

FORMAX[®]

Shredder w/ Baler
FD 8904B Cross-Cut

Machine Specs	
Model: FD 8904B	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 Guarantee claims and inquiries cannot be processed if you do not quote the machine number.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 8904B 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 8904B 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 8904B 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 8904B 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 8904B 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 8904B. 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:

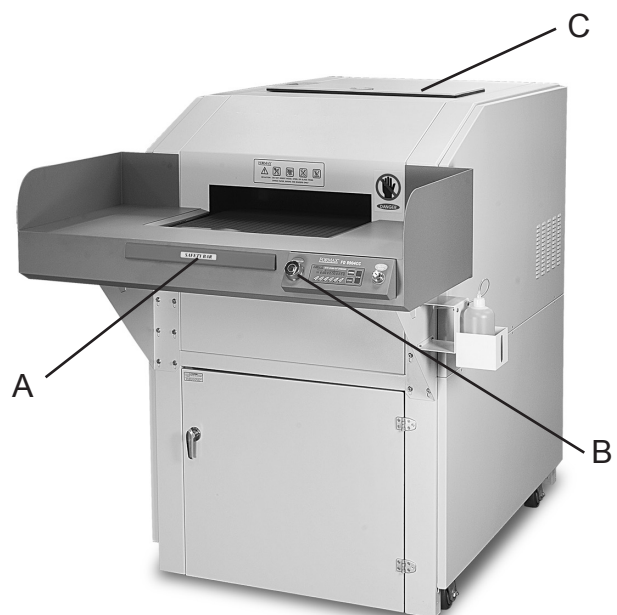
The shredder must switch off immediately when you press the **Safety Bar** and the Emergency Stop Light (B) must go on.

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.

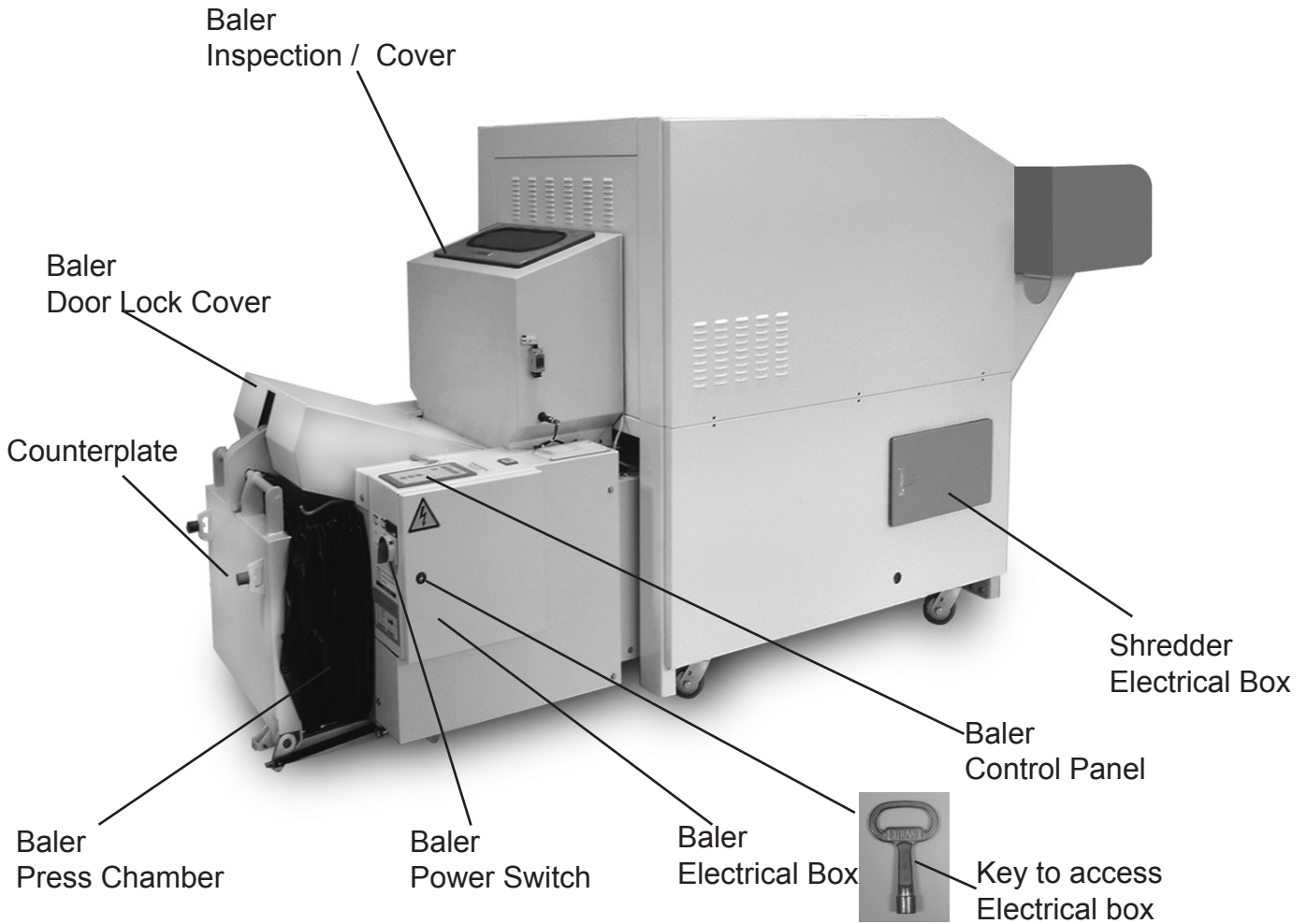
The shredder must switch off immediately when the door is opened, and the Emergency Stop Light must go on.



General Overview



Front View



MACHINE SPECIFICATIONS

Machine designation: FD 8904B

Machine type: conveyor-belt paper shredder and Baler FD 8904B

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

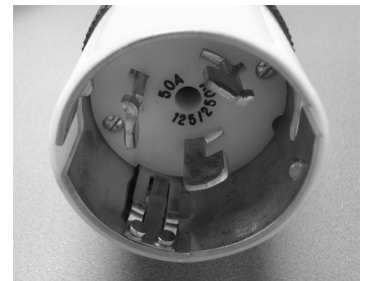
Cutting Data, Speed, Dimensions, Weight

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 8904B 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.

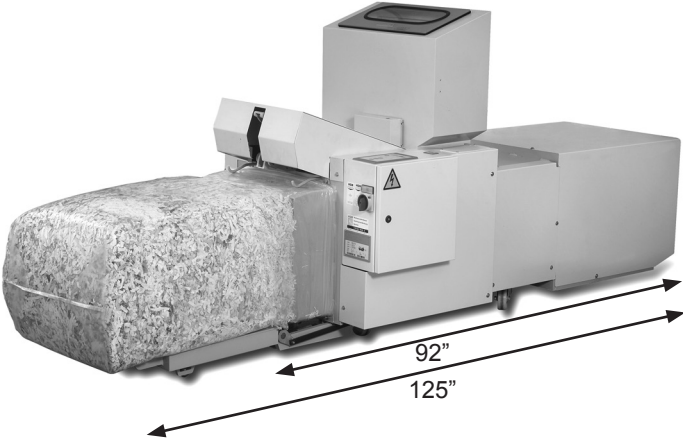
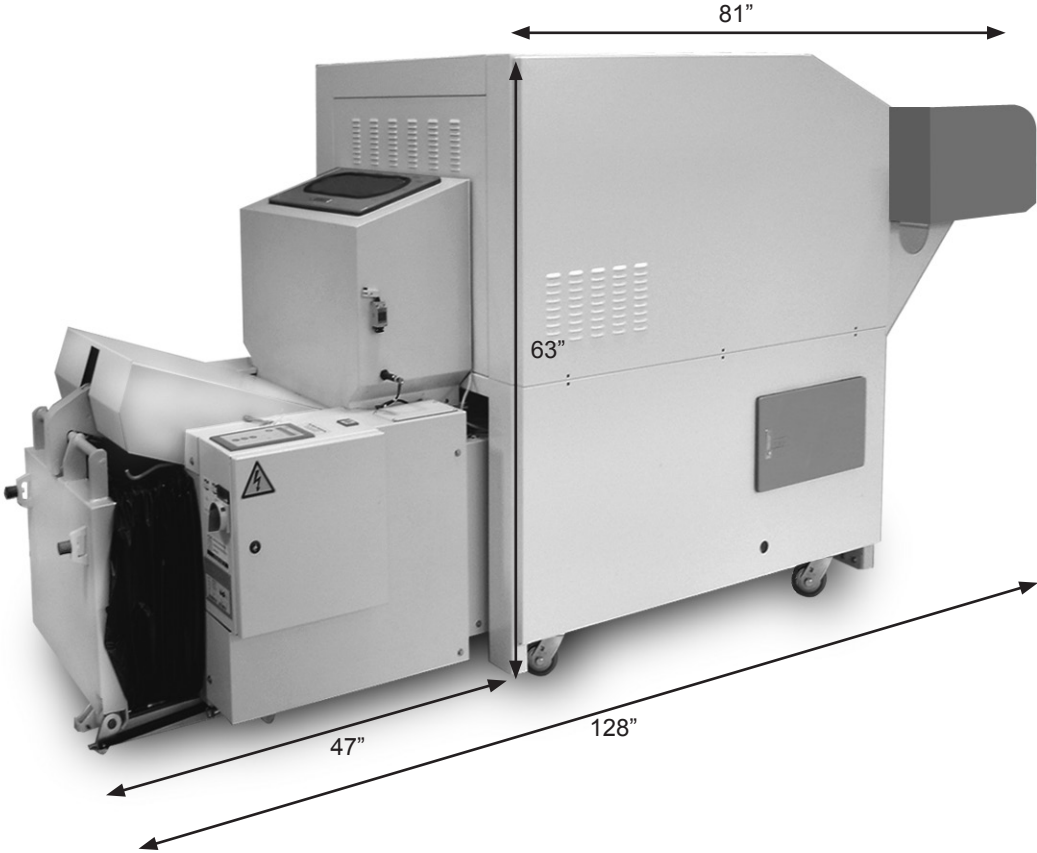


Power Plug

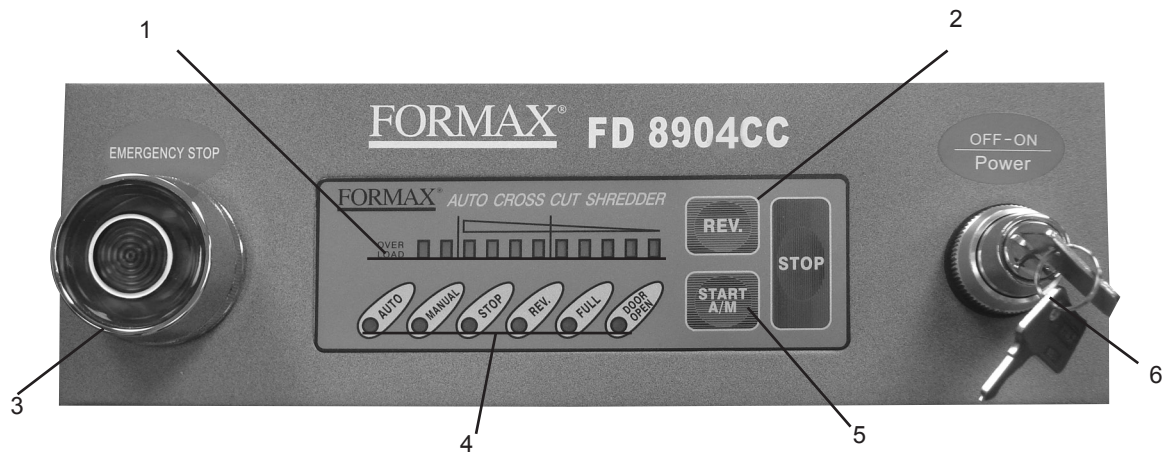
INSTALLATION

Dimensions

Left Side View



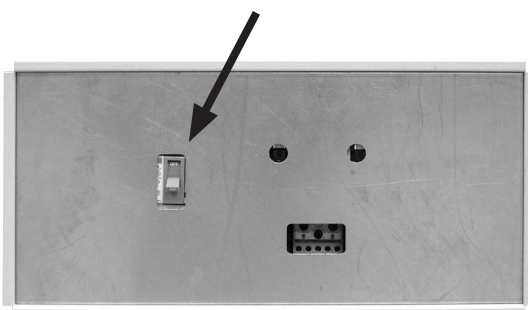
SHREDDER CONTROL PANEL & MAIN POWER SWITCH



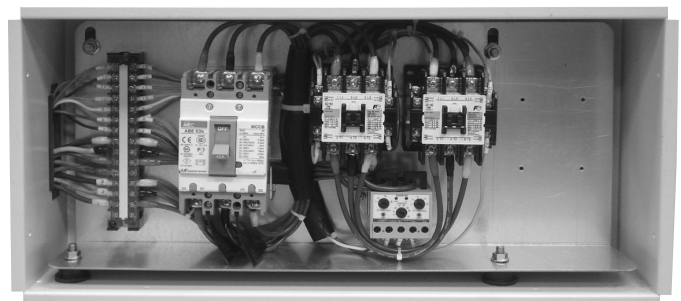
1	LOAD INDICATOR	<i>LED Display</i> - Displays load to provide maximum capacity and avoid paper jams.
2	REVERSE	<i>Blue Touch Pad</i> - Push button to reverse direction of cutting blades.
3	EMERGENCY STOP	<i>Red Push Button</i> - Push button to stop cutting system. Shredder remains in standby mode until 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

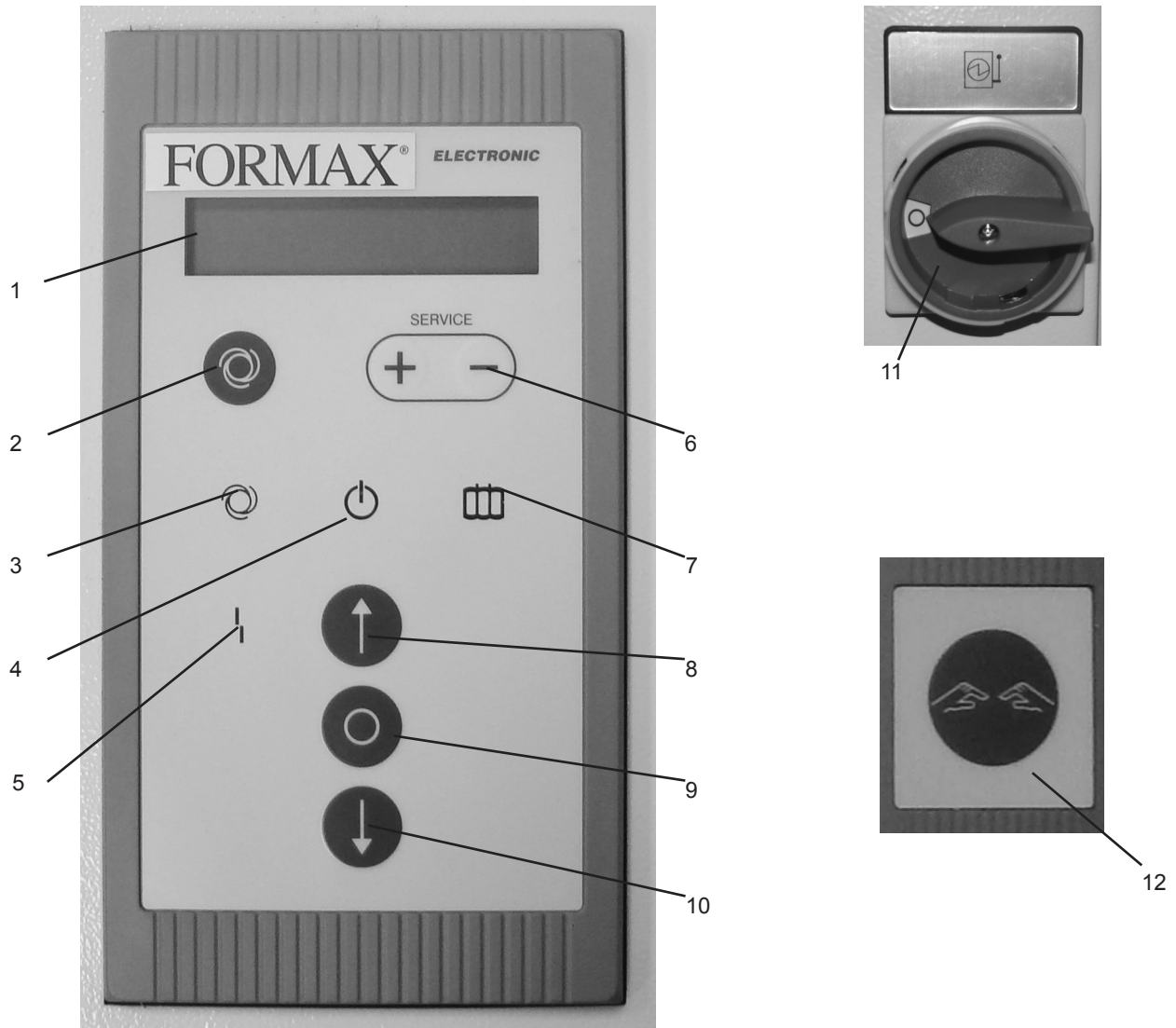


Breaker Panel



Breaker Panel Interior

BALER CONTROL PANEL & MAIN POWER SWITCH



1	Screen Display
2	Automatic Operation Button
3	Automatic Operation Light Indicator
4	Standby Light Indicator
5	Fault Light Indicator
6	Menu Selection - Scroll Up (+) Scroll Down (-)
7	Bale Finished Light Indicator
8	Press Ram Backwards Button
9	Press Ram Stop Button
10	Press Ram Forward Button
11	Main Power Switch
12	Two Hand Operation Button

(See next page for descriptions)

1 Screen Display - On the display are shown the running states and the error messages.

2 Automatic Operation Button: When this soft-key is pressed, the press ram is switched into automatic operation. By repressing this key, automatic operation is stopped.

3 Automatic Operation Light Indicator: This yellow light symbol lights up when the automatic operation is switched on.

4 Standby Light Indicator: This green light symbol lights up when the main switch is switched on and under power. The light symbol is flashing in set-up mode.

5 Fault Light Indicator: This red symbol lights up when there is any malfunction on the Baler. (-> see pg 18 "Malfunction Codes"). Operation cannot be started as long as this message is displayed.

6 Menu Selection - Scroll Up (+) Scroll Down (-): Press these buttons to scroll through menu options. Pressing the +/- keys simultaneously for approx. 3 seconds to access service and sub menus.

7 Bale Finished Light Indicator: This blue symbol lights up when a bale has reached a certain size. The press ram moves into a balance position. Baler press and paper shredder are switched off. Screen displays: "Bale finished Two-handed operation". The message "Bale finished" is displayed until the bale is ejected and the door lock is closed again. Screen displays: "Manual operation No. of bales: xxx (= daily bale counter)"

8 Press Ram Backwards Button: When pressed, press ram returns into its rear end position.

9 Press Ram Stop Button: Stops the press ram in any position.

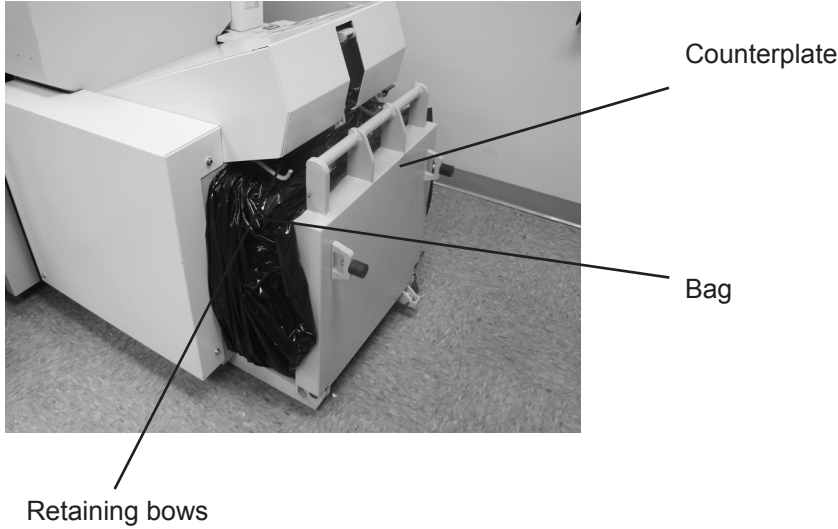
10 Press Ram Forward Button: The compression process starts when pressed. The press ram moves forwards and compresses the material. The press ram automatically returns to its rear end position after pressing time expires.

11 Main Power Switch: When turned 90° clockwise, the main switch is on. The main switch can be locked in the "Off" position with a padlock.

12 Two Hand Operation Button: Used in combination with Backwards and Forwards press ram buttons to perform the following functions -

- Open Door Lock - Simultaneously press the Press Ram Backwards Button and Two Hand Operation Button
- Close Door Lock - Simultaneously press the Press Ram Forwards Button and Two Hand Operation Button
- Press Ram Forwards -With the counter plate lowered, simultaneously press the Press Ram Backwards Button and Two Hand Operation Button
- Press Ram Backwards - With the counter plate lowered, simultaneously press the Press Ram Forwards Button and Two Hand Operation Button

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 bailer 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

MAINTENANCE AND INSPECTION



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

Removing & Reinstalling Shredder Side Covers

Side covers are each attached by three 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.



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. 1).
3. Remove particles and dirt.
4. Re-install the feed table and front panel of tensioning station.

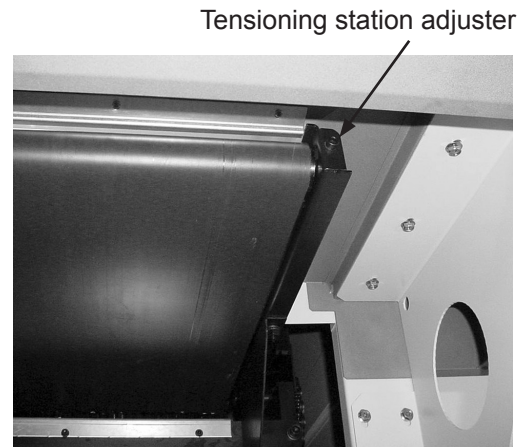


Fig. 1 Underside View of Feed Table and Infeed Conveyor

- **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. 2) 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.

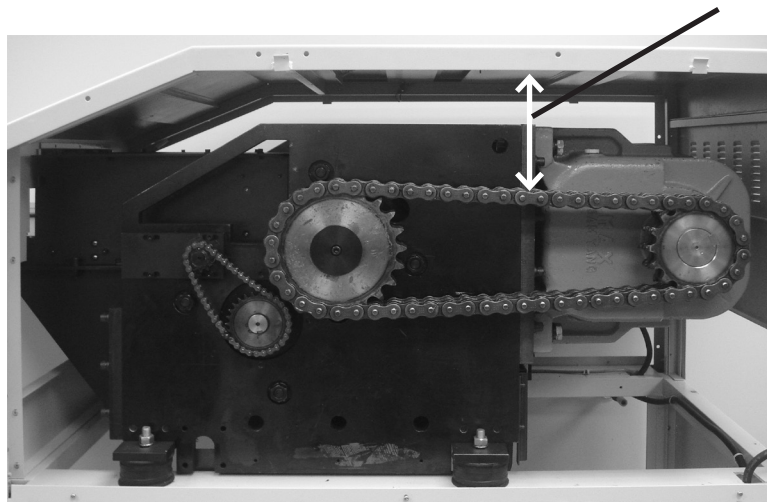


Fig. 2

Lubricating Shredder Mechanisms

- Cutting System:

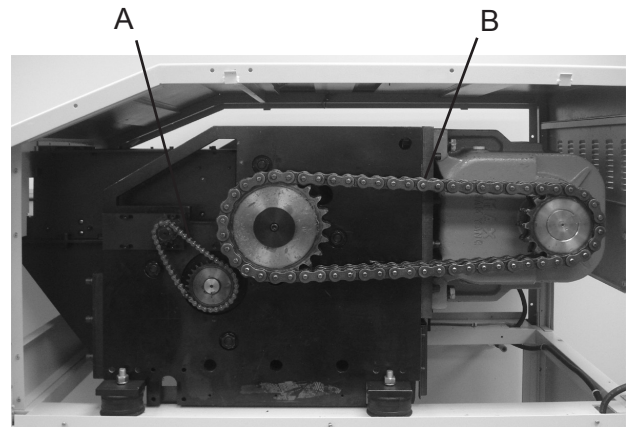
The cutting system should be oiled as needed for optimal performance.

1. Open the Cutting Block Access Door on the top of the shredder. Press latch and the handle will spin around. Pull up on the handle.
2. Spray special cutting block oil through the paper inlet, onto the cutter rolls.
3. Close the Access Door and press the START button on the control panel.
4. Run the cutting system forward and backward several times, *without feeding paper*. This will help to remove paper shreds and particles.

- Drive Chains:

The drive chains should be checked during PMs, and greased as needed.

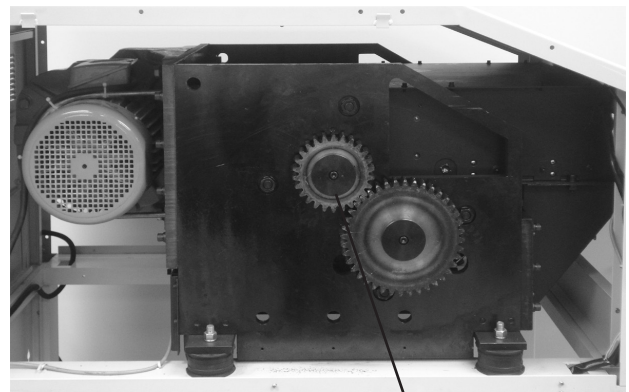
1. Switch off the shredder and unplug from wall outlet.
2. Remove both top side covers.
3. Grease the cutting system conveyor belt drive chain (A) and the motor cutting system drive chain (B).
4. Replace side covers and plug in shredder.



Right Side

- Synchronizing Wheels:

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



Left Side

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:

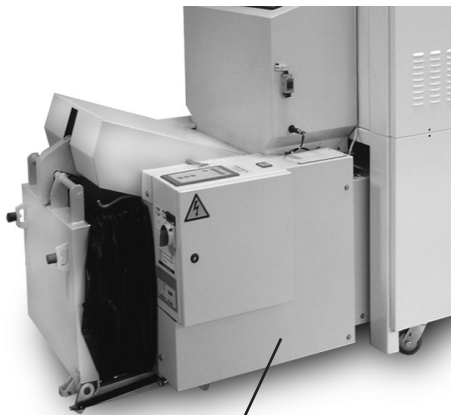
- Never put water directly on the surface of the shredder.
- Never clean the case with benzene or thinner, since it will cause discoloration.

BALER OIL LEVEL / VENTING LID

1. Move the press ram into its rear end position.
2. Switch the main switch off.
3. Unscrew the rear cover and the venting lid.
4. Check the oil level on the oil dipstick of the venting lid. The oil level must be between the two notches on the oil dipstick.
5. If the oil level is below the bottom notch, replenish oil via the opening for the venting lid (Figure 4).

Maintenance interval: Replace venting filter every 2 years.

6. Screw the venting lid back on again.
7. Screw the rear cover back on again.



Remove rear cover to access oil basin.

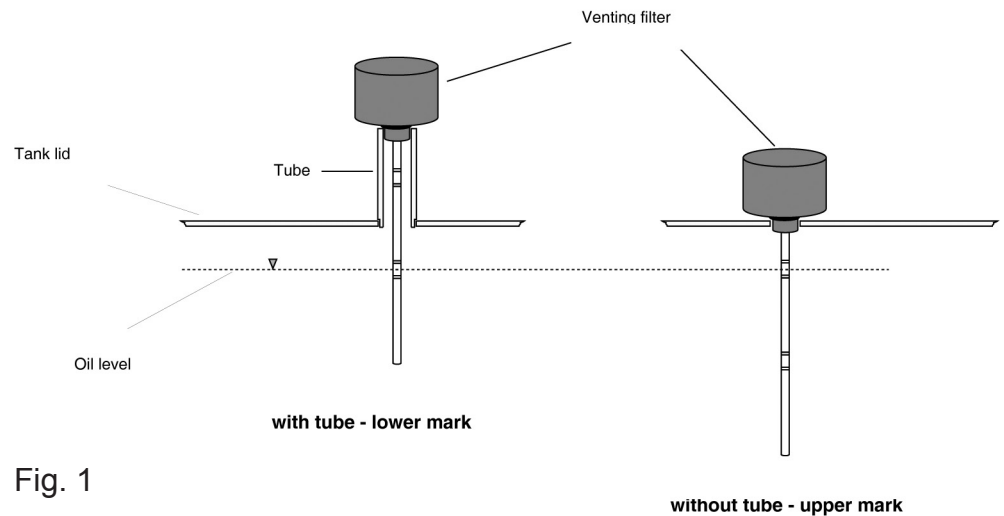
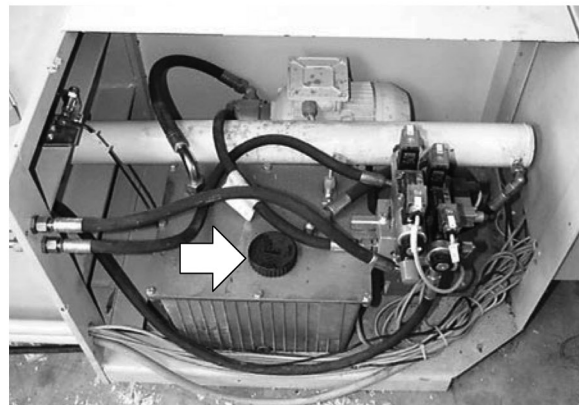


Fig. 1

TROUBLESHOOTING

If an error/ malfunction occurs in the baler, 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

