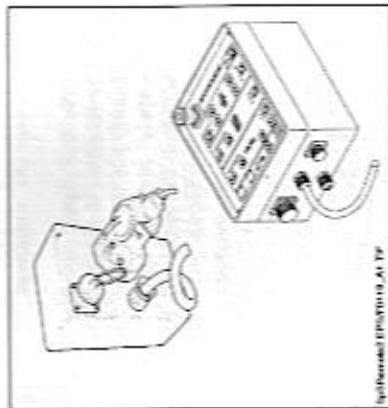
The working range for ground and rope scanning is between 30 cm and 40 cm. Within this range, the actual value shown on the digital display continuously rises; otherwise the display flashes (positioning aid). The "Sonic-Ski" unit should be aligned at a distance of approx. 35 cm to the means used as reference.



3.6

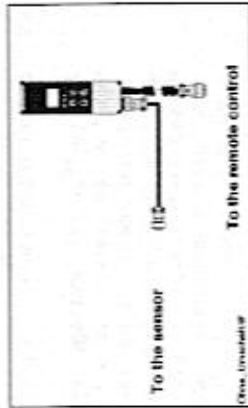
Connecting the connection cables

For each of the hydraulic cylinders, a separate digital control unit is required. Connect the connection cable with the 10-pin connector receptacle that is permanently attached to the digital control unit with the appliance plug on the machine (remote control).



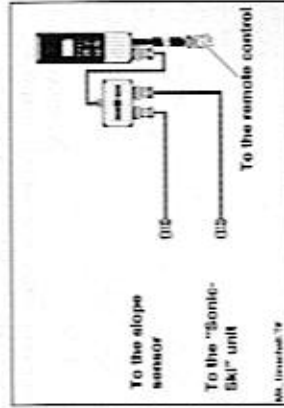
Without a switching unit

Connect the sensor connection cable to the digital control unit and to the appropriate sensor. If one of the digital control units is to be operated with another sensor, the connection cable must be connected to that sensor.



With a switching unit

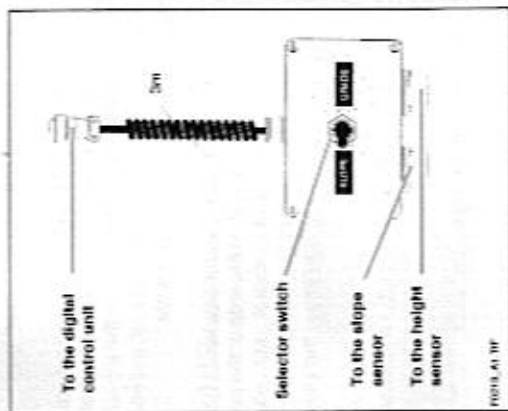
The switching unit allows two sensors to be connected to the digital control unit, usually one height sensor and one slope sensor. If the MOBA-matic model is used in conjunction with the switching unit and an additional control unit/sensor connection cable, the control unit/sensor cable need no longer be shifted. In this case, the required connection is established using the selector switch (SLOPE/GRADE).



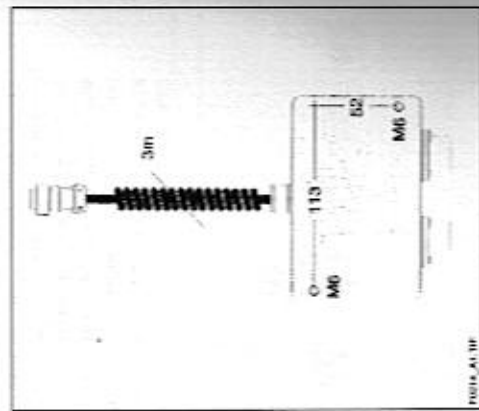
When connecting the slope sensor, make sure that the appropriate side is connected to the appropriate control unit.

3.5 Switching unit (accessory)

The switching unit allows two sensors to be connected to the digital control unit, usually one height sensor and one slope sensor. If the MOBA-matic model is used in conjunction with the switching unit and an additional control unit/sensor connection cable, the control unit/sensor cable need no longer be shifted. In this case, the required connection is established using the selector switch (SLOPE/GRADE). The switching unit should be installed in a position where it is protected from splashes and dirt. There are two M6 bore holes on the rear of the housing for fastening the unit. For the dimensions, refer to the bottom drawing.



Make sure that the switching unit is installed near the digital control unit and that the switch can be easily reached. The unit must be installed in a vertical position (sensor cables facing downwards).



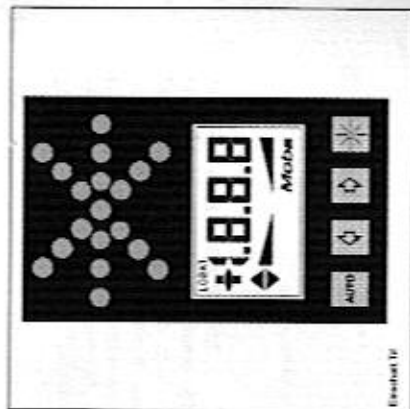
When installing the switching unit, make sure that the connectors on the bottom side can be accessed. Provide sufficient space so that the plugs can be removed without having to remove the switching unit.

100290 08 14-30 06/2001
 100290 08 15-30 06/2001

3.7

"Power On" message

After the digital control unit has been switched on, a display test is carried out. During this test, all segments of the LC display and all function lamps are activated for approx. 2 seconds. If no characters appear on the display, inform the after-sales service.



3.8

Sensor Identification

After the "Power On" message has been displayed, the digital control unit twice indicates the connected sensor using an alternating display mode. In this mode, the two direction lamps also flash. The control unit then automatically switches to the working mode.



If another sensor has been connected, the control unit remains in the alternating sensor identification mode until the identification has been acknowledged (any key). This is to remind the operator that the sensor has been changed and that the settings for the sensor must be checked accordingly.

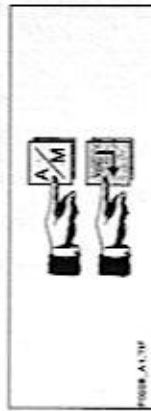
3.9

Sensitivity setting

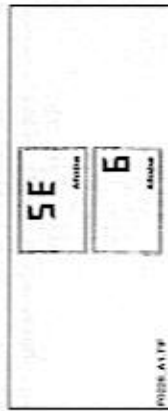
To operate the individual sensors in automatic mode, the sensitivity of the MOBA-matic system should be adjusted accordingly. The available settings range from 1 (low sensitivity) to 10 (high sensitivity). If the MOBA-matic system does not work smoothly in the automatic mode, reduce the sensitivity setting at the appropriate digital control unit. If the MOBA-matic system responds too slowly in the automatic mode, increase the sensitivity setting at the appropriate digital control unit.

Procedure for adjusting the sensitivity

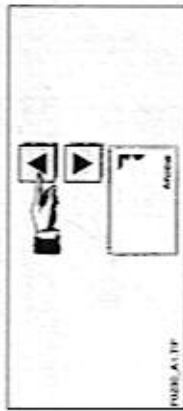
- Press the A/M key and the Enter key simultaneously.



- The display toggles from "SE" to the standard value "6".



- Pressing the UP or DOWN key changes the value accordingly. (Example: setting the value 7)



- Pressing the A/M key switches the system back to the working mode. If no changes were made, the control unit automatically toggles back to the working mode.



3.10 Control range setting

The control range only is of importance for "Sonic-Ski" operation. If the deviation exceeds the set range, an error is detected. The control range symbol appears on the display, the direction arrows flash and the hydraulic cylinders are not activated. The sensor must then be readjusted.

Procedure for adjusting the control range (entries in steps of 0,1 cm)

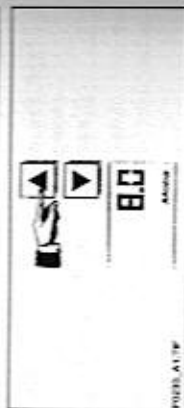
- Press the A/M key and the Enter key simultaneously twice.



- The display toggles from the control range symbol to the standard value "6.0" (+/- 3.0 cm).



- Pressing the UP or DOWN key changes the value accordingly. (Example: setting the value 8.0 cm)



- Pressing the A/M key switches the system back to the working mode. If no changes were made, the control unit automatically toggles back to the working mode.

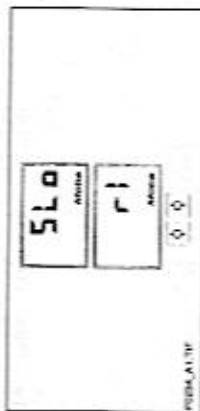


3.11 Operation of the "Digi-Slope" sensor

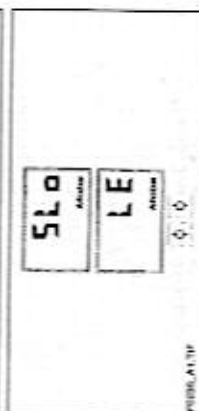
The "Digi-Slope" sensor and the digital control unit have been installed, the cables have been connected and the digital control unit is connected to the voltage supply. After the "Power On" message has been shown, the digital control unit displays the sensor identification. If the sensor is used for the first time or if the sensor has been changed, the sensor identification must be acknowledged using any key.

Procedure for acknowledging the sensor identification

- The digital control unit indicates the sensor identification (right). The two direction arrows flash.



- The digital control unit indicates the sensor identification (left). The two direction arrows flash.



- If the sensor has been connected for the first time or if the sensor has been changed, the identification must be acknowledged using any key.

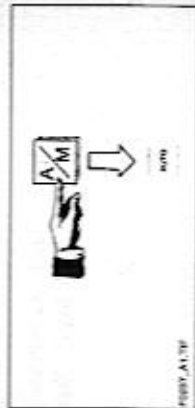


3.12 Adjusting the actual value

The actual value must only be adjusted once during commissioning. During this procedure, the inclination angle of the screen is matched with the actual value display of the digital control unit. The example below shows how to adjust the actual value of 2.45 % shown on the display to a value of 2.30 %.

Procedure for adjusting the actual value

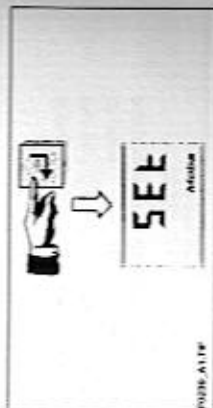
- Press the A/M key to toggle to manual operation. Function lamp "AUTO" goes out.



- The display indicates the actual value of the screen.



- Press the Enter key and keep it depressed. "SEt" appears on the display. The display then returns to the actual value.



- Keep the Rotum key pressed and use the UP/DOWN keys to correct the actual value so that it reads 2.30 %.

If the installation position of the "Digi-Slope" sensor is changed, a new actual value adjustment must be carried out.

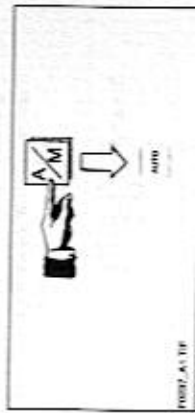


3.13 Working with the "Digi-Slope" sensor

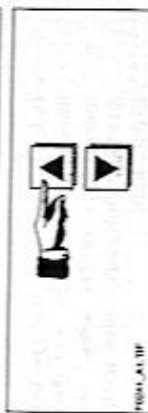
The "Digi-Slope" sensor has been installed, the actual value has been adjusted and the cables have been connected.

Procedure for working with the "Digi-Slope" sensor

- Press the A/M key to toggle to manual operation. Function lamp "AUTO" goes out.



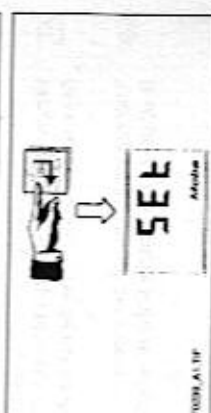
- Lift the screen to the working height. Use the UP/DOWN keys on the control unit or on the operating unit of the finisher to set the points of traction to the initial position.



(Example: slant to the right of 5.35 %).



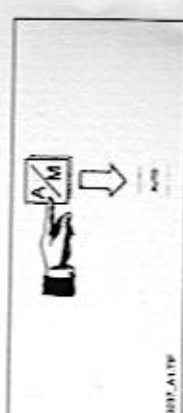
- Now press the Enter key. "SEt" appears on the display.



- The actual value reappears on the display. There is no "RAISE" or "LOWER" arrow on the display. The set value has been matched to the actual value.



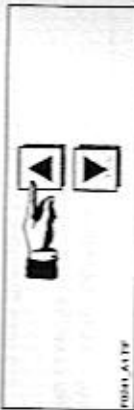
- Press the A/M key to toggle to automatic operation. Function lamp "AUTO" is lit.



- The control unit now indicates 5.35 % as the set value. This value now forms the basis for regulation. Any deviation is indicated by the appropriate arrow ("RAISE" or "LOWER").

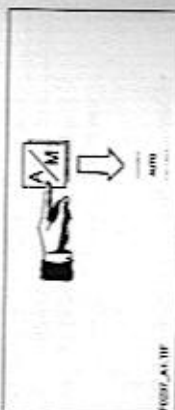


- To modify the set value, use the UP and DOWN keys. The control unit then uses the new value for regulation.



(Example: 6.00 %)

- Press the A/M key to toggle back to the actual value. In this way, the inclination angle of the screed can be checked. Automatic valve control is deactivated.



- ⚠ If the system does not work smoothly or responds too slowly in the automatic mode, change the sensitivity setting accordingly. The procedure for changing the setting is described in the section "Sensitivity setting".

- ⚠ When switching the machine on, make sure that the set height does not change. If necessary, readjust the digital control unit.

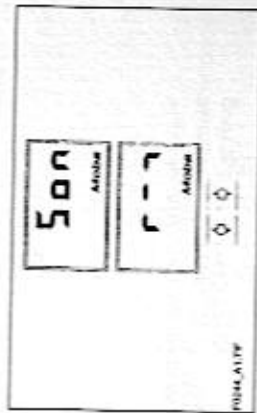
- ⚠ The response time of the screed to any changes made to the height (layer thickness) is approx. 1 complete finisher length.

3.14 Operation of the "Sonic-Ski" unit

The "Sonic-Ski" unit and the digital control unit have been installed, the cables have been connected and the digital control unit is connected to the voltage supply. After the "Power On" message has been shown, the digital control unit displays the sensor identification. If the sensor is used for the first time or if the sensor has been changed, the sensor identification must be acknowledged using any key.

Procedure for acknowledging the sensor identification

- The digital control unit indicates the sensor identification. The two direction arrows flash.



- If the sensor has been connected for the first time or if the sensor has been changed, the identification must be acknowledged using any key.

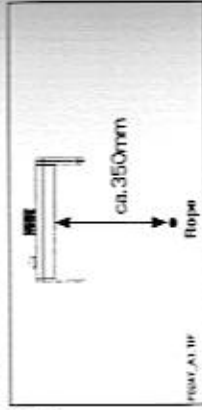
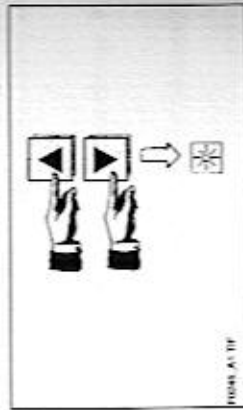
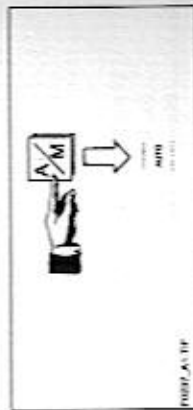
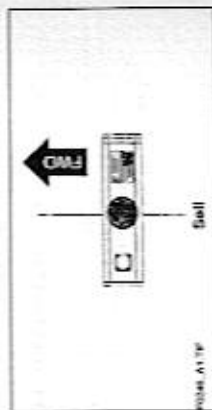


3.15 Rope scanning

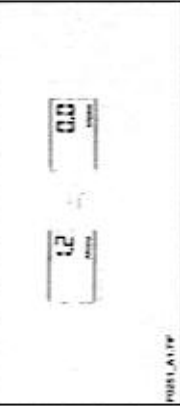
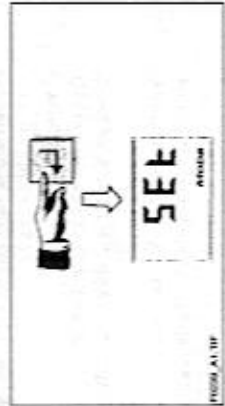
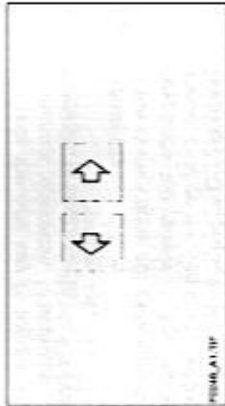
The "Sonic-Ski" unit has been installed and the cables have been connected. The direction of movement for rope scanning has been observed.

Procedure for rope scanning

- For rope scanning, the "Sonic-Ski" must move in transverse direction.
- Press the A/M key to toggle to manual operation. Function lamp "AUTO" goes out.
- Press the UP/DOWN keys simultaneously to activate the rope mode. The rope lamp is lit.
- Lift the screen to the working height. Use the UP/DOWN keys on the control unit or on the operating unit of the finisher to set the points of traction to the initial position.
- Attach the "Sonic-Ski" at a distance of 350 mm above the rope (the actual value must be continuously shown).



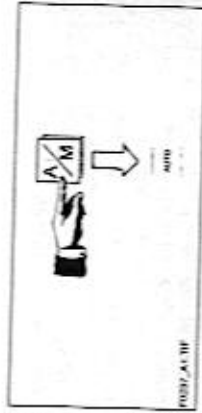
- The "Sonic-Ski" should be aligned above the rope in such a manner that neither of the direction lamps is lit (center position above the rope).
Lamp off: rope in center position
Lamp flashes: rope on the outer edge
If the rope is at the edge of the sensor range, the "Sonic-Ski" must be readjusted.
- Press the Enter key. "SEI" appears on the display.
- The actual value and the set value are set to zero.
- Press the A/M key to toggle to automatic operation. Function lamp "AUTO" is lit.
- The control unit keeps the screen at the set value.
- To modify the set value, use the UP and DOWN keys.
- Each time one of these keys is pressed, the set value is increased or decreased by 2 mm. The control unit corrects the operating point of the "Sonic-Ski", matching it to the set value. After approx. 5 seconds, this value is adopted as the zero point on the display.



- Press the AM key to toggle back to manual operation. Automatic valve control is deactivated.

Sensitivity

If the system does not work smoothly or responds too slowly in the automatic mode, change the sensitivity setting accordingly. The procedure for changing the setting is described in the section "Sensitivity setting".



Control range

The control range is active during "Sonic-Ski" operation. For the procedure required to adjust the control range, see the section "Control range setting".

When switching the machine on, make sure that the set height does not change. If necessary, readjust the digital control unit.

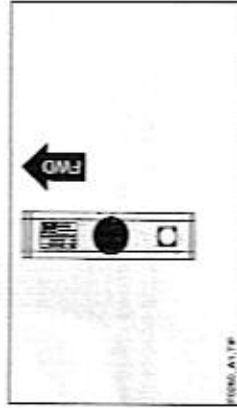
The response time of the screed to any changes made to the height (layer thickness) is approx. 1 complete finisher length.

3.16 Ground scanning

The "Sonic-Ski" unit has been installed and the cables have been connected. The direction of movement for ground scanning has been observed.

Procedure for ground scanning

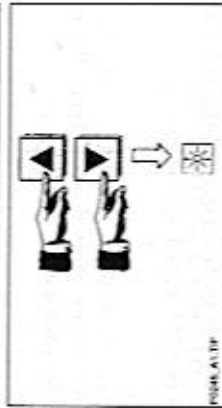
- For ground scanning, the "Sonic-Ski" must move in longitudinal direction.



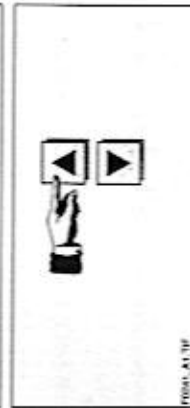
- Press the AM key to toggle to manual operation. Function lamp "AUTO" goes out.



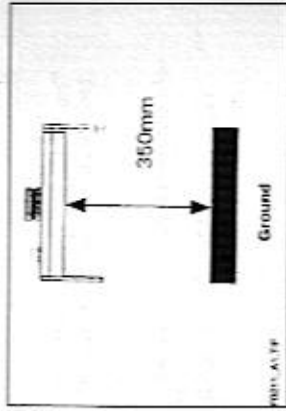
- Press the UP/DOWN keys simultaneously to activate the ground mode (generation of a mean value). The rope lamp is not lit.



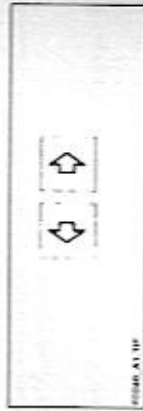
- Lift the screed to the working height. Use the UP/DOWN keys on the control unit or on the operating unit of the finisher to set the points of traction to the initial position.



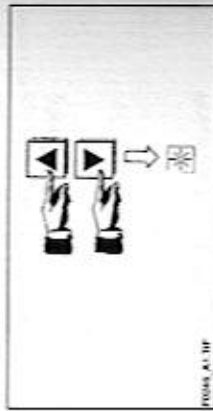
- Attach the "Sonic-Ski" at a distance of 350 mm above the ground (the actual value must be continuously shown).



- The two direction arrows are of no importance during ground scanning!



- Press the Enter key. "SEI" appears on the display.



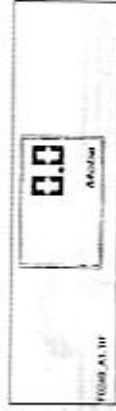
- The actual value and the set value are set to zero.



- Press the A/M key to toggle to automatic operation. Function lamp "A/T" is lit.



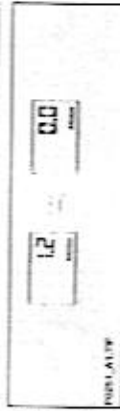
- The control unit keeps the screen at the set value.



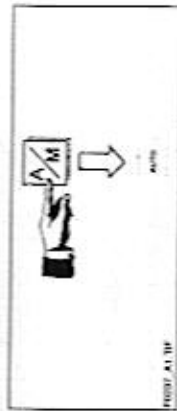
- To modify the set value, use the UP and DOWN keys.



- Each time one of these keys is pressed, the set value is increased or decreased by 2 mm. The control unit corrects the operating point of the "Sonic-Ski", matching it to the set value. After approx. 5 seconds, this value is adopted as the zero point on the display.



- Press the A/M key to toggle back to manual operation. Automatic valve control is deactivated.



Sensitivity

If the system does not work smoothly or responds too slowly in the automatic mode, change the sensitivity setting accordingly. The procedure for changing the setting is described in the section "Sensitivity setting".

Control range

The control range is active during "Sonic-Ski". For the procedure required to adjust the control range, see the section "Control range setting".

When switching the machine on, make sure that the set height does not change. If necessary, readjust the digital control unit.

The response time of the screen to any changes made to the height (layer thickness) is approx. 1 complete finisher length.

Maintenance

The construction of the MOBA-matic system provides a high degree of operational safety.

Check the supply cables for damage and dirt at regular intervals. Keep the plugged connections free from dirt, grease, asphalt and concrete to ensure proper contact. Only use suitable agents for cleaning.