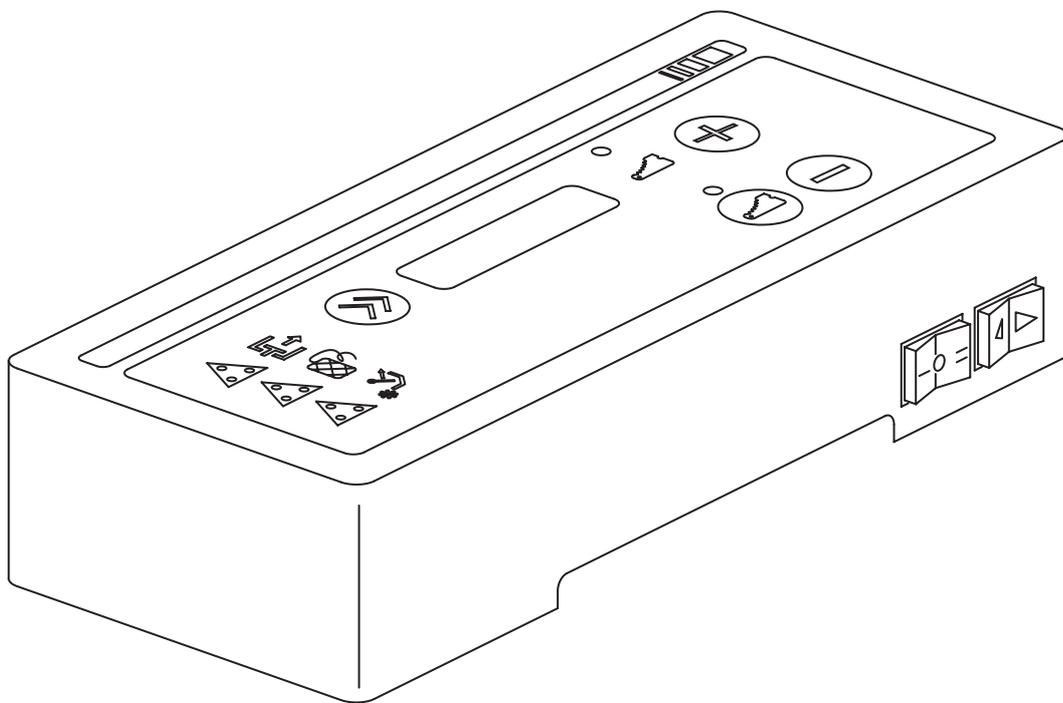




Operation manual

INFOBALE



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Niets uit dit boek mag worden verveelvoudigd, opgeslagen in een, al dan niet, geautomatiseerd gegevensbestand of openbaar gemaakt; in enige vorm of op enige wijze hetzij elektronisch, mechanisch, optisch, door fotokopieën, microverfilming (inclusief micro- en macrofiche), opnamen, of enig andere manier, inclusief alle video en CD-systemen, zonder voorafgaande schriftelijke toestemming van de uitgever.

This operation manual contains the instructions for the use and the maintenance of the electronic INFOBALE system. It is a complementary manual to the other baler operation manuals of the LB 8100 and LB 12100. The object of this manual is to help you achieve the benefits you expected when buying this baler.

The output of your machine will depend to a large extent in your way of using it and maintaining it. It is very important to read this manual carefully before using the baler and to keep it handy. In this way, you will avoid accidents, respect the warranty conditions and always have a functional machine in perfect working order.

Respect the security advice in this operation manual and on the security stickers on the baler as well as the general security and accidental prescriptions.

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 **Danger:** When you see this safety alert symbol and heading be alert to the danger of injury or death of men and animals!

 **Attention:** When you see this heading, be alert to the possibility of damage to equipment, crop, buildings, etc., but to financial and/or juridical problems (warranty, product liability) as well!

 A remark, proposal, advise to facilitate a job.

1) Electric control "Infobale"

The high density baler comes with electronic control. This system controls and monitors the bale growth, the tying process and the pressure control. The system also features fault message functions. The control box allows the operator to control the entire baling process from the tractor. The main functions that are monitored include:

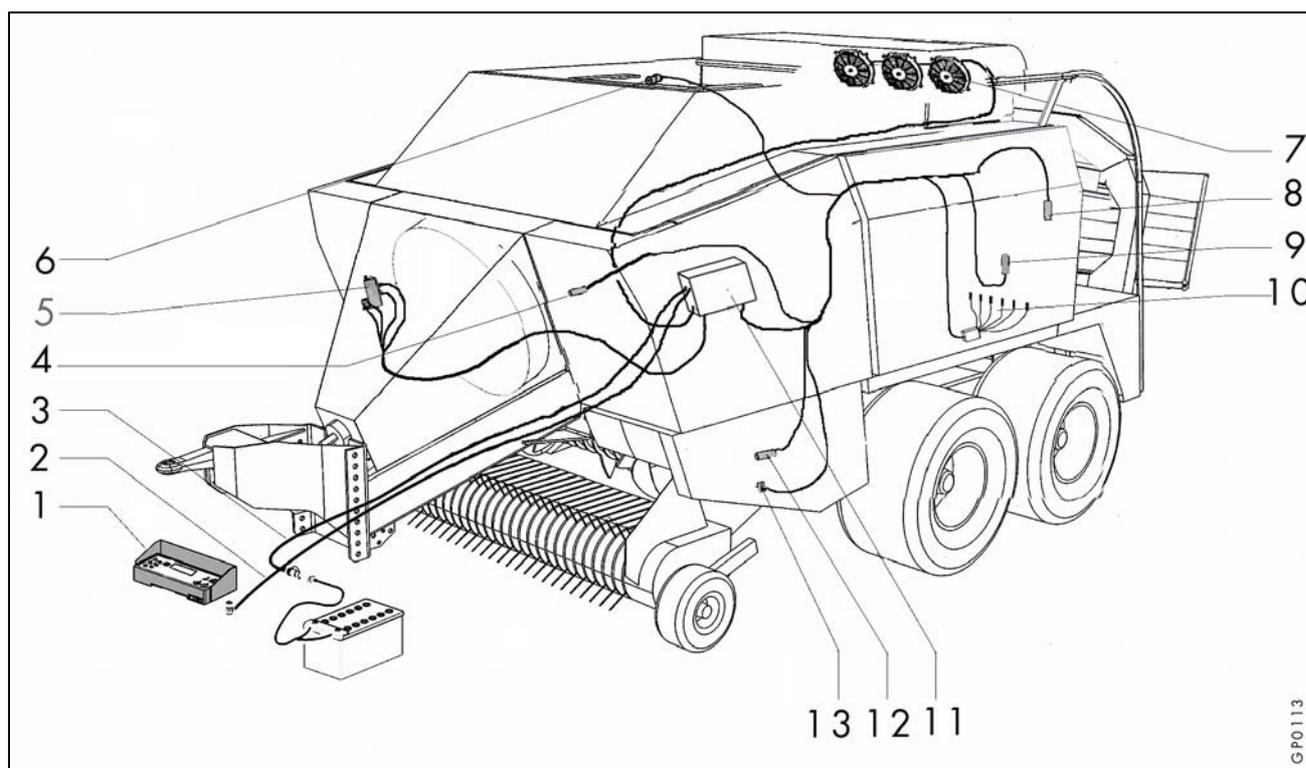
- Plunger load
- Knives position
- Packer overload
- Twine position and operation tying needle

Sensors

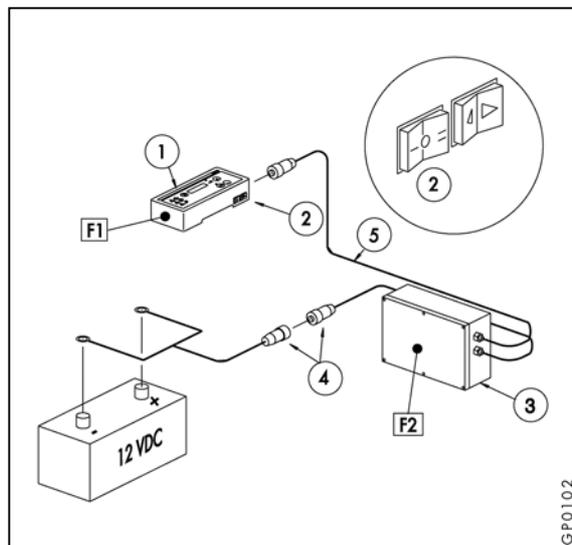
Because the Infobale system features extensive monitoring functions, the high density baler is equipped with a number of sensors. The following sensors are used on the baler:

- proximity sensors
- analog sensors

1.1) Infobale



1	Control box	8	Emergency stop fans
2	Connection cable control box	9	Tying sensor
3	Power cable 12V	10	Needle frame shear bolt sensor
4	PTO sensor	11	Twine sensor
5	Valve block hydraulics	12	Machine casing
6	Plunger load sensor ML	13	Feed fork safety sensor FF
7	Fans knotter cleaning	14	Knife position sensor OC



1.2) Building in

Mount the INFOBALE control box **(1)** in the tractor cab within reach and view of the operator. The box has an on/off switch **(2)**, a display and function keys.

INFOBALE control system must be switched off and the power cables must be pulled out.

The machine casing **(3)** on the baler has a baler-geared control system.

Connect the power cable **(4)** to the battery.
Connect cable **(5)** to the control box.

Fuses

- Monitoring and control box F1:
1 x 2 A
- Machine control F2:
1 x 15 A (outputs and processors)
1 x 30 A (fans and 12V output)



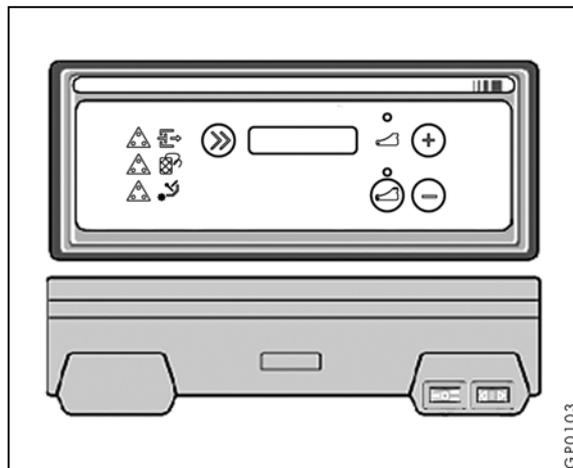
When connecting the power cable to the battery, note the correct polarity.

- (+): brown cable**
- (-): blue cable**

Never connect the cable to the cigarette lighter (interference risk), always directly to the interference-free power source (check the functioning of the fuses on the power cables).

Keep cables away from hot and moving parts.

When unhitching the machine from the tractor, the connectors of cables **(4) and **(5)** must always be pulled out and placed in the special holder. When the machine is not used for an extended period, the**



GP0103

1.3) Operating keys and switches

Function key, to next function, setting position or screen.

Switching on/off Opticut (option)

Increase value

Decrease value

Main switch
 I = ON
 0 = OFF
 II = Emergency control

Emergency control
 No function

2) Working with the high density baler and the electronic control INFOBALE

2.1) Starting

Put the main switch  to **(I)**. The loading screen appears **(d1)** automatically followed by the working screen **(w1)**, after which the machine is ready for use.



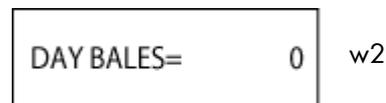
When the baler is not used for a longer period, the power supply must be switched off.

2.2) Working screens

When INFOBALE has been switched on, a short self test follows after which automatically the working screen appears. INFOBALE has two working screens during baling. One screen shows the plunger load **(w1)** and the other shows the number of bales produced (trip counter) **(w2)**. The plunger load is displayed with the aid of 2 x 14 indication blocks (a maximum of 14 blocks on the screen).



Press  to switch between working screens.



2.3) Function menu  

The function menu can be called up from the working screen by simultaneously pressing  and . Settings can be changed using the  and  keys.

 = select or increase value.

 = select or decrease value.

(F1) F+ menu

Confirm the selected F+ menu.

(F2) Trip bale counter.

Reset by simultaneously pressing  and .

(F3) Total number of bales produced by the machine. Not resettable.

(F4) Display contrast

Adjust the displayed contrast(35 - 99%)

(F5) Sound level

Adjust the sound level(0 - 100%)

(F6) Language settings

Available settings are: EN, NL, FR, DE, ES, IT.

(F7) Fan

Knotter cleaning using fans (option) can be switched on or off.

(F8) Knotter cleaning

Knotter cleaning using a compressor (option) can be switched on or off.

(F9) Automatic oil lubricating system

The automatic oil lubricating system (option) can be switched on or off.

(F10) Automatic grease lubricating system

The automatic grease lubricating system (option) can be switched on or off.

(F11) Automatic knife cleaning

Automatic knife cleaning system (only applicable for Opticut) can be switched on or off.

(F12) Last F+ screen

  simultaneously = set value to default setting or 0.

 = scroll key → to next screen

Pressing this key also confirms the setting of the current screen before the next screen appears.

F1	F+ MENU
F2	DAY BALES= 0
F3	TOT. BALES= 0
F4	CONTRAST= 50 %
F5	VOLUME= 50 %
F6	LANGUAGE= EN
F7	FANS= ON
F8	PNEUMATIC= ON
F9	OIL LUB.= ON
F10	GREASE LUB.= OFF
F11	CLEAN KNIVES= ON
F12	LAST F+ SCREEN

3) Baling process

Caution: it is vital to let the machine run at nominal speed during use. Only then can flawless operation of the various functions be guaranteed.

The forward speed (choice of gear) must always be adapted to the swath width. To achieve maximum bale density, the separate wads in the bale must not be thicker than 5 cm. If large quantities regularly cause feeder overload, then the forward speed must be reduced.

Adapt the forward speed to the number of compression strokes per bale. The working screen showing the plunger strokes per bale is a good tool here.

Examples:

Bale growth per plunger stroke can be estimated on the basis of the compression time per bale. the plunger makes 45 compression strokes/min at 1000 rpm. Allow for turning at the headland and stopping in the field.

bale length(in cm)	80	120	160	180	200	220	240	250	260
no strokes per bale	16	24	32	36	40	44	48	50	52

3.1) Setting the hydraulic density pressure

The operator has to set the hydraulic density pressure.

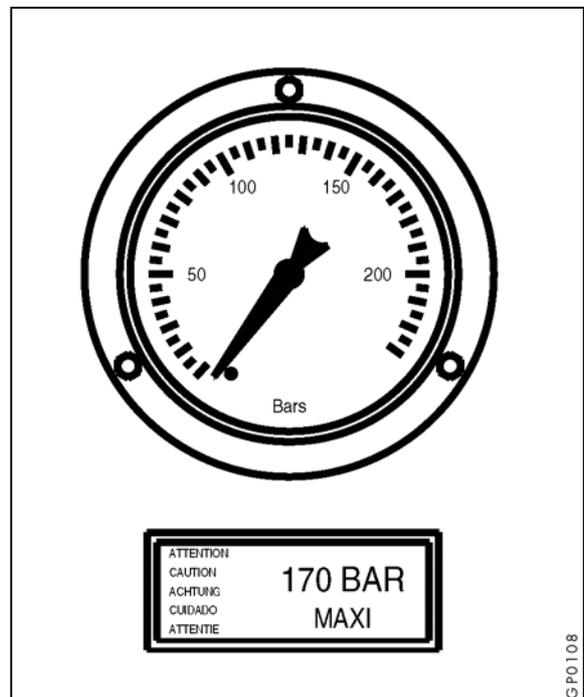
= increase pressure

= decrease pressure

Adapt the density pressure to the conditions (material, crop humidity, swath shape, twine strength etc.).

Caution: The maximum density pressure is 170 bar.

Let the pto run so the hydraulic pressure can be read from the pressure gauge.



3.2) Monitoring the plunger load

The plunger load is indicated permanently. The black bars show the load. The number of bars (= total length), 28 in total, varies with the load on the plunger.



or



 **Caution:** For all working conditions the limit is the flywheel safety or a broken twine when the tied bale leaves the bale chamber. In that case the pressure must be reduced by pressing .

4) Fault messages

 **Caution:** When the various warning screens appear on the display, an acoustic signal sounds and certain lights start blinking. The warnings appear every three to four seconds.

Overload plunger alarm and density pressure control:

Dependent on the crop and the crop flow the plunger load may increase until the mechanical overload device is activated. The ML sensor measures the plunger load up to a certain maximum value. When indicator light **(1)** starts blinking, the plunger load is too high. Information on display: « **RAM OVERLOAD** ». When the alarm appears, the density pressure drops by 5 bar and the baling chamber opens step-by-step! Note: the preset pressure is not automatically restored! If the alarm keeps appearing, the density pressure must be reduced by ± 10 bar and/or the forward speed must be reduced.



RAM OVERLOAD

Twine alarm:

A twine problem is indicated by a flashing light **(2;** see page 10). Information on display: « **NO TWINE** ». That means one or more twines are not fed to the knoter. Trace and remedy the cause.



NO TWINE

No pto:

If display « **PTO !!!** » appears, it is an indication the machine is driven but there is no signal of the pto sensor. Check pto sensor (see also page 16).



PTO !!!

Needle shear bolt alarm:

A twine problem is indicated by a flashing light **(2)**. If the display shows: « **NEEDLE BOLT** », the needle shear bolt has failed so the twine can no longer be tied. Replace the shear bolt. Start tying once manually to reset the alarm.

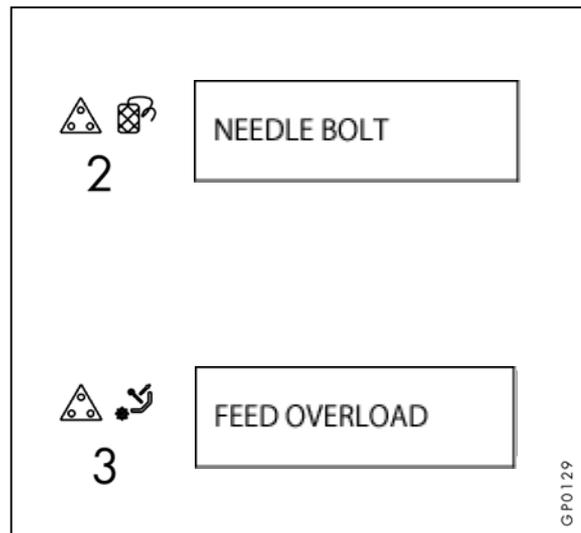
Alarm packer overload:

Packer overload is indicated by a flashing light **(3)**. The display shows: « **FEED OVERLOAD** ».

Stop the baler and reduce the pto rpm, so the overload clutch can engage again. If this clutch does not engage anymore, then stop the pto and remove the cause of the problem. If the clutch slips, the forward speed must be adapted.

Communication alarm:

There is a communication problem between the baler control box and the control box in the tractor. Information on display: « **COMMUNICATION** ». Consult your dealer.



Switching off one of the above alarms:

Press  once to remove the information from the display.

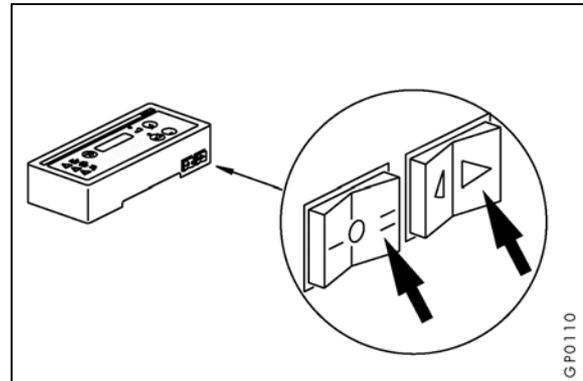
In all case the lights remain blinking until the problem has been solved.

 **Caution:** In the event of a recurring message the cause must be traced and remedied.

5) Electric emergency control density pressure

In the event of an electronic problem, the INFOBALE control system still offers a possibility to control the density pressure.

Put the main switch under the control box  in position **(II)**. The density pressure can be increased with the emergency switch  on the  side until the required setting has been reached on the pressure gauge. Repeat this procedure regularly (every 30 sec, depending on frequency of reading the manometre). Now the operator can read the desired pressure from the pressure gauge. The maximum density pressure is set by rotating the handwheel of the proportional valve on the hydraulic valve block **(V5)**! This procedure must NEVER be performed during work!



 **Caution:** The emergency density pressure control makes it possible to continue work despite electronic problems. It remains important to remedy the problem quickly. Quick and proper baler operation requires that the machine runs with the INFOBALE control system with the main switch in position **(I)**.

6) Stopping baling

Stop picking up and let the machine run for a few moments to transport the crop that is still in the chamber. Then switch off the pto.

Act as follows to eject the last bale:

- start a tying process;
- take the pressure from the density pressure circuit:
keep the machine running and press  on the control box;
- switch off the pto after some time;
- disconnect the power supply to the electronic control system INFOBALE.

 **Caution:** Before picking up an already compressed bale, the twine must be removed and the bale wads must be laid loosely in the swath to prevent pick-up and packer overload.

6.1) Unhitching the baler

When unhitching the baler from the tractor, the cables of the INFOBALE control system must be disconnected.

6.2) Preparing for winter

- Dismount the control box and store it in a dry place.
- Do not use high-pressure water or steam cleaners within the area of the electronic control panel and the electric connections.



When you observe the above rules, you will have a fully operable machine at the start of the next harvest season. Consult your dealer if you have any questions. Before taking into use again, all adjustment activities described in the user manual must be carried out.

7) Factory Functions

Simultaneously pressing and calls up the Factory Functions. This menu is intended for engineers. The factory functions include two menus → test and settings.

Caution: When calling up Factory Functions, stop the baler and simultaneously press and .

Exit the Factory Functions by repeatedly pressing . That may have to be done a number of times dependent on the screen that had been called up.

F- MENU	<ul style="list-style-type: none"> Start F- menu 	
MENU= TEST	<ul style="list-style-type: none"> Menu selection test / settings 	<ul style="list-style-type: none"> Test menu selected
OUTPUTS	<ul style="list-style-type: none"> Outputs 	
V1= OFF	<ul style="list-style-type: none"> V1 selection valve build density pressure or circulate (on/off) 	<ul style="list-style-type: none"> On (+ key) = activate Off (- key) = deactivate
V2= OFF	<ul style="list-style-type: none"> V2 selection valve knife control (on/off) 	<ul style="list-style-type: none"> On (+ key) = activate Off(- key) = deactivate
V3= OFF	<ul style="list-style-type: none"> V3 selection valve knife control (on/off) 	<ul style="list-style-type: none"> On (+ key) = activate Off (- key) = deactivate
V5= OFF	<ul style="list-style-type: none"> V5 proportional valve density pressure setting 	<ul style="list-style-type: none"> + key = increase - key = decrease
FANS= ON	<ul style="list-style-type: none"> Electric fans for knotter cleaning 	<ul style="list-style-type: none"> Clockwise Off Counter clockwise
FANS= ON	<ul style="list-style-type: none"> Pneumatic knotter cleaning 	<ul style="list-style-type: none"> On (+ key) = activate Off (- key) = deactivate
OIL LUB.= ON	<ul style="list-style-type: none"> Automatic oil lubrication 	<ul style="list-style-type: none"> On (+ key) = activate Off (- key) = deactivate
GREASE LUB.= OFF	<ul style="list-style-type: none"> Automatic grease lubrication 	<ul style="list-style-type: none"> On (+ key) = activate Off (- key) = deactivate
INPUTS	<ul style="list-style-type: none"> Inputs 	

ML= 287	<ul style="list-style-type: none"> ML = Machine Load sensor 	<ul style="list-style-type: none"> Current value
TWINE= 0	<ul style="list-style-type: none"> Twine sensor 	<ul style="list-style-type: none"> Current value
PTO= 1	<ul style="list-style-type: none"> PTO test 	<ul style="list-style-type: none"> 0 = no signal 1 = signal
FF= 1	<ul style="list-style-type: none"> FF (packer) test 	<ul style="list-style-type: none"> 0 = no signal 1 = signal
BIND= 1	<ul style="list-style-type: none"> Bind = tying needle 	<ul style="list-style-type: none"> 0 = no signal 1 = signal
OC= 1	<ul style="list-style-type: none"> Opticut 	<ul style="list-style-type: none"> 0 = no signal 1 = signal
NEEDLE BOLT= 1	<ul style="list-style-type: none"> Needle frame shear bolt 	<ul style="list-style-type: none"> 0 = no signal 1 = signal
KEY= 2	<ul style="list-style-type: none"> Keyboard test screen for keys and LEDs 	<ul style="list-style-type: none"> Press a key → The key number appears on the display and the LED will go out. Press a key twice to return to the basic screen.
F- MENU	<ul style="list-style-type: none"> Start F- menu 	
MENU= SETTINGS	<ul style="list-style-type: none"> Menu selection test / settings 	<ul style="list-style-type: none"> Settings - menu is selected
BC= V1.11	<ul style="list-style-type: none"> On-board computer software version 	<ul style="list-style-type: none"> V1.07 19 - 07 - 00 = software version
IMP= V1.01	<ul style="list-style-type: none"> Implement software version 	<ul style="list-style-type: none"> V1.07 19 - 07 - 00 = software version
PINCODE= 0	<ul style="list-style-type: none"> PIN code 	<ul style="list-style-type: none"> Not available
ML MIN= 287 : 270	<ul style="list-style-type: none"> ML- offset 	<ul style="list-style-type: none"> 287 = current (counts) of sensor 170 = setting for ML sensor if no load)

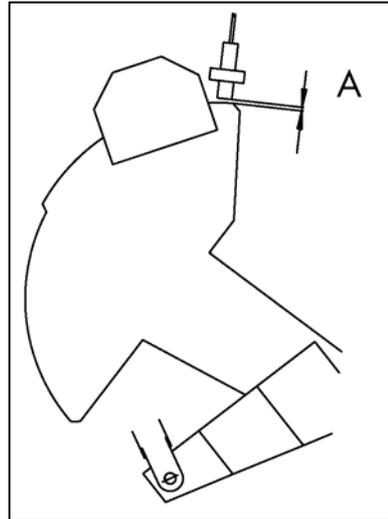
ML MAX= 500	<ul style="list-style-type: none">• ML- max. setting	<ul style="list-style-type: none">• 500 = growth bar on display is fully black• nb >600 = ML alarm
TOT. BALES= 0	<ul style="list-style-type: none">• Total number of bales produced on the machine	
LAST SET. SCREEN	<ul style="list-style-type: none">• Last screen Settings	

8) Setting the sensors and indicators

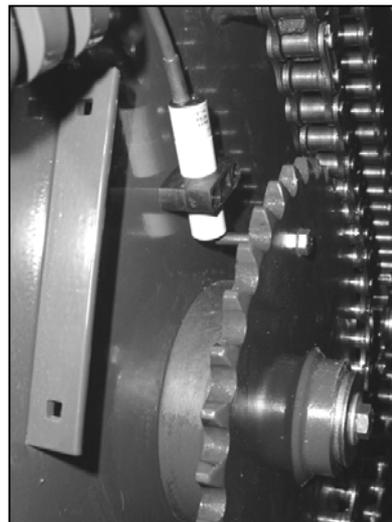
Proximity sensors

The proximity sensors trace metal objects.

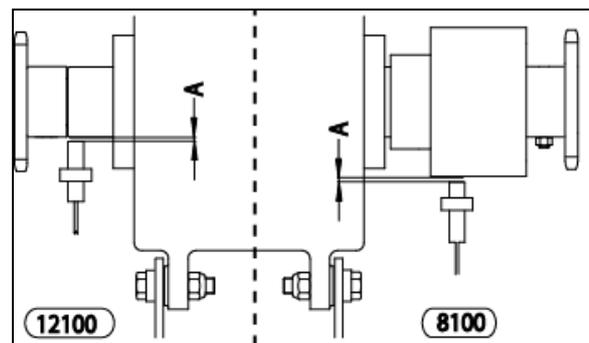
- Tying sensor (BIND)
(situated at the needle frame)



- Packer sensor (FF)
(situated at left hand side of the intake rotor)

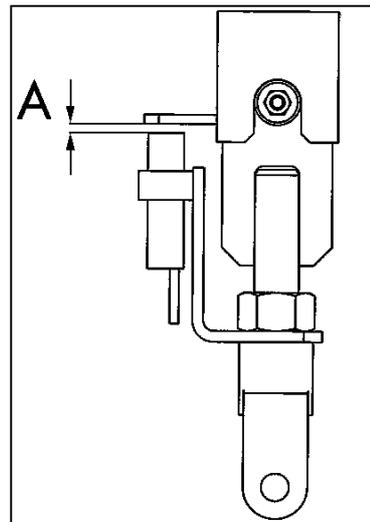


- Power take-off sensor (PTO)
(top view of the main gearbox)



Set dimension **(A)** of the sensors must be between 2 and 6 mm, measured up to the metal surface. The connected sensor indicator light will be on.

- Needle frame shear bolt sensor

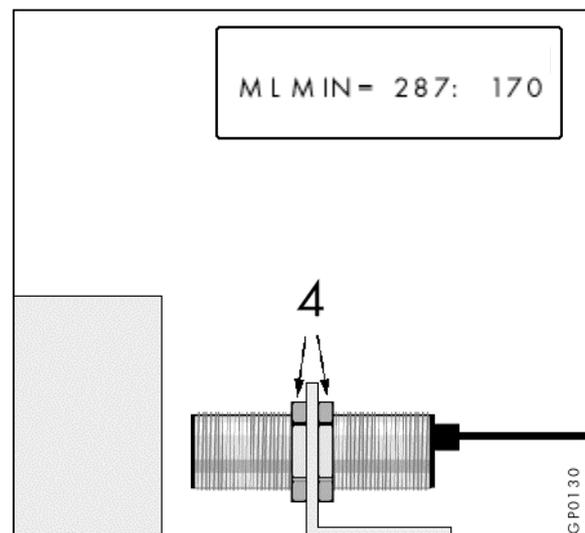


- Sensor plunger overload (ML)

The read-out value of the plunger overload safety must be 170 when unloaded. The value can be checked in the settings menu of the factory functions. If the unloaded value is not 170 (± 5), the "zero setting" must be corrected as follows.

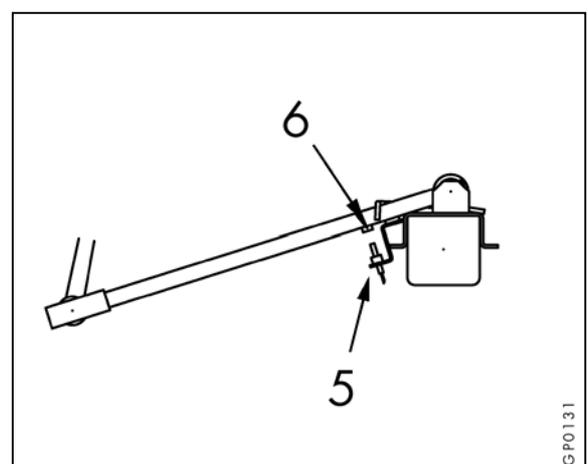
Procedure:

- Open the screen ML MIN of the factory functions settings menu. The value on the left is the current value of the ML sensor. It must be 170 when unloaded (on the right on the screen).
- With the aid of the nuts **(4)** of the ML sensor the sensor position can be shifted.



- Twine sensor

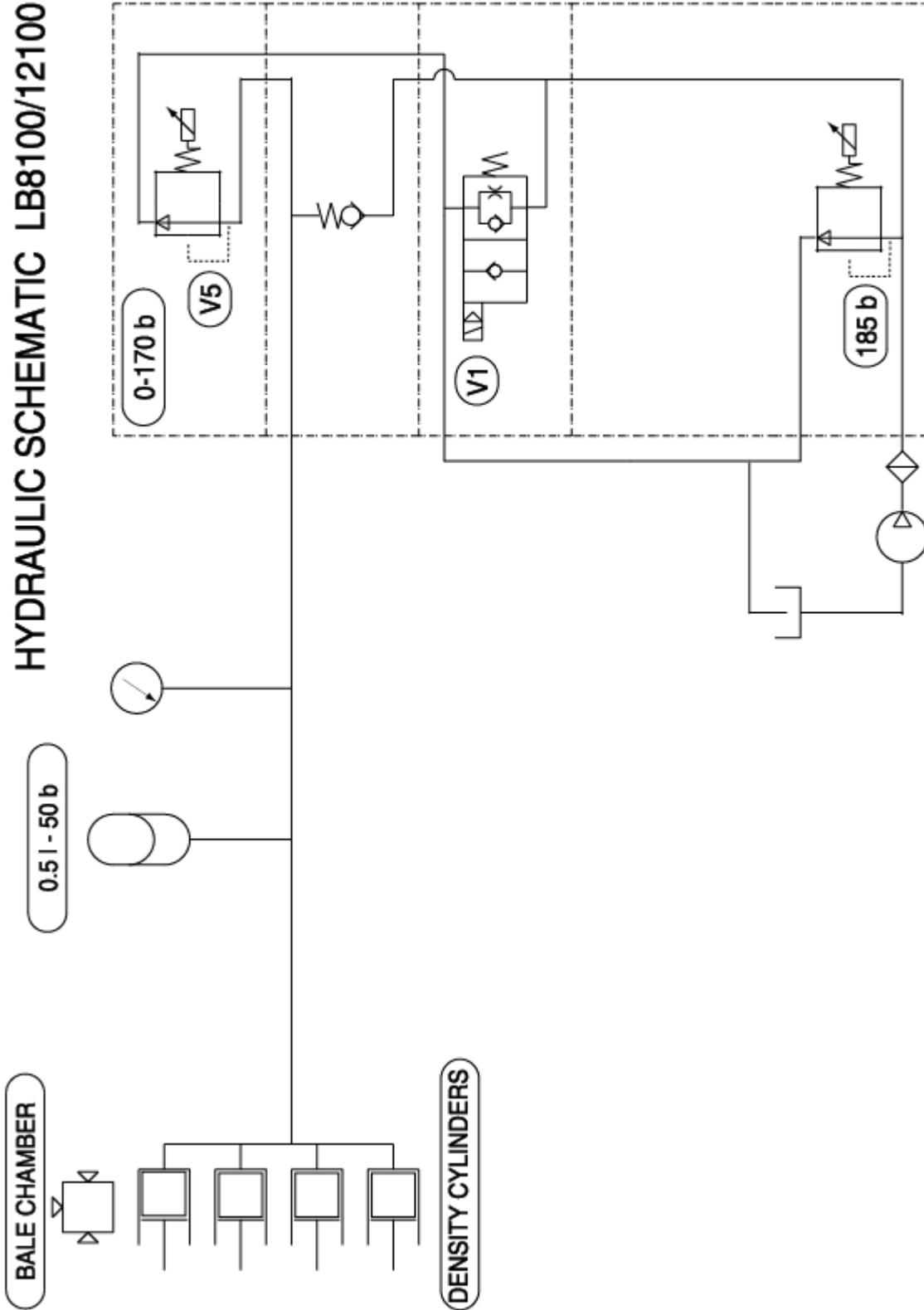
The sensor **(5)** is activated by a magnet **(6)** on the twine arm. In the event of a twine failure the arm is pulled down by a spring, followed by the message « **twine problem** » on the display. The spacing between the sensor **(5)** and the magnet **(6)** must be between 20 and 25 mm with the lever on the stop in the bottom position.



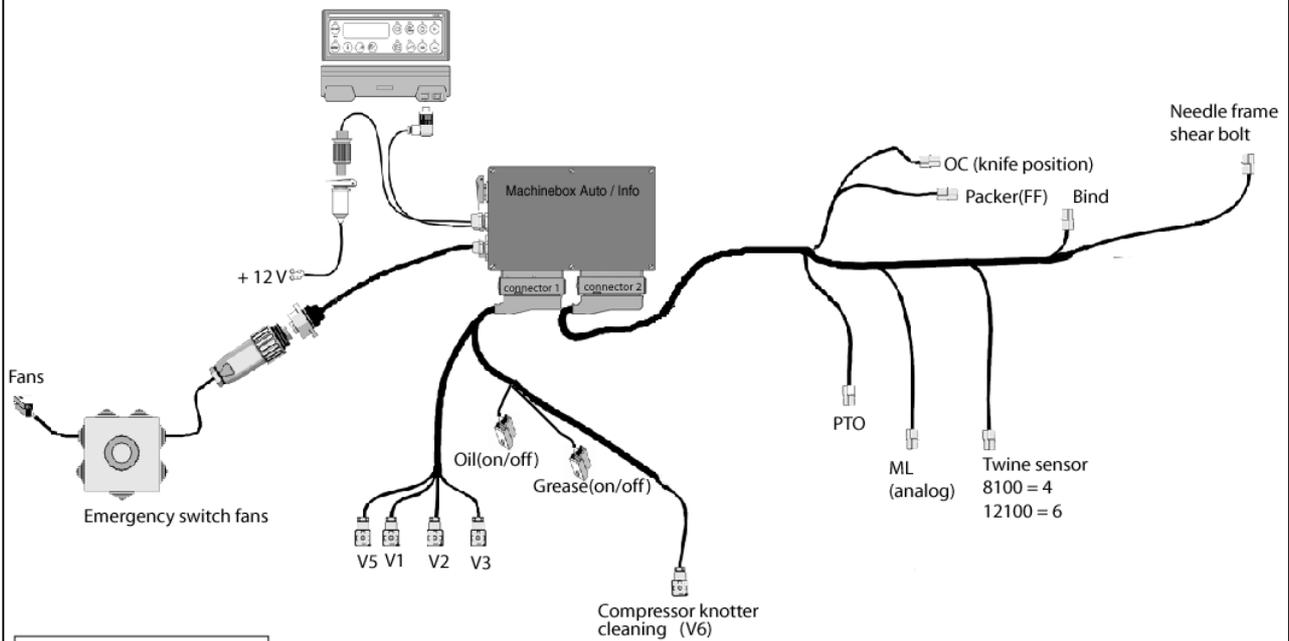
Set dimension **(A)** of the sensors must be between 2 and 6 mm, measured up to the metal surface. The connected sensor indicator light will be on.

9) Diagrams

HYDRAULIC SCHEMATIC LB8100/12100 Rotor

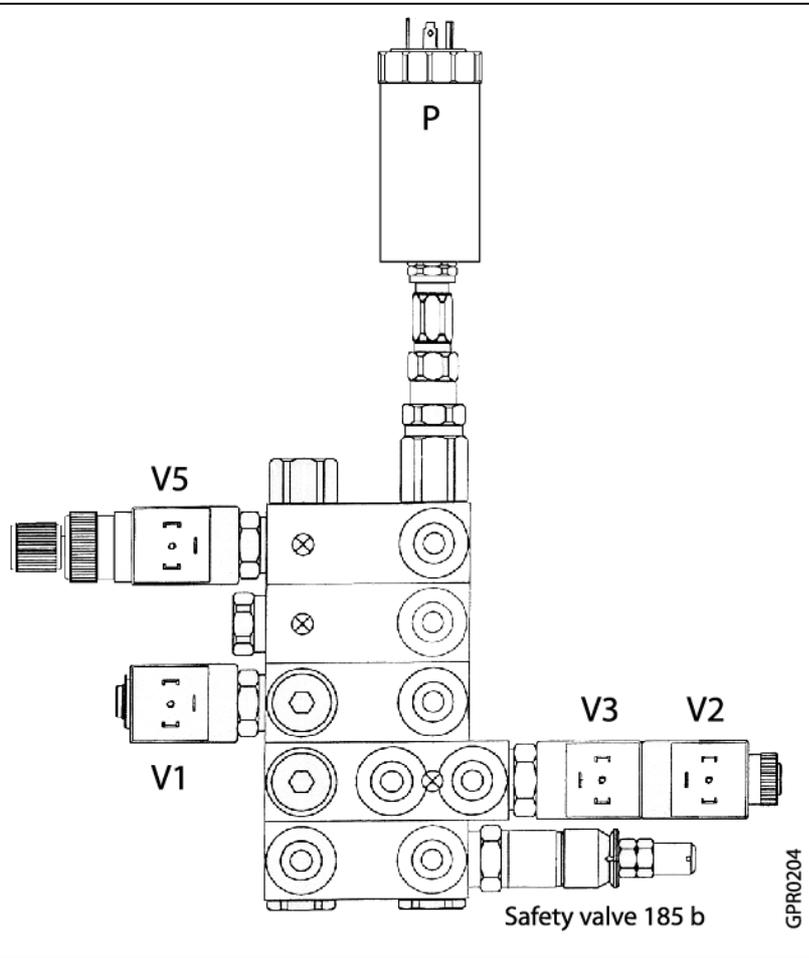


Infobale



- V 1 = Pressure
- V 2 = Knives in
- V 3 = Knives out
- V 5 = Pressure control
- V 6 = Pneumatic knotter cleaning

GPR0205



GPR0204

10) Trouble shooting table

 **Caution:** the electronic control system operates reliably. Most malfunctions are caused by incorrect connections. The central operating panel on the machine may only be opened by people with sufficient expertise. Make sure no dirt gets into the opened central operating panel.

MALFUNCTION	CAUSE	SOLUTION
- no message on the monitoring and control box	- no power supply to the control system	- switch on the device - check the system power - check fuses
- alarm « no connection » appears on the display	- control box not equipped with "HIGH DENSITY BALER" computer program	- switch off and back on at proper power supply - check power supply of central control panel - check connection between control box and machine box
	- internal control system problem	- consult your dealer
- recurring alarm	- sensor set incorrectly	- check sensor setting

11) CE Certificate of Conformity

CE CERTIFICATE OF CONFORMITY

in accordance with the EU-Directive 89/392/EEC

We,

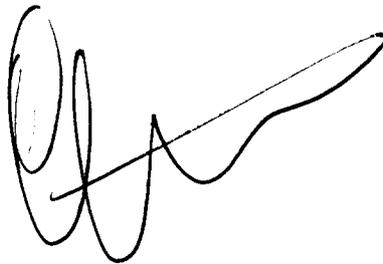
Kverneland Geldrop BV,
Nuenenseweg 165,
NL-5667KP Geldrop

declare under our sole responsibility that the product: Big square baler, type LB to which this declaration relates corresponds to the relevant basic safety and health requirements of the Directives 89/392/EEC (amended with 91/368/EEC, 93/44/EEC and 93/68/EEC) and 98/37/EC.

For the relevant implementation of the safety and health requirements mentioned in the Directives, the following standards have been respected:

EN292-2, EN294, EN704

Geldrop, 20 April 2002



Casper Böhme
General Manager

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