

FORMAX[®]

Shredder w/ Baler
FD 8906B Cross-Cut

OPERATOR MANUAL
FIRST EDITION

Machine Specs	
Model: FD 8906B	Shredder Serial #: _____ Baler Serial #: _____
Motor	7.5KW (10HP)
Power	220V / 60Hz / 3-Phase
Sheet Capacity	Up to 650 Sheets
Throat Width	21"
Weight	3,086 lbs.

The machine number is specified on the nameplate on the shredder, shown above. Guarantee claims and inquiries cannot be processed if you do not quote the machine number.

Enter this number and the other data into the relevant fields of the nameplate shown here immediately after receipt of the shredder.

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SAFETY PRECAUTIONS

“Work safety” symbol



This symbol marks all work safety notes in this manual which can endanger the health or life of operators. Please pay attention to this symbol and exercise particular care in such cases. Please also forward all work safety notes to other users. Apart from the instructions in this manual, you should also follow generally applicable safety and accident prevention guidelines.

“Attention” notes



This icon marks information in this manual which requires particular attention including guidelines, regulations, instructions and correct working procedures intended to prevent damage to the machine and/or other equipment.

Notes on work safety

The FD 8906B shredder / baler has been inspected for safety. However, improper operation and misuse risk the following:

- the health or life of the operator
- the machine and other valuable equipment
- the efficient operation of the shredder.

The FD 8906B employs state-of-the-art technology and is safe to operate. However, this machine can become hazardous if used incorrectly, by untrained staff or for purposes other than those for which it is designed.

- Material with a tendency to curl, e.g. tapes, cords, etc. should not be processed.
- Keep long hair, loose clothes, ties, scarves, etc. away from paper feed opening.
- Only one person should operate the shredder at a time.
- Always follow local safety and accident prevention regulations when operating the shredder.
- No pedestals or other raised surfaces may be placed in the vicinity of the machine if they alter the safety clearances.
- All connecting cables must be laid in such a way that they cannot be tripped over.
- Mechanical wearing parts must be inspected once a year.

The FD 8906B shredder / Baler is intended for shredding paper, cardboard, archive files, tapes, ribbons, CDs and magnetic disks. The hardened, solid-steel cutting rollers are unaffected by loose-leaf binders, paper clips and staples contained in these materials.

Any other use beyond the scope described here is regarded as **not being in accordance with the instructions**. The manufacturer will not be held liable for damage resulting from incorrect use; the user alone is responsible.

Users must also follow the assembly, dismantling, re-assembly, operation and maintenance procedures specified by the manufacturer. The operation, maintenance and repair of the machine must be performed only by trained personnel who are aware of the potential dangers.

The relevant accident prevention regulations as well as other generally recognized rules concerning safety engineering and occupational safety must be observed.

- Each person responsible for assembling, dismantling and reassembling and maintenance (inspection, servicing, repair) of the shredder must have read and fully understood the entire operating manual, in particular the "Safety" section.
- The shredder may only be operated, serviced and repaired by authorized, trained personnel.
- The shut-down procedures specified in this manual must be followed during all assembly, dismantling and re-assembling, cleaning, and maintenance work. This type of work must be performed only when the machine is idle.
- The drive of the FD 8906B must be secured against unintentional switching-on before performing work on the machine. Set the main switch to "Off" and unplug machine from wall outlet.
- After repair, check all protective devices to be sure they have been re-installed before operation.
- Do not perform any work which may impair your safety while operating the machine.
- Immediately report any changes which impair your safety to the person responsible. Shut the machine down until such damage has been resolved.
- Before operating the shredder, ensure that it is in perfect working condition.
- Ensure that the workplace around the FD 8906B is always clean and safe.
- The user must not make any conversions or changes on his own initiative which impair the safety of the FD 8906B. Protective devices must not be removed or rendered inoperative.
- All work which is not directly connected to the normal operation of the machine must always be performed when the machine is idle.
- Doors and flaps must not be opened until the machine is motionless. Observe safety labels!
- Test the safety features after installing or repairing electrical components.

Checking the safety devices

Check the safety devices:

- at the start of each work shift (when operation is sporadic)
- at least once a week in continuous operation
- after each maintenance or repair

Check the safety devices for:

- specified condition
- specified location
- safe attachment
- specified function

Correct defects before you operate the shredder.

1. Immediately shut down the shredder if defects occur during operation and make sure the defects are corrected.
2. Do not modify or remove protective devices. Do not switch off protective devices. For safety reasons, modifications of the machine are not allowed.



Danger: Defective safety devices can cause serious accidents. If safety devices are not working properly, the shredder should immediately be put out of operation.

Never reach into the cutting system while it is operating; you risk serious injury!

Only when all safety devices are operating correctly can the shredder be used again.

Operate the shredder only when these devices have been checked and are in order.

1. Check the **Safety Bar** push switch (A) in front of the feeding table:

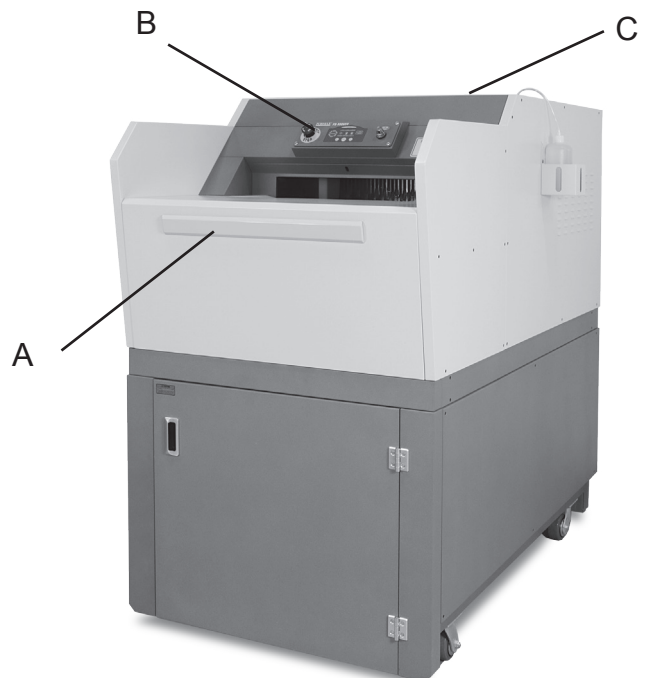
The shredder must switch off immediately when you press the **Safety Bar** and the Emergency Stop Light (B) must go on.

2. Check the **Emergency Stop Button** (B) on the left of the control panel:

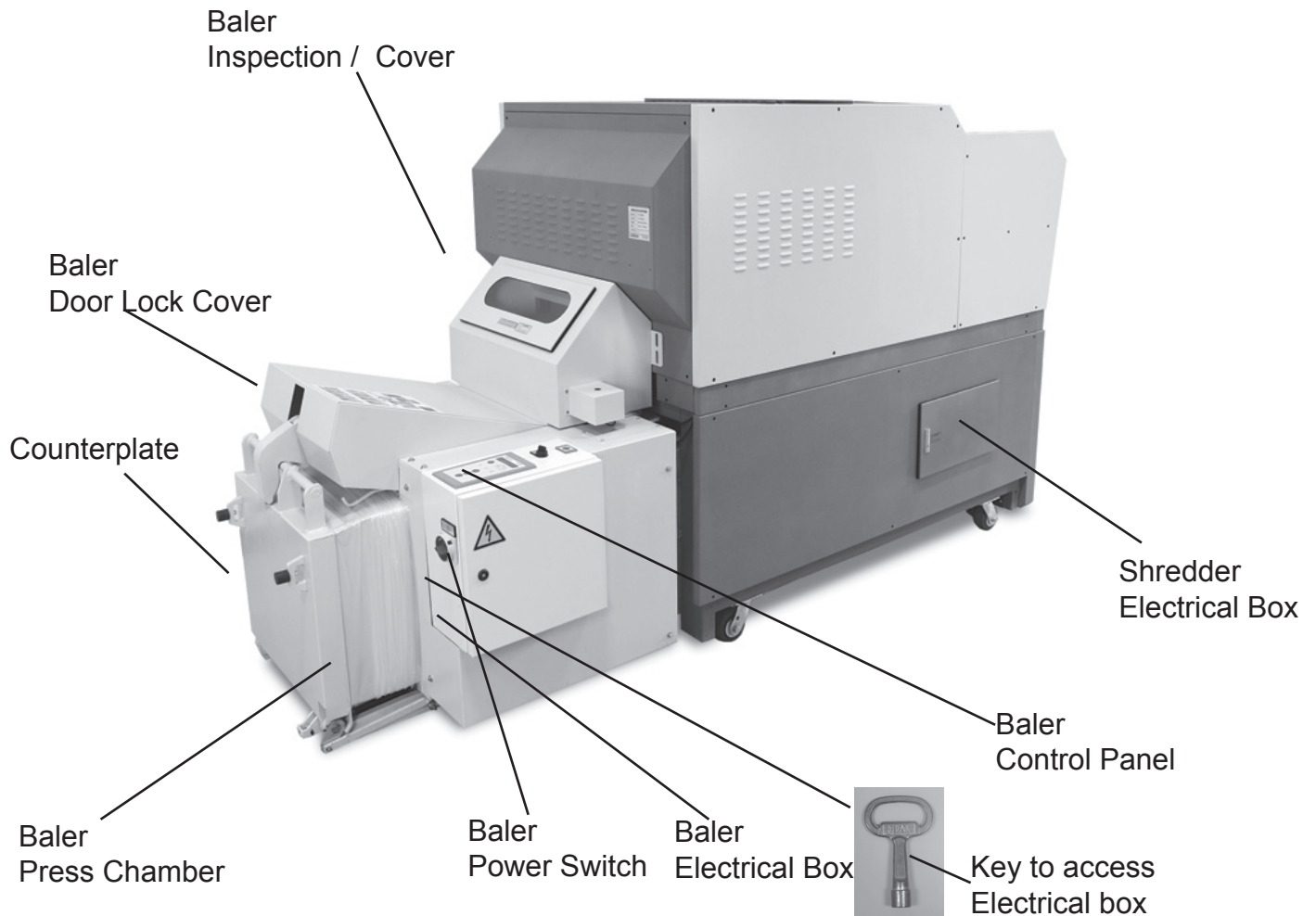
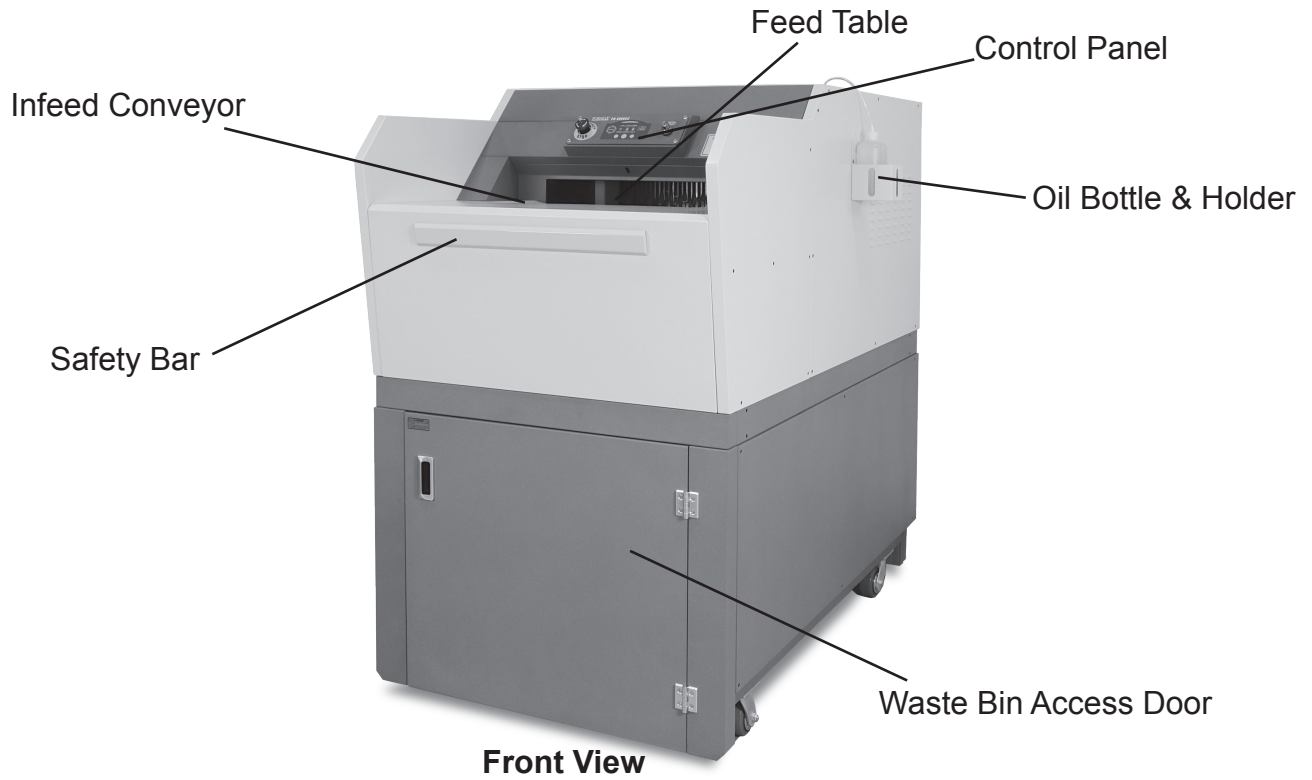
The shredder must switch off immediately when the button is pushed, and the Emergency Stop Light must go on.

3. Check the **Safety Switch** inside the Cutting Block Access Door at the top of the shredder (C). Press the door handle release. Handle will rotate up. Pull up on handle.

The shredder must switch off immediately when the door is opened, and the Emergency Stop Light must go on.



General Overview



MACHINE SPECIFICATIONS

Machine designation: FD 8906B

Machine type: conveyor-belt paper shredder and Baler FD 8906B

Technical equipment: large feeding table, infeed conveyor belt, outfeed Baler

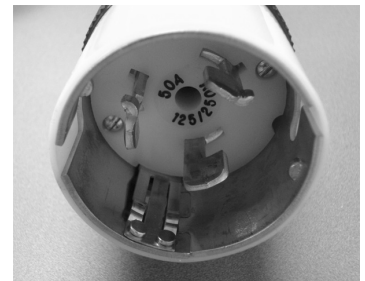
Cutting Data, Speed, Dimensions, Weight

Cutting Style:	Cross Cut
Shred Size:	5/16" x 1-1/2" - 3"
Sheet Capacity:	Up to 650
Speed:	Up to 35 feet per minute
Feed Opening:	21"
Dimensions:	47" W x 129" L x 63" H Counterplate up 47" W x 149" L x 63" H Counterplate down
Feed Table Dimensions:	47" W x 23.5" D x 49.5" H
Space Requirements:	79" W x 200" L x 118" H
Bale Capacity:	154 lb compressed bale
Baler Pressing Power:	80.8 kN
Bale Size:	31" W x 22" L x 19" H
Bale Weight:	110 - 154 lbs. (material dependent)
Weight:	3,086 lbs.

Motor Specifications, Power Requirements

Motor Type	Horizontal Geared
Rated Power	7.5KW (10HP)
Operating Voltage	220/380V
Phase	3-Phase
Frequency	50/60Hz
Plug/Receptacle	CS8365 plug included CS8369 receptacle required
Rated Current	25.5A/14.7A
Output RPM	25 RPM/35 RPM
Number of Poles	4
Total Rated Power Pn	7.5KW
Total Rated Current In	26A
Total Fuse Protection	35A

1. Appropriate power receptacle must be available at installation site.
2. The FD 8906B is delivered in two crates. During transport, be aware of the shredder's high center of gravity.
3. The shredder can be moved on its casters. If a fork-lift is used to transport the machine, be sure to use the designated pick-up points.
4. Install the shredder on a flat and even floor without carpeting.
5. Once the shredder is in place, lock the caster brakes, and plug in power cable to appropriate power source.

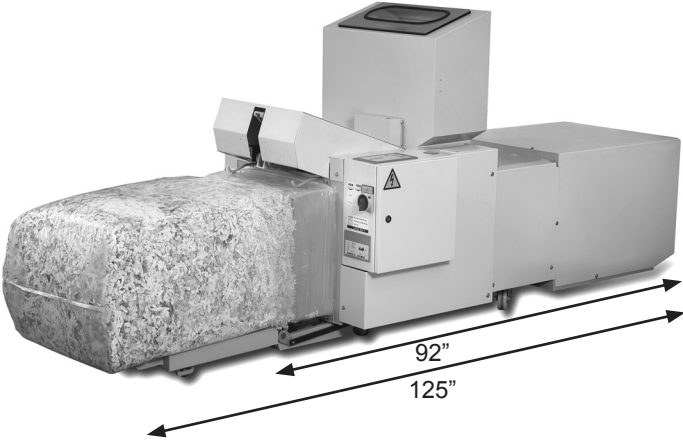
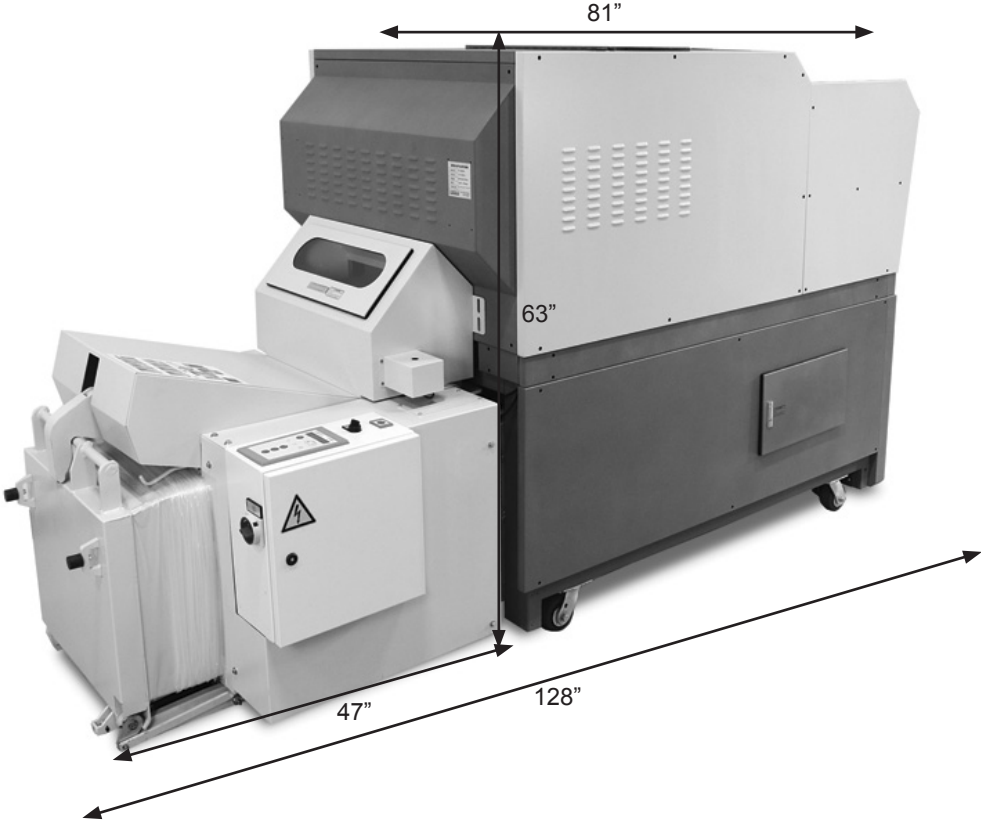


Power Plug

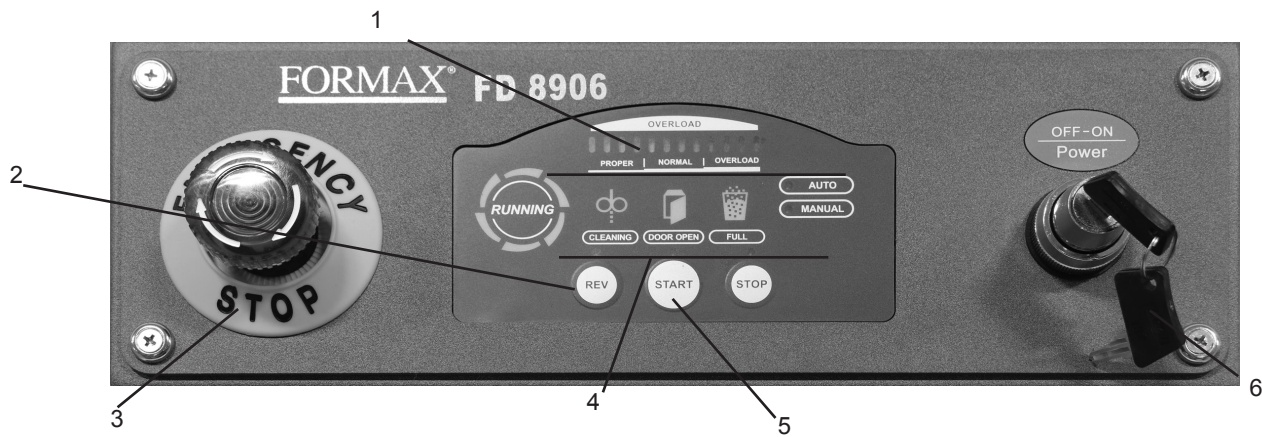
INSTALLATION

Dimensions

Left Side View



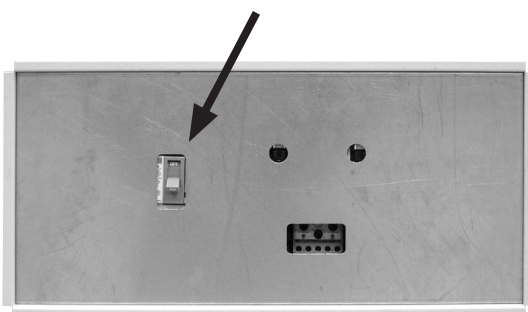
SHREDDER CONTROL PANEL & MAIN POWER SWITCH



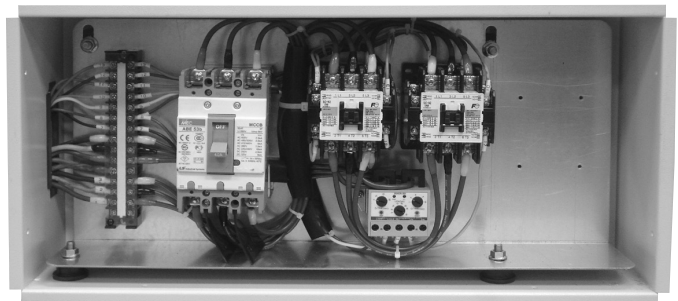
1	LOAD INDICATOR	<i>LED Display</i> - Displays load to provide maximum capacity and avoid paper jams.
2	REVERSE	<i>Blue Touch Pad</i> - Push button to reverse direction of cutting blades.
3	EMERGENCY STOP	<i>Red Push Button</i> - Push button to stop cutting system. Shredder remains in standby mode until Start button is pressed. (Shredder can also be stopped by pressing red Stop touch pad on right of control panel or large orange Safety Bar on front of shredder.)
4	MODE/FULL/OPEN INDICATORS	<i>LED Displays</i> - Lights signify mode (Auto/Manual/Stop/Reverse) and indicate when bin is full or door is open.
5	START A/M	<i>Green Touch Pad</i> - Push once to start Auto Mode: optical sensors cause conveyor and cutting blade to operate. Push twice to choose Manual Mode: conveyor and blades operate continuously.
6	OFF/ON	<i>Key-Operated Toggle Switch</i> - Turn key to right to turn on cutting system.

Main Switch

Main Power Switch

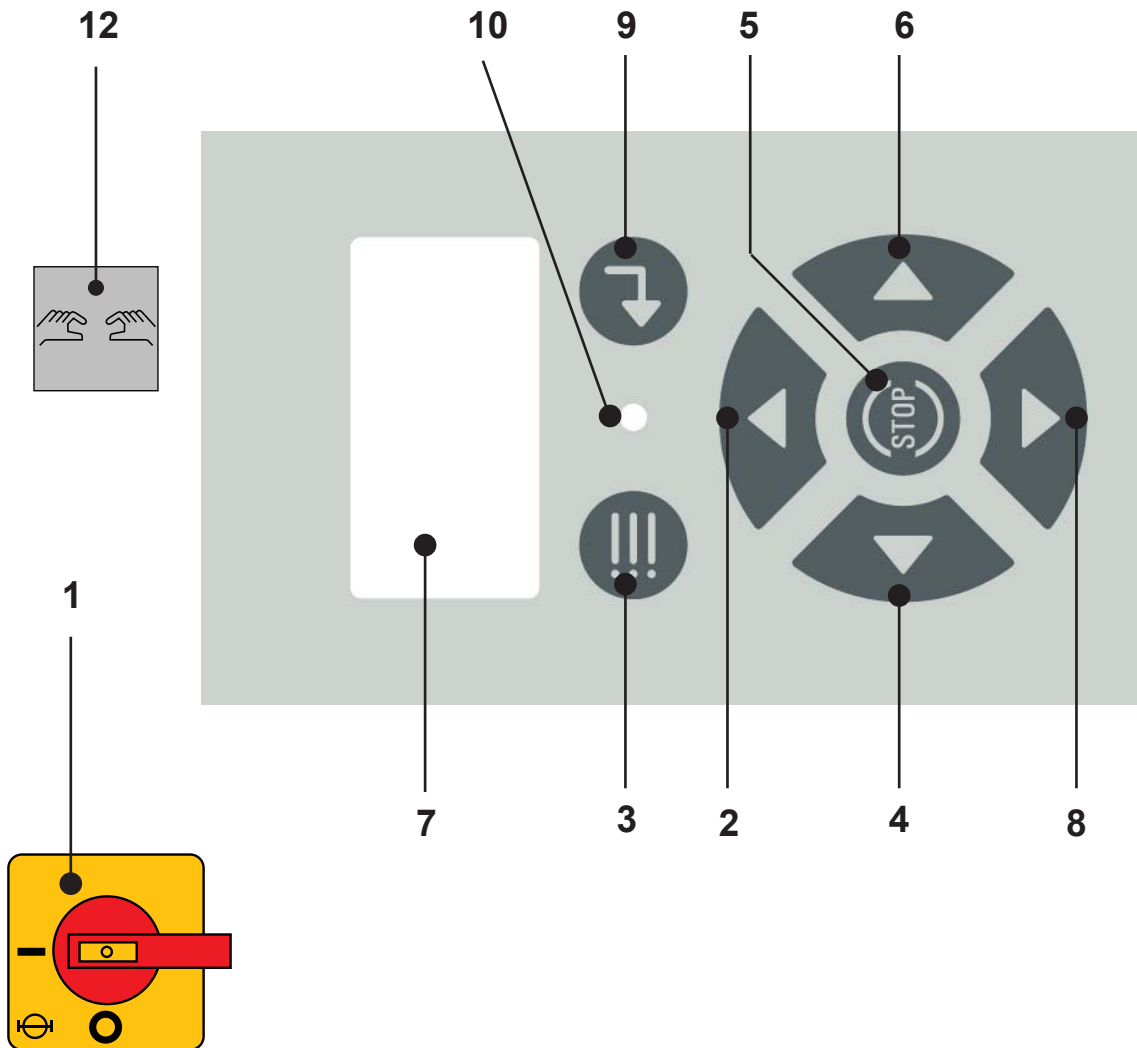


Breaker Panel



Breaker Panel Interior

BALER CONTROL PANEL & MAIN POWER SWITCH



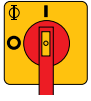
- 1 Main switch
- 2 Vertical navigation
- 3 Menu button
- 4 Horizontal navigation
- 5 Stop button
- 6 Horizontal navigation
- 7 Display
- 8 Vertical navigation
- 9 Enter (input button / acknowledge fault)
- 10 LED (2 colours) green / red

Only in setup mode or during bale ejection:

- 12 Two-hand operation button
- 2 + 12 Open door lock
- 8 + 12 Close door lock

Only with counterplate open:

- 2 + 12 Press ram forwards
- 8 + 12 Press ram back



Main switch

The main switch is on when it is turned 90° to the right.
The main switch can be secured with a padlock when in the “Off” position.

Display

Messages are shown in the display. (-> see also “Malfunctions”)



Menu button

Open the menu.



Enter

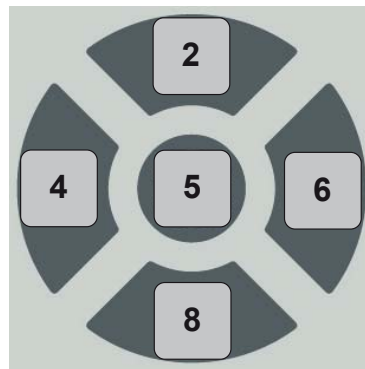
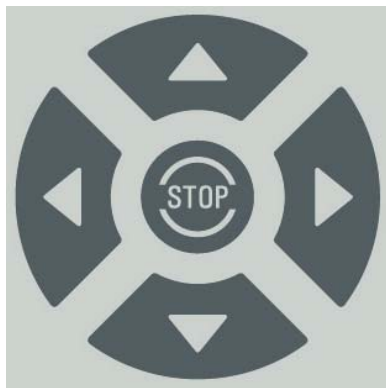
This button confirms the entry.



Control keys ()

These buttons are used for making service settings.

The buttons are assigned in the same way as on a numerical block.



Two-hand operation



Note

Only works if the “Bale ready” symbol is lit up or in setup mode.



Two hand control: Opening the hydraulic door lock (+)

If you press the two buttons at the same time (within 0.6 seconds) the door lock opens. If you let go of one of these buttons, the movement stops.



Two hand control: Closing the hydraulic door lock (+)

If you press the two buttons at the same time (within 0.6 seconds) the door lock closes. If you let go of one of these buttons, the movement stops.



Two hand control: Press ram forward (+)

If you press the two buttons at the same time (within 0.6 seconds), you can move the press ram forward **when the counterplate is open**. If you let go of one of these buttons, the press ram stops.




Two hand control: Press ram reverse (+)

If you press the two buttons at the same time (within 0.6 seconds), you can move the press ram backward **when the counterplate is open**. If you let go of one of these buttons, the press ram stops.

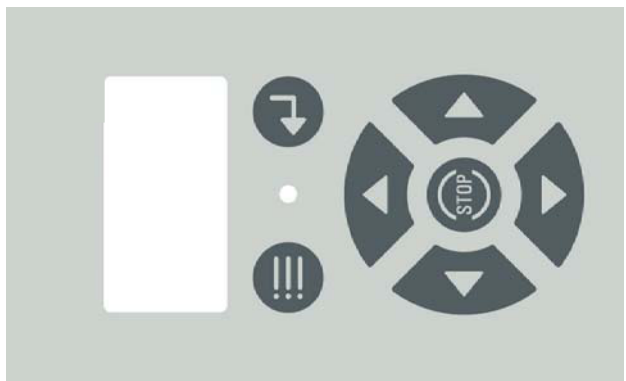




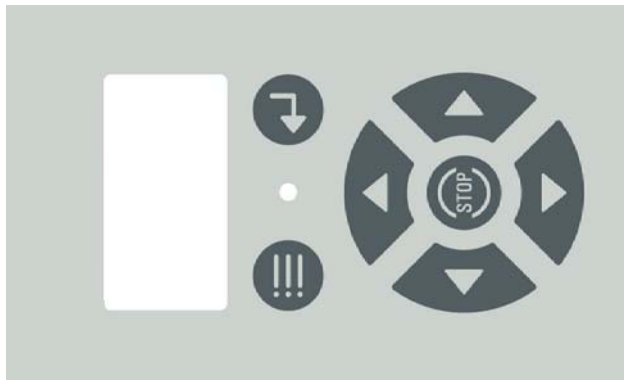





Opening the menu

- Press the  menu button.

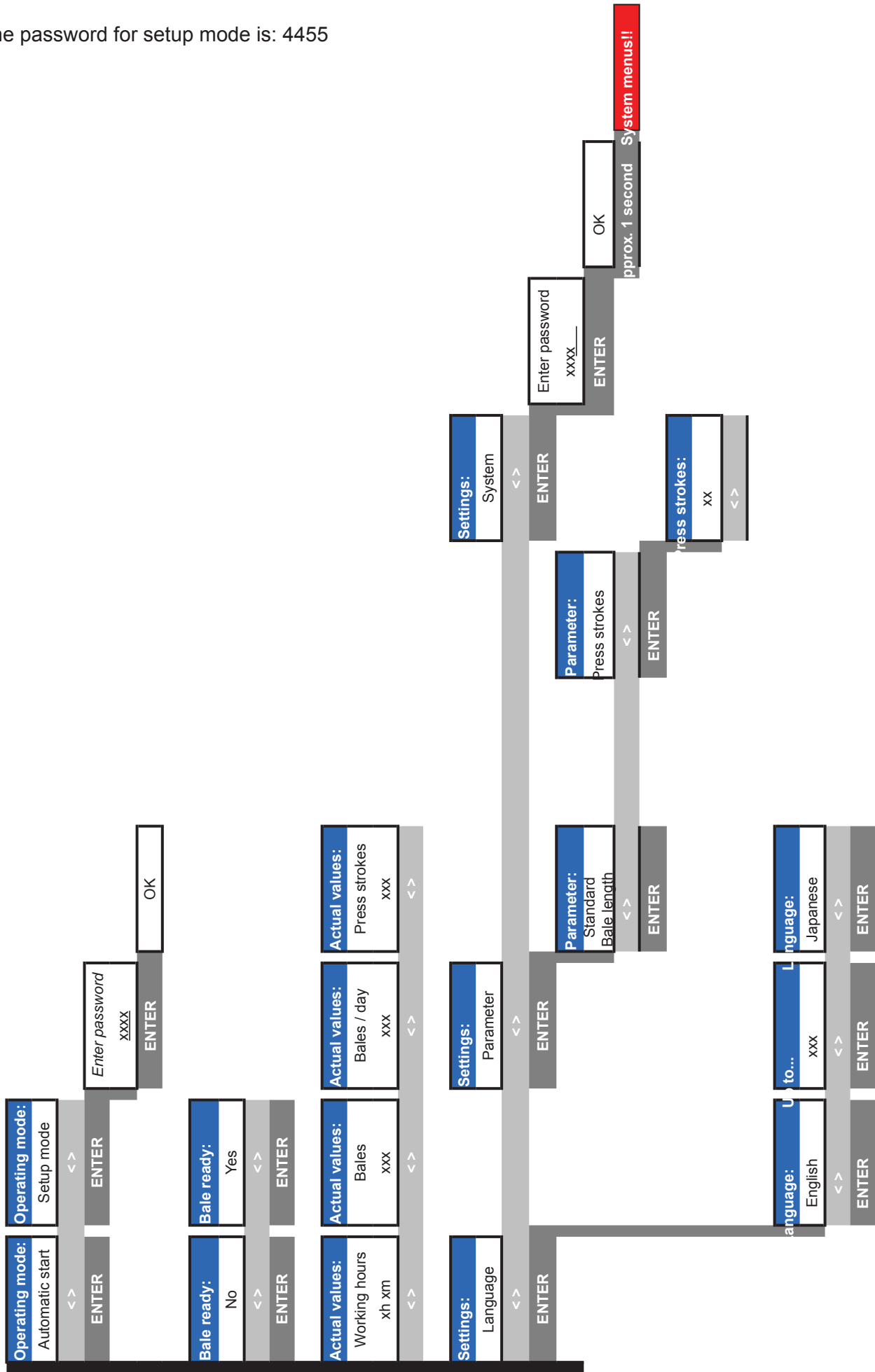
Use the control buttons  to switch between the menu items:

Operating mode - Bale ready - Actual values - Settings - Language - Bale length - Press stroke - System

The System menu is only accessible for HSM service engineers.

<p>Selecting menu items:</p> 	<ul style="list-style-type: none"> • Press the  menu button. • Use the  or  buttons to scroll through the menus. • Press the  Enter button to select the menu item.
<p>Selecting sub-menus:</p> 	<ul style="list-style-type: none"> • You can scroll through the sub-menus using the  and  buttons. • Press the  Enter button to select a sub-menu item.
	<ul style="list-style-type: none"> • This button is only available for Actual values: Bales / Day • Press the  for two seconds to reset the value to zero.

The password for setup mode is: 4455



Selecting the setup mode





Caution!



*In setup mode, certain electrical safety functions are disabled.
Only specially trained staff may operate the machine in setup mode.*

This section is password-protected.



Moving the press ram forwards (button)

If you press the  button, the press ram moves forwards. If you release the  button, the press ram stops.

Moving the press ram backwards (button)

If you press the  button, the press ram moves backwards. If you release the  button, the press ram stops.



1 Opening the press channel

- Select the press channel menu item
- Open the press channel 
- Press the  button to open the press channel.

& **Setting the user language**

The text display can be set to various languages.

Press the  menu button and go to the “**User language**” using the  control keys.

Use the  and  control buttons to scroll to the required language “E”.

Press the Enter button () to save the required language.



Actual values

You can call up the following actual values:

- Working hours
- Bales
- Bales / day
- Press strokes

4 Automatic start operating mode

Automatic start operating mode means:

- KP 80 is switched on and ready for operation.
-  “Automatic start” operating mode has been selected.
- In the display, the  symbol appears.
- The pressing cycle runs automatically as long as the light barrier in the hopper is broken by material to be pressed.


The press ram moves forward and compresses the material. After the compression time has expired, the press ram automatically moves back to the rear limit position.

The motor switches off automatically after a set run-on time.

Once the set bale length has been reached, the “Bale ready” message appears in the display.





Note:



If you press the  menu button twice, the “Automatic Start” switches off immediately.

The press goes into manual mode and the press ram can be moved forwards or backwards.

The automatic start must be reset again each time it is switched on using the main switch!


)**Displaying actual values**

- Press the  button.
- Use the  buttons to switch to the “Actual values” menu item.
- The following actual values can be selected:
- **Operating hours - Bales - Bales / Day - Press stroke**


Actual values:	
Operating hours	<ul style="list-style-type: none"> • The operating hours are shown in hours and minutes.
Bales	<ul style="list-style-type: none"> • Total number of bales is shown. • This value cannot be reset.
Bales / day	<ul style="list-style-type: none"> • Bales per day is shown. • You can reset this value to zero by pressing the  button. • Hold down the  button for two seconds.
Press strokes	<ul style="list-style-type: none"> • Total number of press strokes is shown.

+Settings


Settings:
Language



Language: English	Up to... XXX	Language: Japanese
-----------------------------	------------------------	------------------------------




Parameter:
Press strokes



Press strokes:
xx

- min. 1
- Max. 20



Settings:	
Language	<ul style="list-style-type: none"> • Setting the language
Parameter	<ul style="list-style-type: none"> • The following parameters can be def ned here. • Press strokes
Press strokes	<ul style="list-style-type: none"> • from a minimum of 1 press stroke • to a maximum of 20 press strokes
System	<ul style="list-style-type: none"> • For HSM Service only

Control panel

1 **Display: Baling press not in automatic mode**

This symbol lights up red if the press is not in the automatic mode.

2 **Display: Baling press operating state**

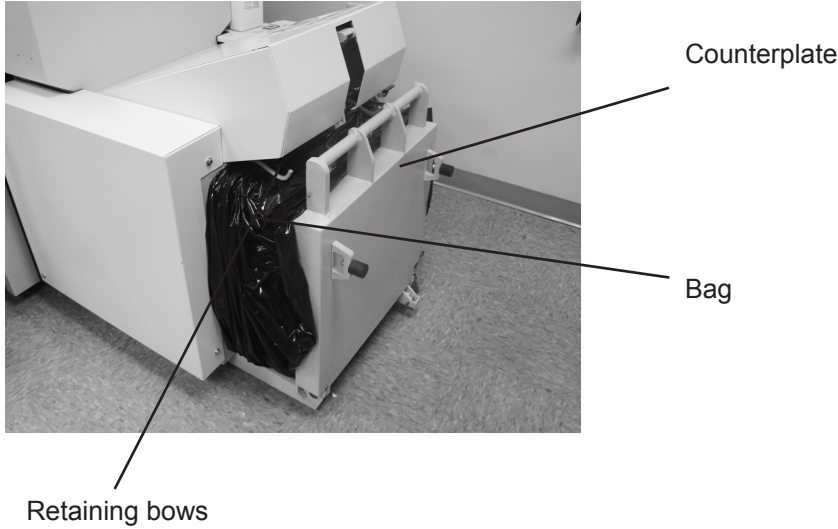
This symbol lights up

green when the baling press is in automatic mode.

yellow when the bale is ready for strapping.

red if a fault occurs in the baling press.

INSTALLING BALER BAG



1. Simultaneously press the +/- keys for approx. 3 seconds
Screen display: Menu Service - Set-up mode
 2. Simultaneously press the +/- keys once more for approx. 3 seconds
Screen display: Attention! - Set-up mode (blinks)
- (See step by step pictures on next page)
3. Open the hydraulic door lock device -
Simultaneously press "Both Hands" Button and "Press Ram Backwards Button"
 4. Grab the counterplate handles with both hands and lower it completely down
 5. Pull the plastic bag over the outlet opening and push it under the 2 retaining bows
 6. Close the counter plate manually
Simultaneously press "Both Hands" Button and "Press Ram Forwards Button"
 7. Close the hydraulic door lock device
 8. Press the "Automatic operation" key on the combination press • the yellow light symbol "Automatic operation" comes up:
Screen display: Automatic operation - starting position

1



2



3



4



5



6



7



8



SHREDDER / BALER OPERATION

1. Set main switches to ON. Turn the shredder Key OFF/ON toggle switch on the control panel to the ON position.
2. Press the START button. The conveyor will begin to move in the forward direction.
3. Place the material to be shredded on the feed table, then slide it onto the infeed conveyor belt, in appropriate stacks. (Up to 650 sheets.)

NOTE: If material is accidentally placed onto the conveyor belt, DO NOT REACH FOR IT. Instead, press the red STOP button (left side of control panel) or the Safety Stop Bar (front of feed table). When the shredder stops, press and hold the REVERSE button. The conveyor will operate in reverse, allowing safer access to the materials. The shredder will stop when the REVERSE button is released. To resume shredding, press STOP button, then the START button.

Turning off the shredder

1. To shut down the shredder, press the STOP button on the control panel.
2. Turn Key OFF/ON toggle switch on the control panel to the OFF position (to the left).
3. Open the electrical control panel door, and flip the main power switch DOWN to the off position.

Overloading the motor

If the shred capacity of the machine is exceeded (too large a stack of paper, etc), the shredder will stop automatically. To resume shredding:

1. Push and hold the REVERSE button until the paper or other material backs completely out of the shredder.
2. Press the red STOP button or the SAFETY BAR on the front of the machine, then divide the materials into smaller stacks.
3. Press the START button. The conveyor and cutting blades will begin to move.
4. Continue shredding, feeding less paper or fewer materials at a time.

Frequent Overloading

If the shredder is repeatedly overloaded, the motor can overheat, which will cause the shredder to switch off automatically. To resume shredding:

1. Allow the motor to cool down for approximately 20 - 30 minutes before using.
2. Once the motor has cooled sufficiently, resume shredding by following standard operating procedure (see Operation).

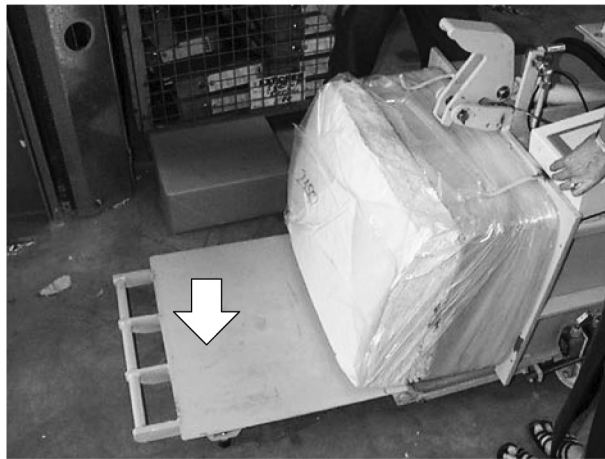


NOTE:

To maintain optimum performance and allow constant operation, avoid repeatedly overloading the shredder. This will prevent time-consuming reversing cycles, and will provide the highest possible throughput.

EJECTING FILLED BALER BAG

1. Put a larger piece of cardboard at the end of the baler so that it will sit under the counterplate.
2. Open the hydraulic door lock device.
3. Grab the counterplate handles with both hands and lower it completely down.



4. Now press both the “Both Hands Button” and “Press Ram Forwards Button”, keep them pressed until the press ram stops automatically.
5. The baler ram moves forwards and pushes the bale into the plastic bag.



6. Take the plastic bag at the bottom of the press and then pull it carefully down from the outlet opening
7. Lift the plastic bag at its opening, so that you can tip over the bale
8. Fold the edges to the middle and seal the bag with adhesive tape



9. Attach a new plastic bag (see section 7.1)
10. Swivel the counter plate upwards again
11. Open the bailer Inspection/ safety over, remove the cardboard underneath the bail and empty the particles that may have fallen out back into the bailer.
12. Lock hydraulic door.
13. Press the “Automatic operation” key on the combination press
 - the “Automatic operation” symbol lights up
 - the press ram moves into starting position
 - the baler is ready for operation again

SHREDDER MAINTENANCE AND INSPECTION



NOTE: The maintenance procedures which follow should be performed only by authorized and trained technicians.

Removing & Reinstalling Side Covers

Side covers are attached by Phillips head screws.

1. To remove covers, insert screwdriver through access holes (Fig. 1), and remove screws. Lift covers off frame hooks.
2. To reinstall, rest panels on hooks, replace screws.



Figure 1

Conveyor Belt Maintenance

- **Checking Belt Tension**
When loaded with material, the conveyor belt must not slip, i.e. stand still when material is loaded. If the belt slips, it must be tightened. Contact the Formax Service Department for assistance.
- **Checking Belt for Wear**
The upper surface of the conveyor belt can become worn over time. The belt must be replaced when the woven fabric inlay becomes visible. Contact the Formax Service Department for assistance.
- **Cleaning the Conveyor Belt area**
The conveyor belt area must be cleaned once a month, or as needed to maintain optimal performance.
 1. Switch off the shredder and unplug from wall outlet.
 2. Remove the covers on both sides, revealing the cleaning openings in the conveyor belt area.
 3. Use compressed air to blow out particles, or a vacuum to remove dirt and dust.
 4. Re-install side covers.

NOTE: Paper clips in the shredded materials may increase the frequency of cleaning necessary, and may become caught in the sides of the belt.

- **Cleaning the Conveyor Belt Tensioning Station**

The tensioning station must be cleaned once a month, or as needed to maintain optimal performance.

1. Switch off the shredder and unplug from wall outlet.
2. Remove the feed table and front panel of tensioning station (Fig. 2).
3. Remove particles and dirt.
4. Re-install the feed table and front panel of tensioning station.

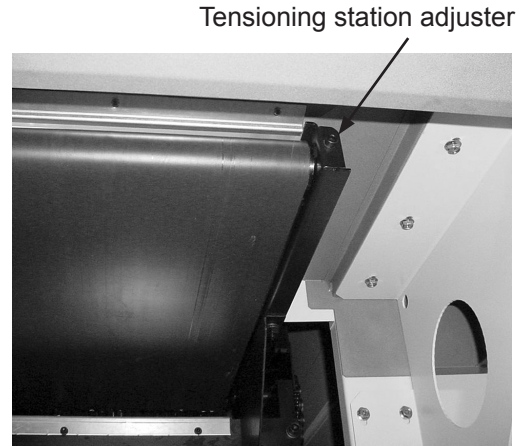


Fig. 2 Underside View of Feed Table and Infeed Conveyor

- **Checking the Cutting Head Chain Tension**

Check the chain tension once every week in the first month, then once a month thereafter.

1. Switch off the shredder and unplug from wall outlet.
2. Remove the top right side cover.
3. The sagging of the chain (see Fig. 3) should be 9 - 14 mm, measured from the top inside of the frame to the cutting head chain.
If it is not within this range, loosen the tension screws until the sagging reaches the correct level. Retighten the tension nuts.
4. Replace the side cover, plug in the shredder.



NOTE:

Excessive tensioning of the chain can cause premature wear of the chain and bearings. The smallest allowed chain sagging in the first month of operation is 5 mm. After that, 9 mm.

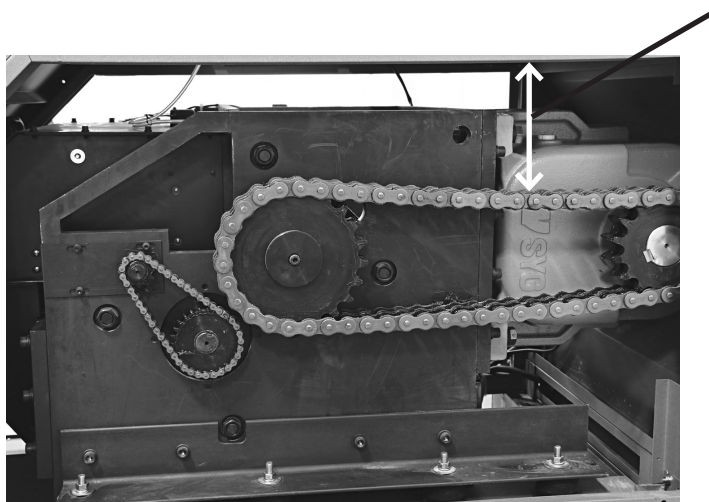
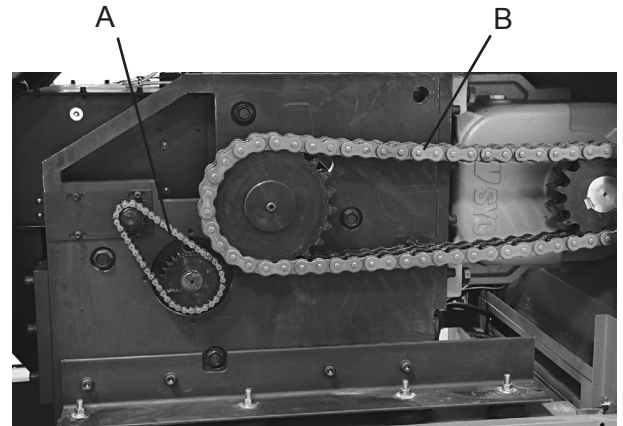


Fig. 3

Lubricating Shredder Mechanisms

- Drive Chains: The drive chains should be checked during PMs, and greased as needed.

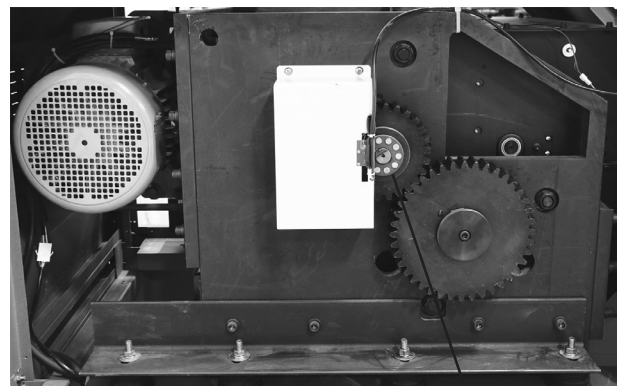
1. Switch off the shredder and unplug from wall outlet.
2. Remove both top side covers.
3. Grease the cutting system conveyor belt drive chain (A) and the motor cutting system drive chain (B).
4. Replace side covers and plug in shredder.



Right Side

- Synchronizing Wheels:

1. Switch off the shredder and unplug from wall outlet.
2. Remove left top side cover.
3. Remove the gear cover.
4. Grease the synchronizing toothed wheel (C).
5. Replace covers and plug in shredder.



Left Side

C

Exterior cleaning

- Turn shredder off and unplug from wall outlet.
- Wipe the exterior surfaces with a soft cloth. If the surfaces are very dirty, use a neutral detergent, then wipe again with a soft cloth.

CAUTION:

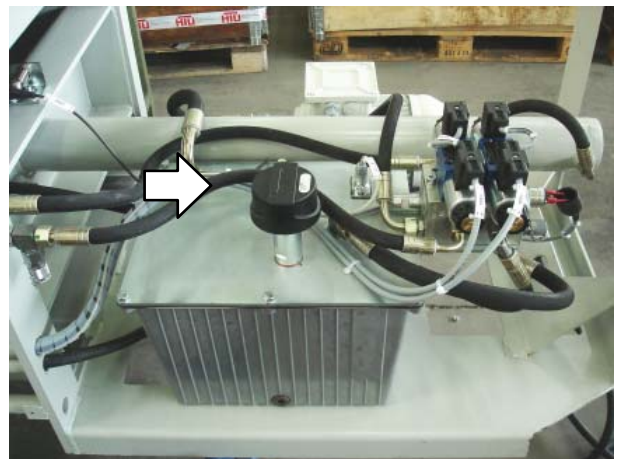
- Never put water directly on the surface of the shredder.
- Never clean the case with benzene or thinner, since it will cause discoloration.

BALER A5 BH9 B5 7 9

Changing the hydraulic fluid/ventilation filter

Change the hydraulic oil and venting filter **every 2 years**

- Move the press ram to its rear limit position
- Turn off the main switch and pull the red CEE plug out
- Remove the cover (H)



Ventilation filter
Order no. 6.116.195.090



- Remove the lid of the tank and drain off the oil with a fluid suction unit
- The capacity of the hydraulic oil tank is 20 l
- If the tank is very dirty, clean it
- Put the lid back on again
- Fill up with oil until the oil level is between the two notches on the oil level dipstick

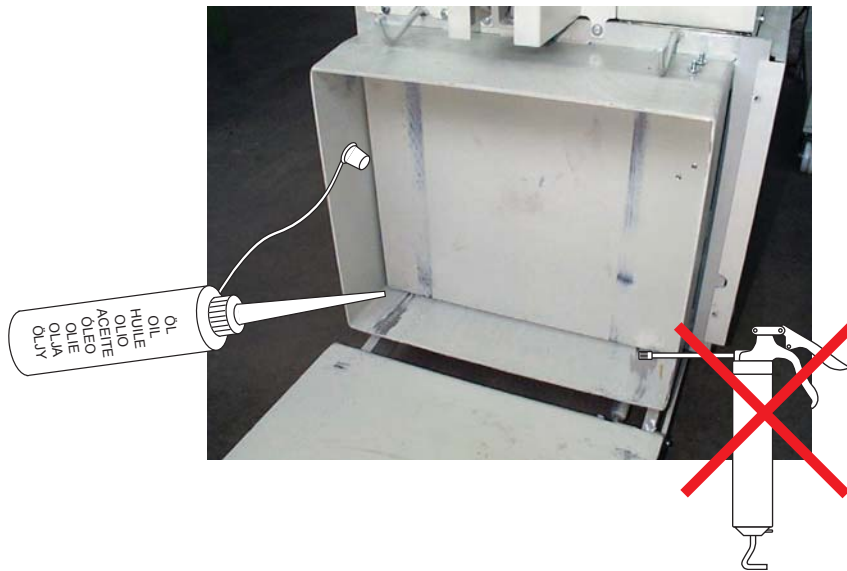
Oil type:

- Multigrade oil according to DIN 51524-T3 viscosity class HVI 32
- Move the press ram forwards and backwards several times and check the oil level again with the press ram in its front limit position
- Top up with more oil if required
- Screw in a new ventilation filter
- Fit the cover (H) back on again

Lubricating the movable parts

The press ram guidance (black plastic block) is maintenance-free.
Do not lubricate the track in the press chamber!

- If grinding or buzzing sounds occur, then apply a drop of biodegradable lubricating oil on the bare tracks on the bottom of the press chamber.
- Replace the plastic blocks on the press ram guidance every 2 years.
- Consult our HSM customer service about this.



- Lubricate all movable parts and hinges as required, especially the door hinges and the bearings of the door locks with multi-purpose grease or a universal lubricating oil.

TROUBLESHOOTING

If an error/ malfunction occurs in the bailer, the red light fault symbol is displayed. The baler switches off and a corresponding error message is displayed, see list. The malfunction numbers appear in the error memory.

Malfunction codes		
Code	Description	Action
1000	Phase is missing / mains input	Electrician! Check onsite fuses.
1010	Incorrect connection of phases / Wrong direct. of rotation	Electrician! Check rotatory field
1100	Oil temperature too high	Let oil cool down
1110	Sensing device for oil temperature defective	Change sensing device - Contact Service
1200	Motor protective switch has swapped.	Let motor cool down.
1211	Emergency-off is actuated	Reset emergency-off pushbutton
1221	Hopper is open	Close inspection flap
1231	Switch for Counter plate closed" defective "	Switch / Switching mechanism -> Contact service
1232	Counter plate not closed	Close counter plate
1241	Limit switch Counter plate 90° open" defective "	Switch / Switching mechanism -> Contact service
1271	Supervising time Extend press ram" "	Contact service
1272	Supervising time Retract press ram" "	Contact service
1280	Counter plate not locked (induct. switch 0 signal)	Electrician! -> Contact Service
1281	Inductive switch counter plate (no signal change while opening)	Switch / Switching mechanism -> Contact service
1300	Hardware defective	Electrician! Contact service
1310	Short circuit output Master	Electrician! Contact service
1320	Short circuit output Slave	Electrician! Contact service