THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

User manual for

Hatzenbichler Control Unit

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

Table of contents:

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

Overview

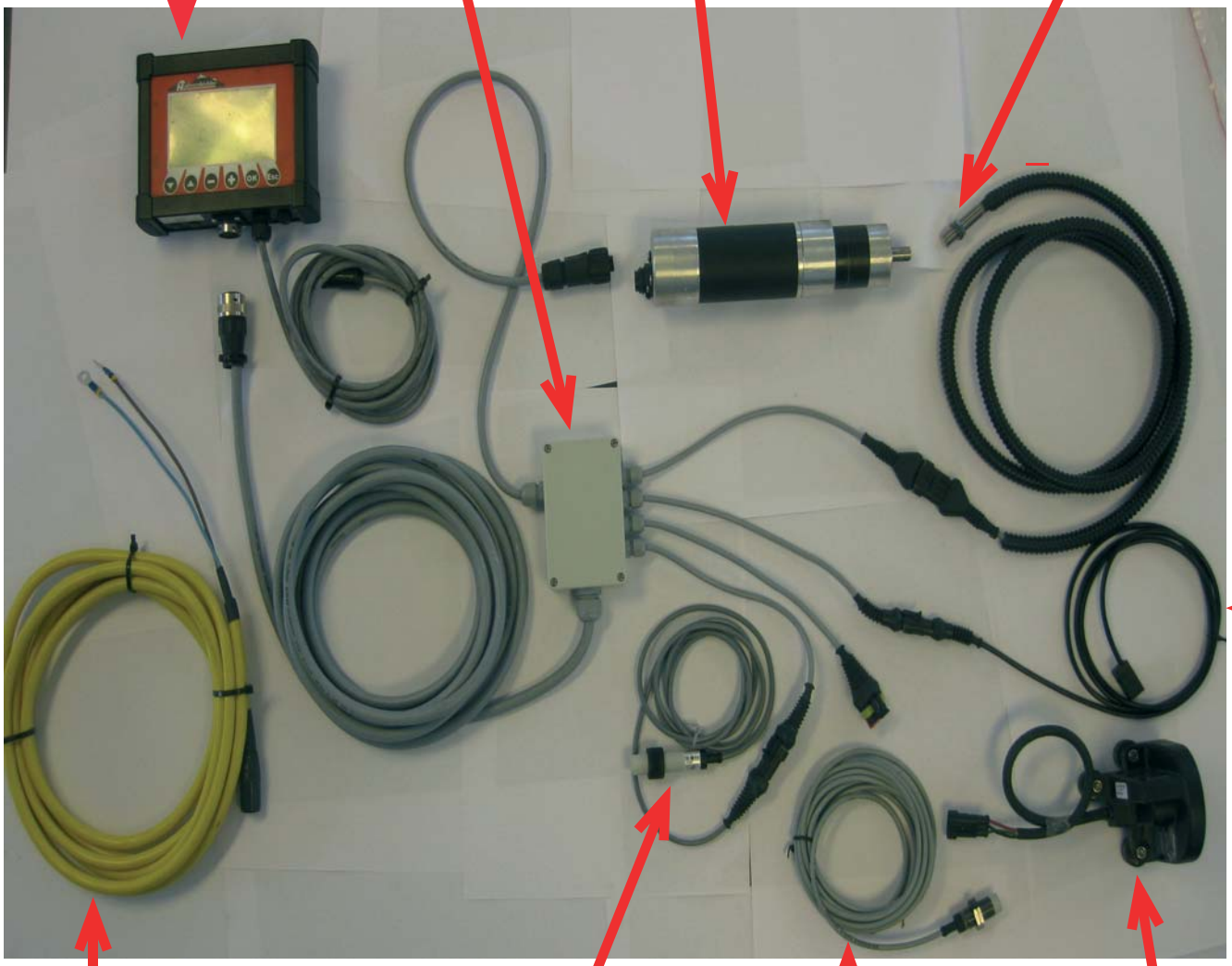
Wiring loom for Air 8 electric and Air 16 models

Monitor

Junction box

Motor

Fan speed sensor



Power supply - Must be connected direct to tractor battery 12v supply.

Fill level Sensor

Land wheel Sensor

Optional radar

Belt Sensor

On the top of the monitor you can find the serial and USB connection for updating and the memory battery

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

Hatzenbichler Control Box-
Operators guide

This section of the operators manual deals with the control box which is fitted to **Air 8 (electronic) and Air 16 machines.**

You should only start using the control box after you have read the operating instructions and you are familiar with the operation and functions.

The computer controls the drive motor for the seedroller in conjunction with the impulses from a groundwheel or radar**.**

The control box is able to store different seed rates with a name and their calibration weights.
The display shows various parameters so that the operator can check and control the application i.e. shows the forward speed in km/h and the seed metered in kg/ha.

Working Time, hrs

Distance counter, m

Hectare counter, Ha

Applied seed, kg/ha

Tank filling, kg

Monitoring is provided by the control box, an acoustic and visual alarm will be given for the following faults;

Metering Belt slipping

Motor

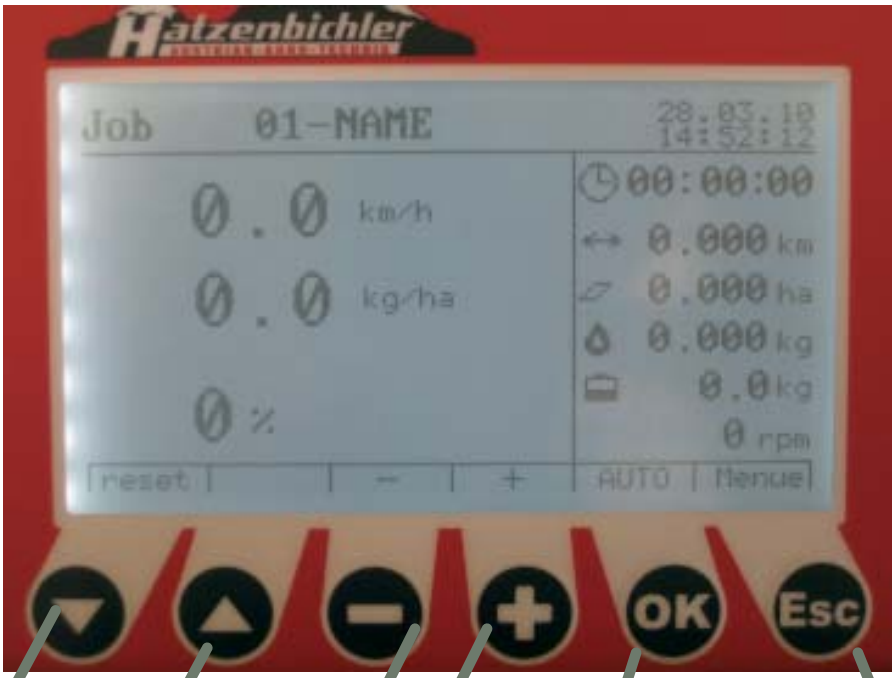
Forward Speed - too fast, too slow

Tank seed level - low

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

Understanding the Control Box

Control functions:



The **„UP“** and **„DOWN“** arrows let you scroll to the menu points you want to work with.

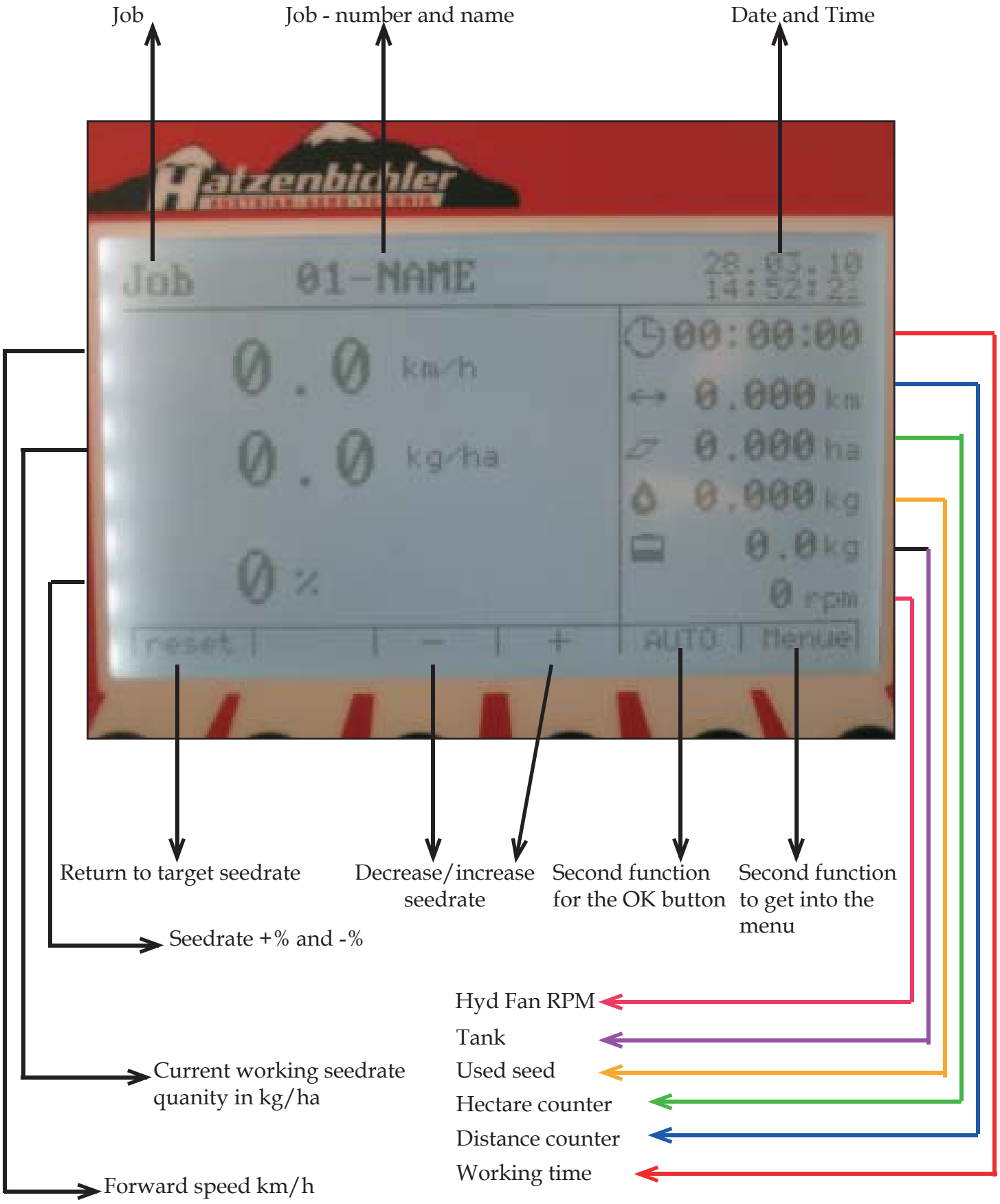
The **„OK“** button stores any value or alteration made to the computer.

The **+** and **-** buttons are for changing values.

The **„ESC“** button will always move one step back.

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287-0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

Working Screen



THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

Initial setup before operation:

1. Select **Language** (menu 4)

Menu $\overset{OK}{>}$ Setup $\overset{OK}{>}$ Language $\overset{OK}{>}$ -/+ (Select) > OK

1 

2 

3 

2. Check **working width** (menu 1) ***Are you driving to leg spacing or packer width?***

Menu $\overset{OK}{>}$ Input $\overset{OK}{>}$ Working width $\overset{OK}{>}$ -/+ to change machine width > OK

1 

2 

3 

4 

3. Check **Type of Sensor** (Find out which type of sensor you are using, wheel or radar)

Menu $\overset{OK}{>}$ Setup $\overset{OK}{>}$ Type of sensor $\overset{OK}{>}$ +/- to change > OK

1 

2 

3 

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

4. Check **Wheel or Radar** impulse setting to allow accurate forward speed and distance calculation.

To carry this out you must accuratly measure and mark 100m in field / operating conditions.

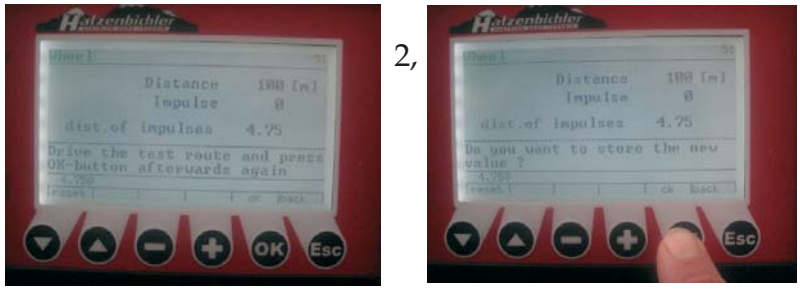
At the begining of the 100m run:

Menu > Special > Wheel - Impulses > Press OK to start the 100m calibration

1, 2, 3, 4,

- Drive the test route and press the OK-button to stop the counter
- if you want to save the new value --> press OK again
- if you don't want to save the value --> press ▼ [reset] and start again.

1, 2,



Fan Sensor

Menu > Special > Alarms >

1, 2, 3,

Use arrow to move down Buzzer colum to fan. If a hydralic fan unit is being used, use „+/-“ to select „ON“, for electric fan select „OFF“.

Use down arrow to move to Alarm column, move down to fan and use „+/-“ to select „ON“ for hydraulic fan unit or „OFF“ for electric fan - Press „Esc“

For hydraulic fan see page 19 to set high/low fan alarms.

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

Quick Start Guide For the Control Box

Operating steps on page 7 & 8 must be completed before starting!!

Calibration setup

- After connecting the computer to the power supply, the working display is shown.
Before you start, read page 6 and carryout the steps.
- Please note, that the „OK"-key and the „ESC"-key both have a double function.
„OK"-key = „Auto"-key
„ESC"-key = „Menü"-key

1) Press the „Menu"-key („ESC"-key)

with the arrow keys „▲" and „▼" you can scroll through the menu

2) choose „Input" and press „OK"

3) with the arrow keys„▲" and „▼" choose „Job" and press „OK"

4) With „+" or „-" choose the Job number (1-30)

- press the „▼" arrow key (name)

5) With „+" or „-" or „▲▼" choose the letter you want and confirm with „OK"

6) After putting in the name (grass, clover, rape...) press the „ESC"-key (back)

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

7) with „+“ or „-“ choose the metering roller, which is to be used (rough - fine - micro)
The seedroller size that you select is only for information and has nothing to do with internal calculation for your computer

8)

- confirm with the „OK“-key

- with „+“ or „-“ key put in the number of revolutions for the calibration trial.
When using the course metering roller FOR GRASS SEEDS, use 30 revolutions.
When using the fine metering roller FOR SMALL SEEDS, use 80 revolutions.
Decreasing the value will decrease accuracy, see page 15 for roller decription

- Remove the metering roller cover of the seeder, check the brush position (the brush should touch the metering roller slightly)
* If needed, adjust the lever
* Check the metering roller (black, red, blue, green)
* Position the calibration tray
* Put seed into the hopper min (3-5kg)

9)

10)

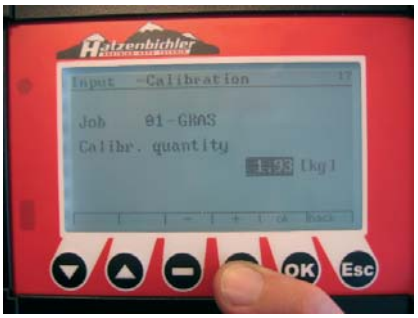
- Press „OK“ after 6 - 8 revolutions to stop the calibration.

The roller is now charged, empty this seed back into the hopper. Replace the calibration tray and press „OK“ to restart the calibration.

The electric motor starts turning and stops automatically – seed is metered into the calibration tray
Remove the calibration tray and weigh the seed in the tray, record this value and repeat twice again recording the value.

- with „+“ or „-“ Enter the average weight of the seed from the 3 calibrations

11)



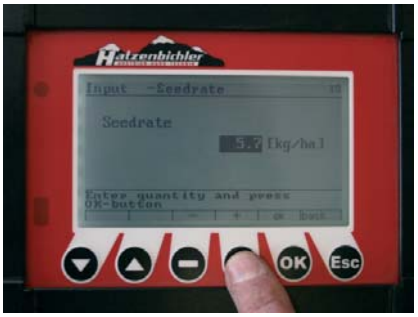
- confirm with „OK“
Display then shows the „Target Seedrate“

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

12)

- with „+“ or „-“ choose the seedrate / ha

13)



- confirm with „OK“

- Display shows the seedrate and driving speed max. and min. --> to guarantee precision of seeding

14)

- confirm with „OK“

15)

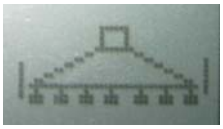
The working display is now shown

For subsequent calibrations in this job see page 16

- replace the Backplate
- during seeding the hopper lid of the seeder must be sealed, air tight.
- turn on the fans

16)

- press „OK“. On the display you see a small seeder. The machine is now ready for seeding.



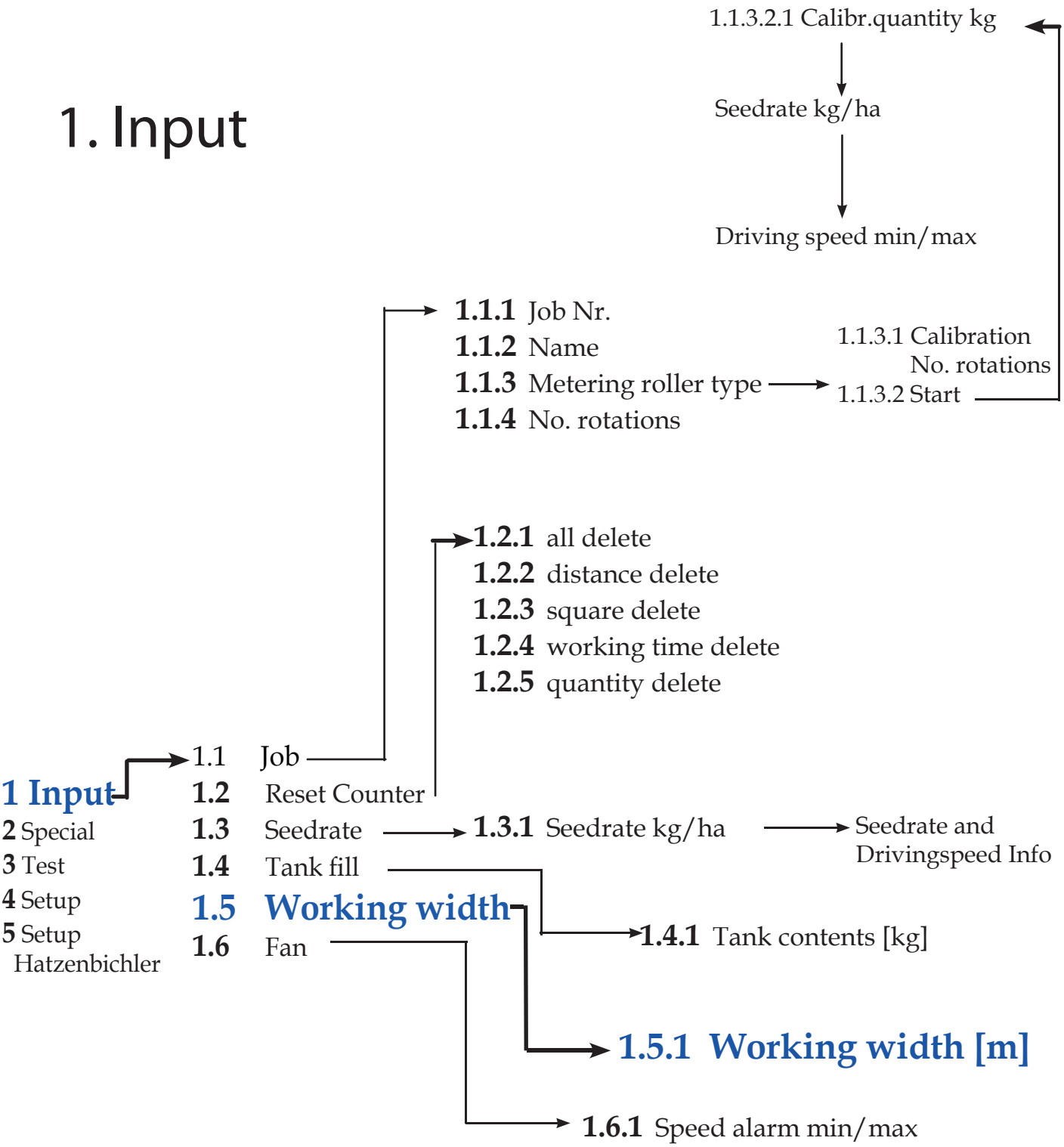
Pressing „OK“ again turns off the seeder.

Have you completed „Initial Setup“ page 7?

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

Full Control Box Menu

1. Input



THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 1.1.1

Select Job number and Calibration

After completing the initial setup on page 7, you can start to calibrate for one job number and calibration.
In this function you can select your Job Nr. [0-30] for different seed (with name and different calibration revolutions, different seedrollers and seedrates [kg/ha])

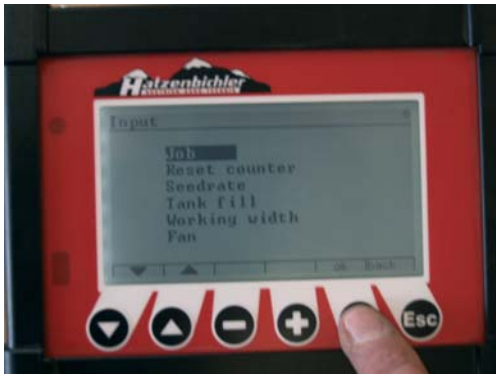
a,

Press „ESC“ to enter main menu

b,

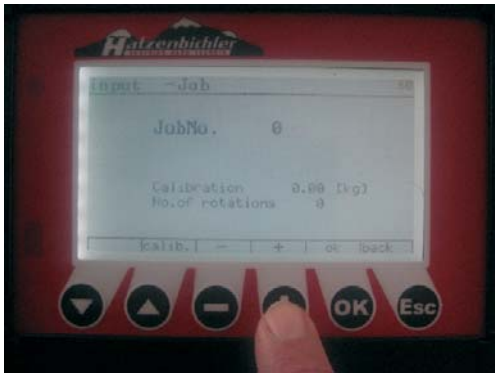
Press „OK“ to select INPUT

c,



Press „OK“ to enter Job

d,

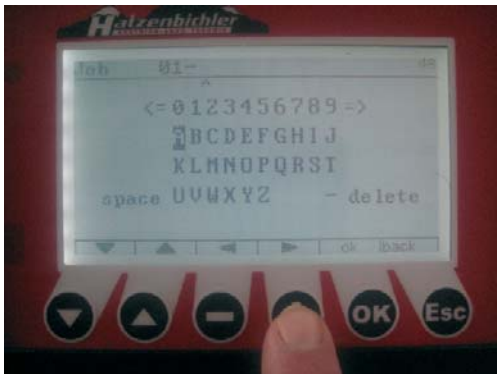


1.1.1 With +/- to select Job number (0-30)

e,

Press the arrow down button (name) to enter

f,



1.1.2 With arrow- and +/- button you can select name for Seed.

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

g,

- Press „OK“ to set the letter

h,

Press „ESC“ (back)
if the name is finished

i,

1.1.3 - press + or - to select the metering roller which is fitted
- press OK

1.1.4 **-** press **+** or - for No. of rotations [10-?] Please make sure that the number of rotation is **not to high** - because seed may **not fit in calibration box** (it depends which type of seed you are using, for example **rapeseed needs 30-80 turns,** for **bigger seed lower turns 10-30)**

a,

b,

Make sure that there is some seed in the hopper but not much more than the quantity that you need for the calibration because you may need to change the seed roller
- put in calibration tray.
- press OK to start calibration

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

The motor will now turn the roller for the set number of rotations. Weigh the seed and enter this weight into the control box.

- press + or - to set the calibration quantity [kg]
- press OK

c,

d,

e,

f,

STANDARD ROLLERS

Coarse and fine rollers supplied with machines

Coarse Fine Micro Whole Segmented

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

Follow on calibrations for a Job

1) Menu > Input > Job

1

2

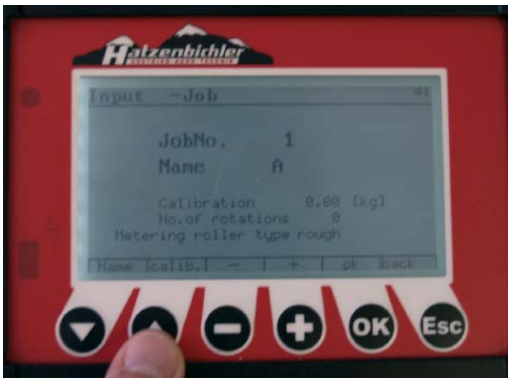
3

2) Using „-/+“ select Job No.

1

2

3) Press ▲ to select calibrate.



Repeat calibration as previously done.

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 1.2

Reset counter

In this function you can reset the counter for all functions or for each single one. But only for the selected Job Nr.

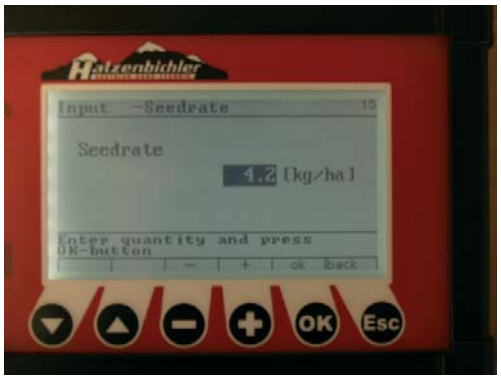
1.2.1 - Press OK to delete all
1.2.2 - Press ▼▲ to select distance, square working time or quantiy
1.2.3 - Press OK to delete these individually
1.2.5 - Press ESC [back] to go back to input

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 1.3

Seedrate

In this function you can set your seedrate for the Job Nr. which is active in the working screen.



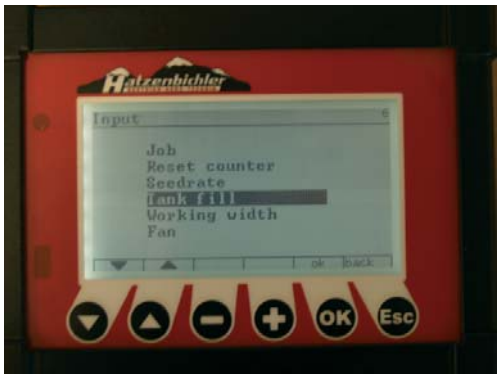
1.3.1 - Press + or - [kg/ha]
- Press OK
- Info (Driving speed min/max for seed measured and metering roller used)
- Press OK
- Press „ESC“ (back) --> working screen

Note: When changing between job number you must check the seedrate is correct.

menu 1.4

Tank fill

In this function you can set the kg of seed put into the hopper. The computer can calculate how much seed is still in the hopper while seeding



1.4.1- press + or - for kg
- press OK
- back to input
- press ESC

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 1.5

Working width

1.5.1 In this function you can set up your working width. *Are you driving to the machine legs spacing or packer width?*

- press + or -
- press OK

menu 1.6

Fan

For hydraulic fans with speed sensor fitted the min and max rotation speed alarms can be set. To activate the alarm see menu 2.1 page 21

- Menu > Input > Fan

1,

2,

1.6.1 - press ▼▲ to select min or max
- press + or - for more or less speed, press „OK“ to save
- press ESC to go back

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287-0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

2. Special

1 Input
2 Special
3 Test
4 Setup
5 Setup Hatzenbichler

2.1 Alarms
2.2 Alarm protocol
2.3 Illumination
2.4 Wheel/Radar impulses
2.5 Shake free
2.6 Tank empty
2.7 Correction factor

acoustic alarms
2.1.1 all (off/on)
2.1.2 Fan (off/on)
2.1.3 Belt (off/on)
2.1.4 Tank (off/on)
2.1.5 Motor (off/on)
2.1.6 speed control (off/on)

2.2.1 Number
2.2.2 Date
2.2.3 Time

2.3.1 LCD-Backlight
2.3.2 Contrast Control
2.3.3 backlight (off/on)

2.4.1 Distance [m]
2.4.2 Impulse
2.4.3 Wheel dist. of impulses 4,75/ Radar dist. of impulses 0,74

2.5.1 Shake free (off/on)

2.6.1 Motor (off/on)

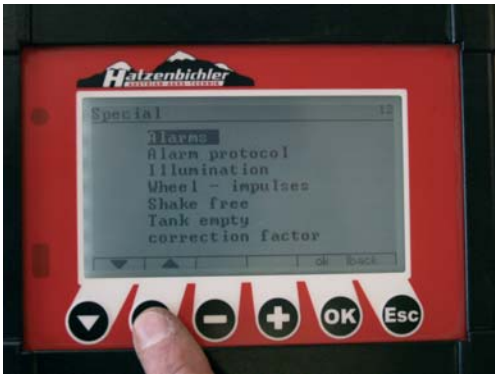
2.7.1 Correction factor %

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 2.1

Alarms

In this function you can set the acoustic alarms for different functions [Fan, Belt, Tank, Motor, speed control].
You can select on or off for the buzzer or visual alarm or both.



- press ▼▲to select different functions [Fan, Belt...]
- press + or - to select off or on
- press ESC to go back

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 2.2

Alarm protocol

In this function you can access details of past alarms including date and time.

- press OK
- press ▼ to reset
- press ESC to go back

menu 2.3

Illumination

In this function you can change your display settings. LCD Backlight, contrast control and backlight turn off (0-10min)

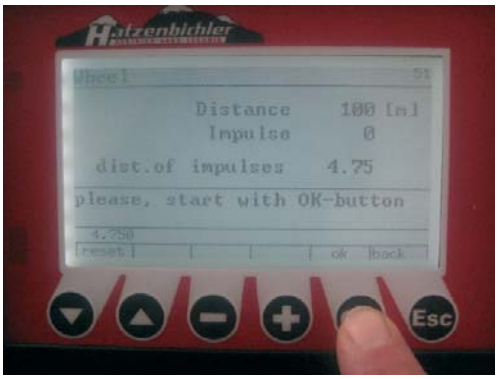
- press ▼▲ to select Backlight or contrast
- press + or - for more backlight or more contrast
- press ESC to go back

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

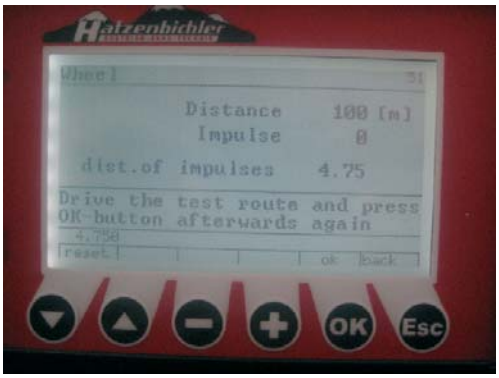
menu 2.4

Wheel/Radar impulses

This function allows calibration of the Wheel/Radar to the ground conditions. To select the type of speed sensor being used see section 4.3, page 32.



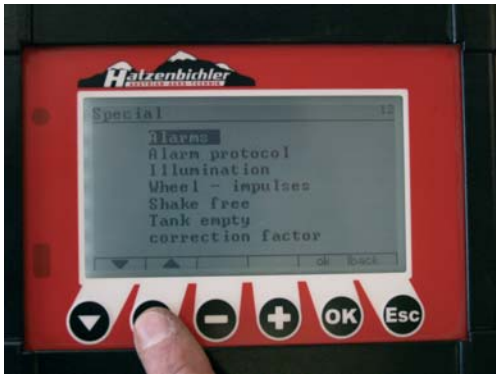
- Mark a distance in the field with exactly 100m.
- press OK to start test
- Drive the test route at your planned average forward speed and press the OK-button at the end of test run
- if you want to save the new value --> press OK again
- if you don‘t want to save the value --> press ▼ [reset] and start again.



THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 2.5 Shake free mode

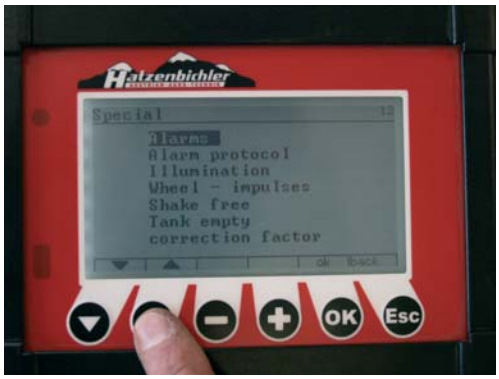
If the metering roller is blocking you can use this function to turn the motor back and forward to clear the roller.



- press OK --> motor begins to turn to the left and right
- press OK --> motor stops
- press ESC for going back

menu 2.6 Tank empty

This function helps you to clean the hopper, remove the blackplate and fit calibration tray.



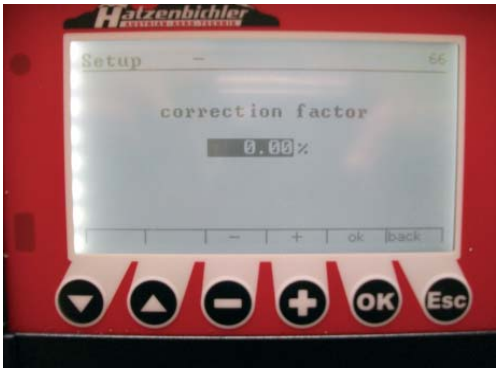
-press OK and hold it -> motor starts turning
-release OK --> motor stops turning

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 2.7 Correction factor

This allows you to compensate for external factors ie seed size variations or vibration, etc, this value must be calibrated by the user and is for fine tuning only.

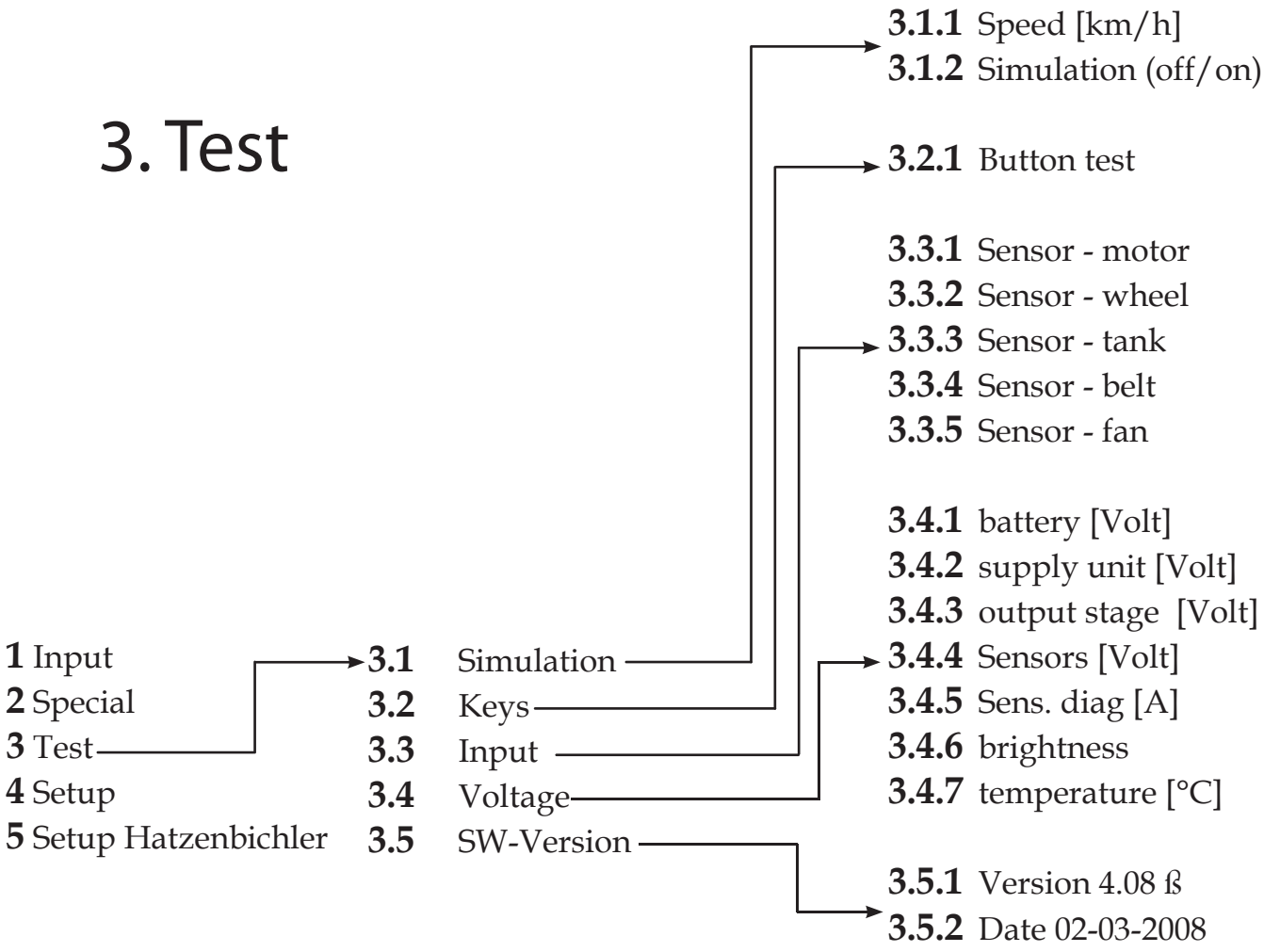
Select „correction factor“
Press „OK“



With +/- you can change the „correction factor“ percentage

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

3. Test



THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

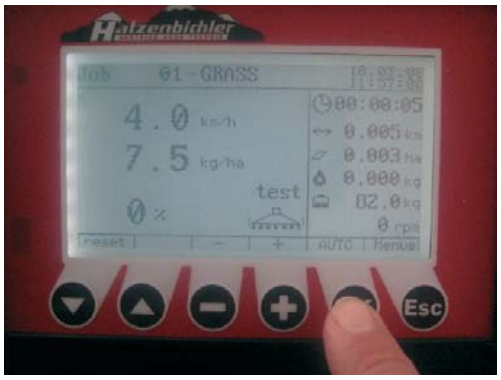
menu 3.1 Simulation (TEST)

In this function you can make a test simulation. The motor and the seed roller turn without driving, so in other words not using forward speed reading.

This function only works if you input a job No , did the calibration, set up a working width and seedrate.

3.1.1 - press + or - to set the forward speed

3.1.2 - press OK to turn the simulation on or off
- press „ESC“ to go back to the working screen.



If you are in the working screen, „Test“ is shown. If you press the „OK“ (AUTO) button the motor starts turning.
Press „OK“ (AUTO) to stop again.

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 3.2 Keys

In this function you can test if the buttons are working or not.

3.2.1 - press ▼▲ or + or - to select the button
- if you press the button you can see „pressed“ or „released“
- press ESC to go back

menu 3.3

Input

In this function you can test different sensors on the machine.

3.3.1-5 If a sensor is in use you can see on the display the number „1“ - if not you can see „0“
You can check it, if you turn the ground wheel, if you cover up the filling sensor or turn the seed roller.

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 3.4 Voltage

This function gives you informations about Voltage.
Inside the computer is a small battery, which stores, Date, Time, Jobs...
If you recognize that Date, Time, jobs... are not stored any longer, you have to change the battery.

3.4.1-7 - The voltage should be between 10-15. If the Voltage is under 10, you have to check battery from tractor

On the top end from the monitor you can find the USB and serial ports for updating and the memory battery.

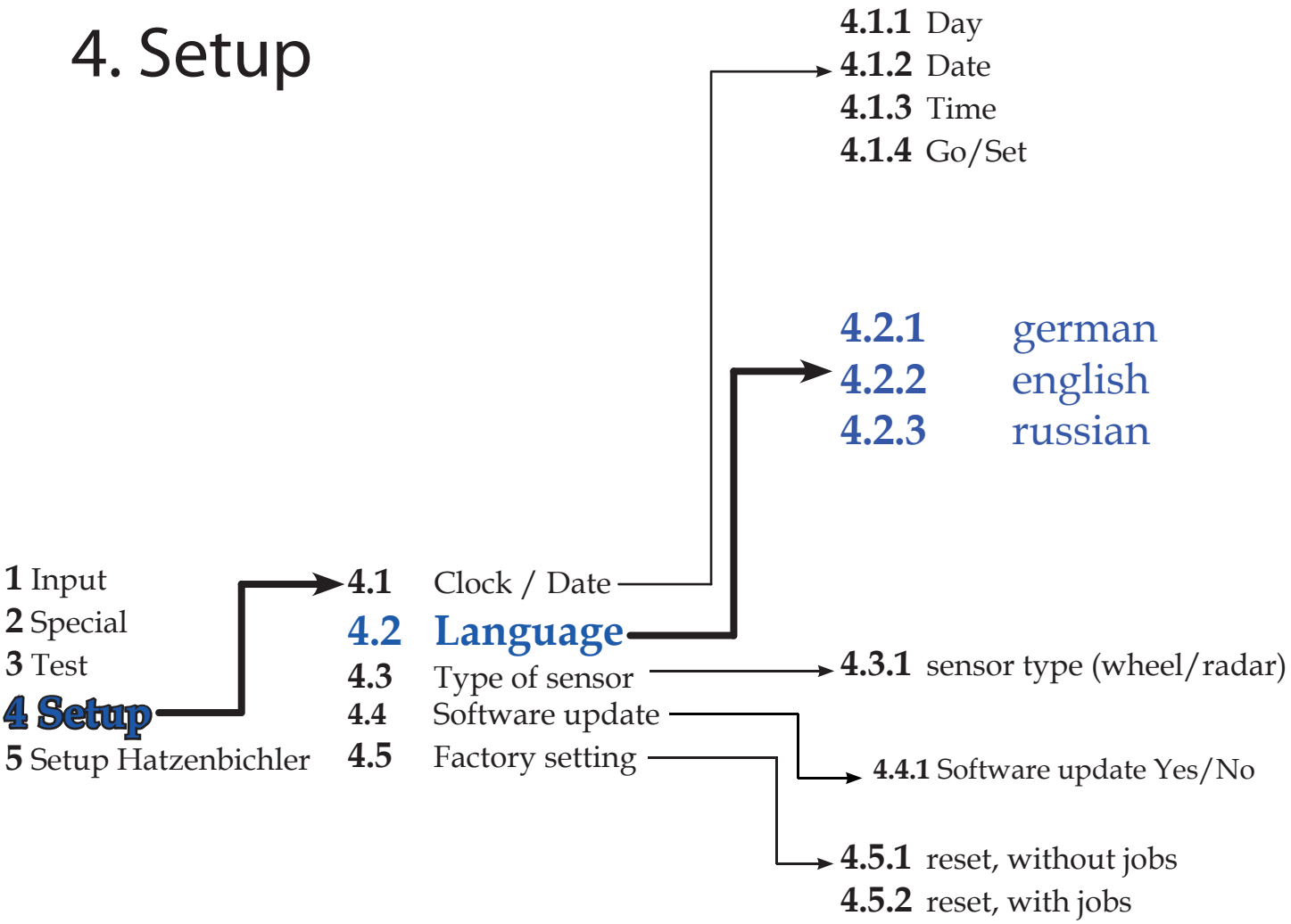
Also you can check the supply output stage (2.72 Volt), Sensors (2.27 Volt), Sensor Diag. (0,08 Amps), brightness (23), temperature (between 25 and 30°C).

menu 3.5 SW-Version

3.5.1-2 Here you can see the software version of your computer. If want to make a update you have to look to menu 4 Setup (4.4 Software update)

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287-0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

4. Setup

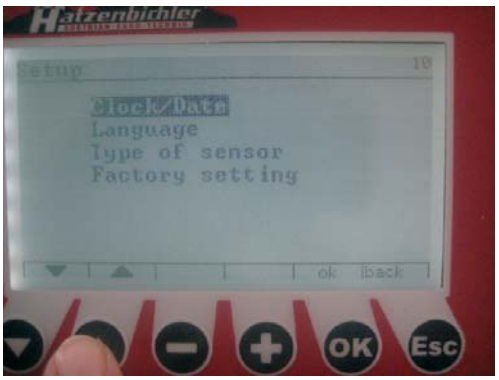


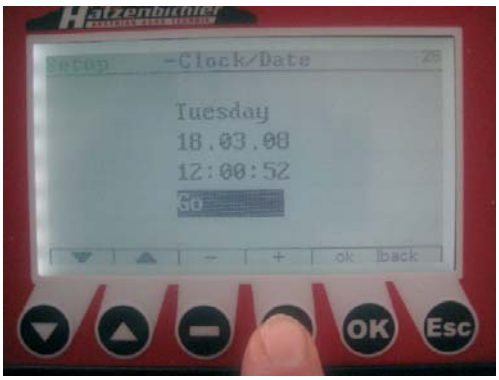
THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 4.1 Clock/Date

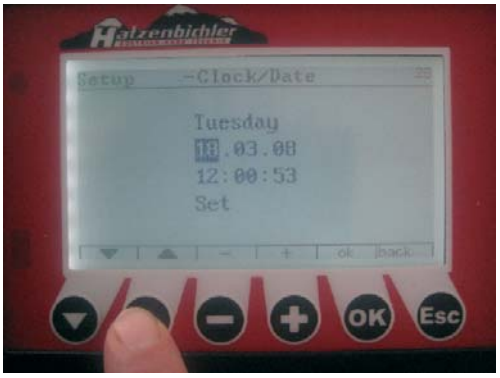
4.1.1-4 In this function you can change the day, date and time

Setup > Clock/Date

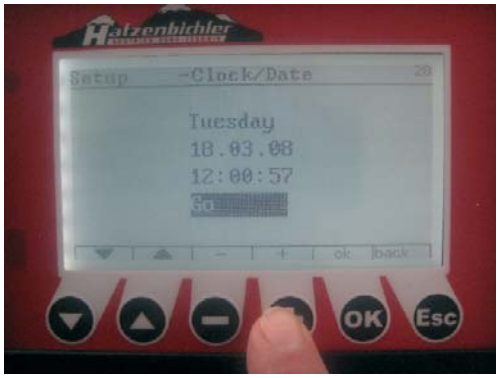




- press OK
- press + or - to change from GO to SET



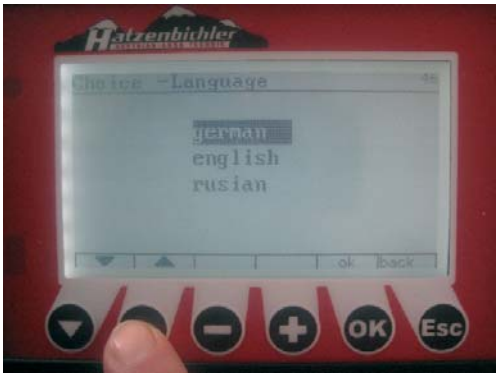
- if you want to change day, date or time go to SET
  - press ▼▲ for different options
  - press + or - minus to change day, date or time
  - press + or - minus to change from SET to GO
  - press ESC to go back



THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 4.2 Language

In this function you can choose 3 different languages (english, german, russian).



- press OK
4.2.1-3 - press ▼▲ to select the language
- press OK

menu 4.3 Type of sensor

In this function you can change from Radar-sensor to Wheel sensor.

- press OK
4.3.1 - press + or - for Radar or wheel
- press OK

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 4.4 Software update

Control boxes with version 3.** must be updated using the serial port connected to a PC

4.4.1 In this function you can make a software update for your control box if it uses software version 4.**

Select Software-Update ▼▲
Press „OK“

With arrow button ▼▲ you can change between „YES“ or „NO“.
Press to start the update

Please plug in the USB-Stick and keep the ESC button pressed until the control panel has started again.

Note: After updating the software you must reset the control box to the factory setting including all job details (section 4.5, page 34).

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

menu 4.5 Factory Settings

In this function you can reset to factory settings without jobs details or including jobs details.

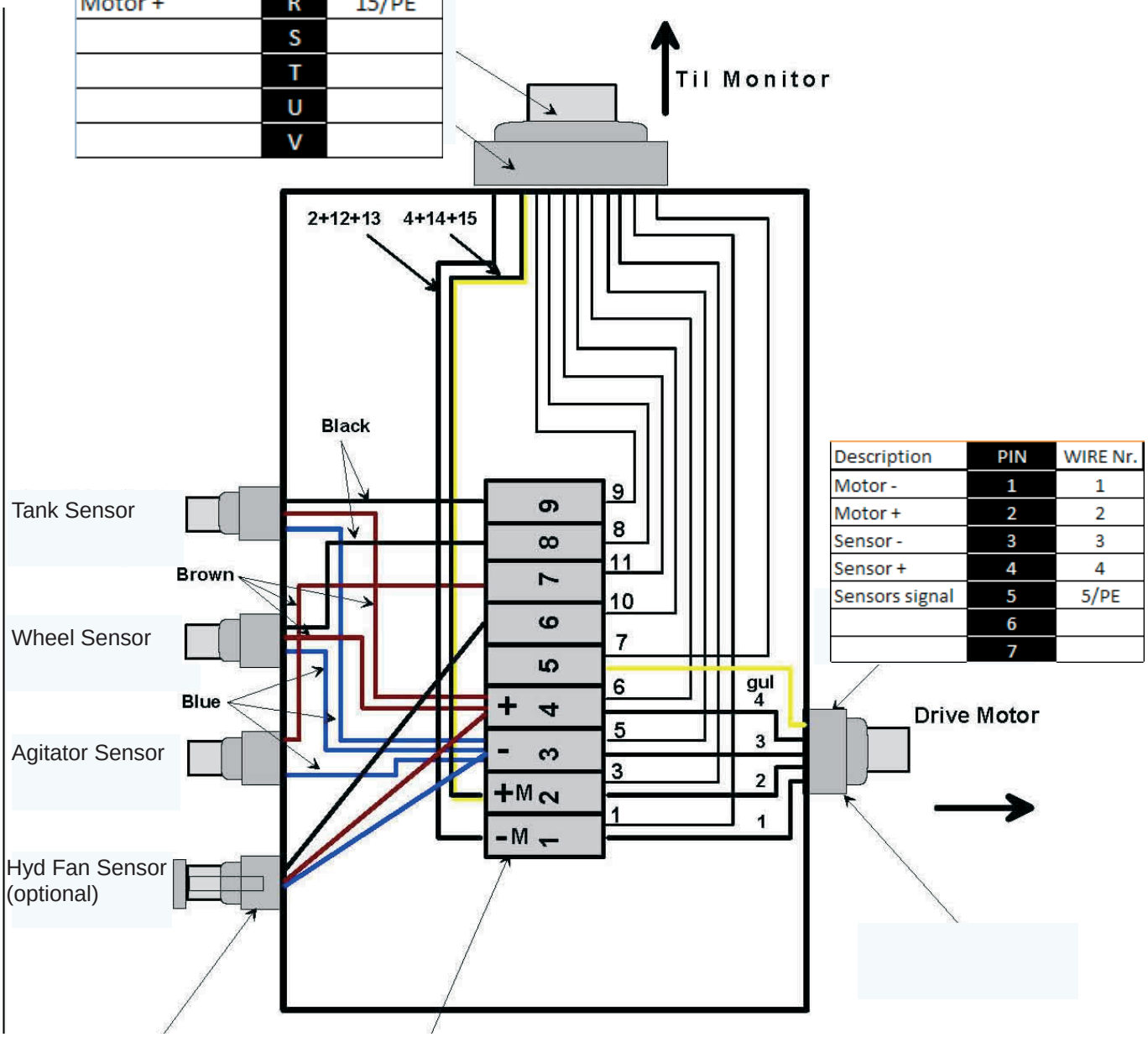
4.5.1-2- press ▼▲ to select reset
- press OK

[Please note if you select „reset, incl. jobs“ you will lose all your data!]
(working width, sensor type, language, etc.)
If you want to start working again, you have to start with menu 1

THOMAS HATZENBICHLER Agro-Technik GmbH
A-9433 St. Andrä, Fischering 2
Tel: ++43 (0)4358 / 2287–0 / Fax:++43 (0)4358 / 2208
http://www.hatzenbichler.com
agrotechnik@hatzenbichler.com

Wiring Diagram

Description	PIN	WIRE Nr.
Motor -	A	1
Motor -	B	2
Motor +	C	3
Motor +	D	4
Grd - Sensors	E	5
+ 12v DC	F	6
Motor Sensor	G	7
Speed Sensor	H	8
Tank Sensor	J	9
Fan Sensor	K	10
Agitator Sensor	L	11
Motor -	M	12
Motor -	N	13
Motor +	P	14
Motor +	R	15/PE
	S	
	T	
	U	
	V	



Description	PIN	WIRE Nr.
Motor -	1	1
Motor +	2	2
Sensor -	3	3
Sensor +	4	4
Sensors signal	5	5/PE
	6	
	7	