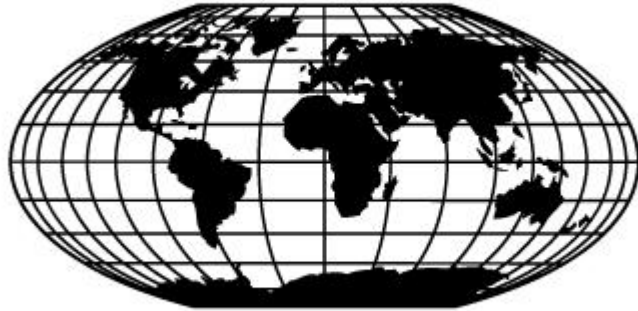


Instruction Manual for Auto Band Slicer ABS3000

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International Bakery Equipment Pty. Ltd.

# INSTRUCTION MANUAL



**Auto Band Slicer  
Model: ABS3000**

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# **Instruction Manual for Auto Band Slicer ABS3000**

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## **1.0 GENERAL INFORMATION**

### **1.1 Documentation Supplied**

- Instruction manual
- Electrical diagram
- Installation instructions

### **1.2 Contact Details**

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### **1.3 Intellectual Property Rights**

This manual contains copyright information. All rights are reserved. No part of this manual can be reproduced or photocopied without prior written permission of International Bakery Equipment Pty Ltd. Permission to use this documentation has only been given to the customer who this manual has been supplied as part of the machine's equipment and only for the purpose of installation, operation and maintenance of the machine to which the manual refers.

International Bakery Equipment Pty Ltd declares that the information contained herein is in accordance with the technical and safety specifications of the machine to which the manual refers. International Bakery Equipment Pty Ltd will not be held responsible for direct or indirect damage or injury to people or objects resulting from the misuse of this documentation or the machine for which it has been intended.

The manufacturer reserves the right to introduce technical modifications or improvements both to the documentation and to the machines without prior notice. The information contained herein refers in particular to the machine specified on the front cover of this document.

## **1.4 Warranty Terms and Conditions**

- Warranty becomes effective from date of delivery.
- Warranty claims may be made by telephone, letter, email or fax.  
However all verbal claims must be confirmed in writing. I.B.E. Pty Ltd Reserves the right to require return of all claimed defective parts.
- I.B.E. Pty Ltd will ship the part(s) in an expeditious manner as requested.
- Mechanical and Electrical parts are warranted for a period of 12 months from date of delivery.
- During the first 12 months, I.B.E. Pty Ltd will reimburse the Authorized Agent or Purchaser for the cost of reasonable labour during normal working hours, 8.00a.m. – 5.00p.m., to remove the failed part(s) and install the replacement(s). After 12 months all charges will be the Purchasers responsibility.
- After the initial 12 months warranty, any replacement parts are warranted for 3 months excluding labour.
- This Warranty may not be changed or modified and is not subject to any other Warranty expressed or implied by any other Agent, Dealer or Distributor unless approved in writing by I.B.E. Pty Ltd in advance of any claim being filed. This Warranty gives you specific legal rights which vary from State to State.

**Note:**

I.B.E. Pty Ltd reserves the right to make the final decision on all Warranty coverage questions. The decision of the Company is final.

### What is covered under this Warranty:

- Parts that fail due to defects in material workmanship.
- Parts that fail due to faulty assembly by I.B.E. Pty Ltd
- Parts that fail due to improper set-up by I.B.E. Pty Ltd

### What is not covered under this Warranty:

- Parts that fail due to improper usage or overloading of the machine.
- Parts that fail due to lack of maintenance.
- Parts that fail due to abuse, misuse or modification.
- Mixer attachments - Bowl, whisk, beater and/or hook.
- Normal wear parts, such as, Conveyor belts, 'v' belts, 'o' rings and scraper and slicer blades. The Warranty on these parts is, they will be in satisfactory operating condition at time of delivery and initial start-up. Claims in such parts must be made immediately.
- Loss of time, potential revenue and/or profits.
- Personal injury or property damage resulting from the operation of the machine.

### **2.0 Conditions**

- Read carefully all the safety precautions.
- Before starting, familiarize yourself with the operation of the equipment.
- Successful and safe use of this machine depends on the correct: installation, commissioning, operation and maintenance.
- This machine works on 380-415 V (3 phases + N + E) alternating voltage and contains parts with electrical connection.
- Only personnel with appropriate qualifications should work with this equipment.
- Installation and preparing of this equipment should only be executed by persons with the right qualifications.  
This persons must be acquainted with all the warnings and operating procedures described in this manual.

### **2.1 Safety Precepts**

- Make sure that the location selected for the equipment is safe, protected from moisture and splash and drip-proof.
- Children and the general public must be prevented from accessing or approaching the equipment.
- This equipment may only be used for the purpose specified by the manufacturer.
- Unauthorized modifications and the use of spare parts or accessories that are not sold or recommended by the manufacturer of the equipment are not permitted.
- Keep this manual within easy reach and give it to all users.

## **2.2 Definitions**

### **\*\*\*\*\*QUALIFIED PERSONS\*\*\*\*\***

For the purpose of this manual:

A qualified person is someone who is familiar with the installation, construction, operation and maintenance of the equipment and with hazards involved.

In addition, the person must be trained and authorized.

### **\*\*\*\*\*DANGER\*\*\*\*\***

For the purpose of this manual:

Danger indicates that loss of life, severe personal injury or substantial property damage will result if proper precautions are not taken.

### **\*\*\*\*\*WARNING\*\*\*\*\***

For the purpose of this manual:

Warning indicates that loss of life, severe personal injury or substantial property damage can result if proper precautions are not taken.

### **\*\*\*\*\*CAUTION\*\*\*\*\***

For the purpose of this manual:

Caution indicates that minor personnel or property damage can result if proper precautions are not taken.

### **\*\*\*\*\*NOTE\*\*\*\*\***

For the purpose of this manual:

Notes merely call attention to information that is especially significant in understanding and operating the machine.

### **3.0 Characteristics & Features**

#### ***MACHINE TYPE: BAND SLICER***

##### **3.1 CONNECTION CONDITIONS**

- Voltage 380 – 415V (3Phase + N +E)
- Power 2.31 kW

##### **3.2 MACHINE SPECIFICATIONS**

- Dimensions (Approx.) L-2800mm, W-700mm, H-1950mm
- Weight (Approx.) 650kg
- Production speed MAX 40/min
- Slice thickness slicer 12mm

##### **3.3 PRODUCT DIMENSIONS**

- Product size Length –140 – 320 mm  
Width –80 – 200 mm  
Height –70 –170mm

##### **3.4 CLIMATE SPECIFICATIONS**

- Temperature environment 0 – 55<sup>0</sup> C
- Air humidity RH 20 – 90%

**NOTE :** Machine design and specification are subjected to change without prior notice.



## **3.5 General:**

### **3.5.1 Product Description of Band Slicer**

The Band Slicer is suitable for slicing bread loaves into slices with specified width, except those bread loaves with fruit/raisins and soft wet bread loaves. The Band Slicer is not suitable for other applications.

### **3.5.2 Working Description of Band Slicer**

An unsliced bread loaf is placed manually on the bottom infeed belt of the slicer. This belt transports the bread between the two sidebelts which pushes the product towards the blades. Once the product is pushed into the band blades, these will pull the product through.

\*Optional if the Band Slicer works together with a Bag Loader

After slicing, the bread comes on the synchronizer to get transported one by one to the Bag Loader. The slices are automatically pushed and packed into a bag

## **3.6 INSTALLATION SLICER**

### **3.6.1 Conditions**

\*\*\*\*\*WARNING\*\*\*\*\*

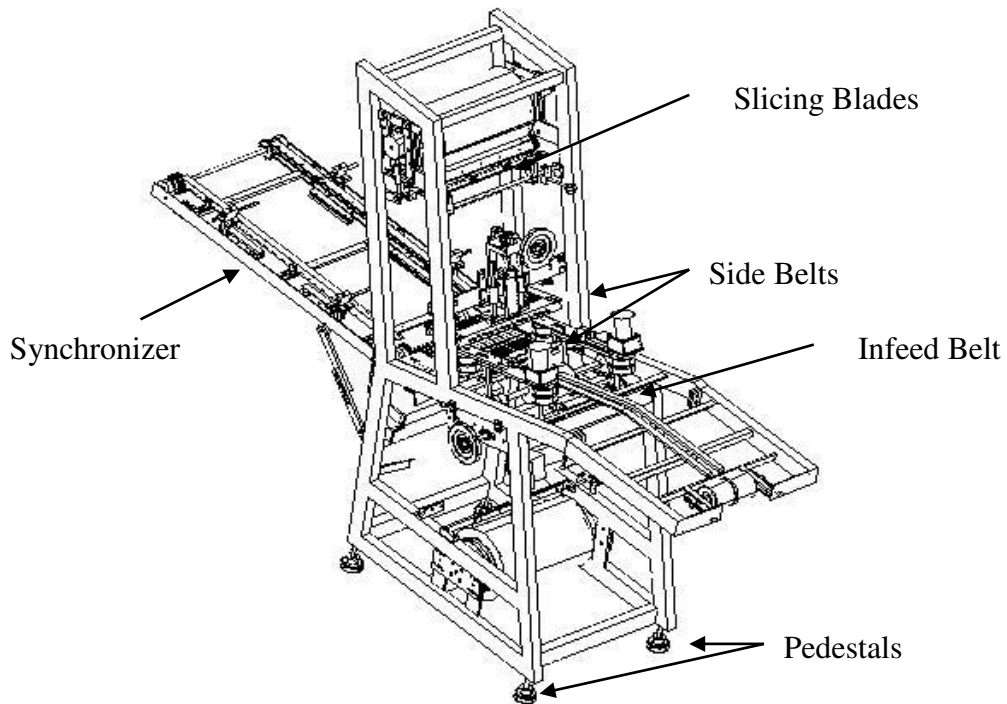
- This machine can only be installed by a qualified person.
- For ease of delivery and to prevent damages during transportation, certain parts of the machine can be removed or fastened. (top belt, connection cables, hand wheels, mounted parts)
- Make sure the machine is protected from moisture and splash and drip-proof.
- Make sure the slicer blades turn at the right direction of rotation.  
Steps and procedures to check and change the blades will be described further in coming chapter.
- Make sure the feeding direction of the infeed belts and the synchronizer of the bag loader (if any).

\*\*\*\*\*NOTE\*\*\*\*\*

- The machine is always delivered with the correct voltage as stated in the specification.
- If the Band Slicer works together with a Bag Loader, install the Bag Loader first. This because the synchronizer is driven by the Bag Loader.
- Read the chapter 3 “Operation” before installation.

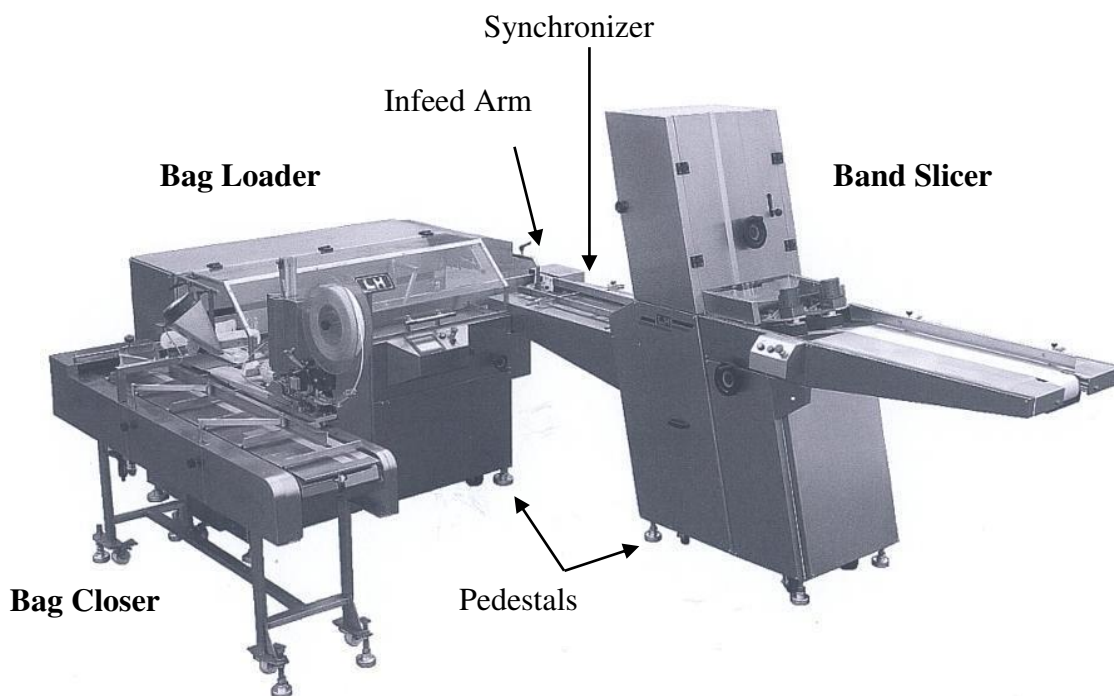
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### 3.6.2 Installation



- When the slicer and synchronizer are standing in position, level them at the correct working height. Make sure that the pedestals make good contact to the floor and the lock-nuts are well tightened. This promises a vibration free operation.

In case the Band Slicer is delivered together with a Bag Loader.



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- When the band slicer operates together with a Bag Loader, place the synchronizer in the center of the infeed arm of the Bag Loader. The synchronizer is driven by the Bag Loader.
- Mount the synchronizer with the two supports against the Bag Loader.  
The height of the bottom plate synchronizer with respect to the plate mounted on the Bag Loader must be  $\pm 3\text{mm}$
- Mount the drive chain from the Bag Loader to the synchronizer. Make sure the chain wheels are in alignment. Make sure the carriers of the synchronizer are in the right position with respect to the infeed-arm of the Bag Loader. (See Bag Loader installation)
- Place the Band Slicer in front of the synchronizer. The height of the slicer must be adjusted such that the sliced bread moves well from the turn plate slicer on the bottom plate synchronizer.  
Make sure that the carriers of the synchronizer do not hit the turn plate.
- Connect the power cord.
- Optional: When the band slicer operates together with a conveyor.  
The synchronizer usually get transported joint with the slicer.  
The synchronizer has its own driving and is electrical connected with the slicer.
- Connect a reliable plug on the line cord and place this in the wall socket.

The installation of the slicer has done.

All parts of the machine are in place and well tightened.

All moving parts must have a free motion.

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### 3.6.3 Check direction of rotation blades

\*\*\*\*\*DANGER\*\*\*\*\*

Always check the direction of rotation with two persons. One check from some distance (2m) the direction of rotation and one controls the operation panel.

Step 1:

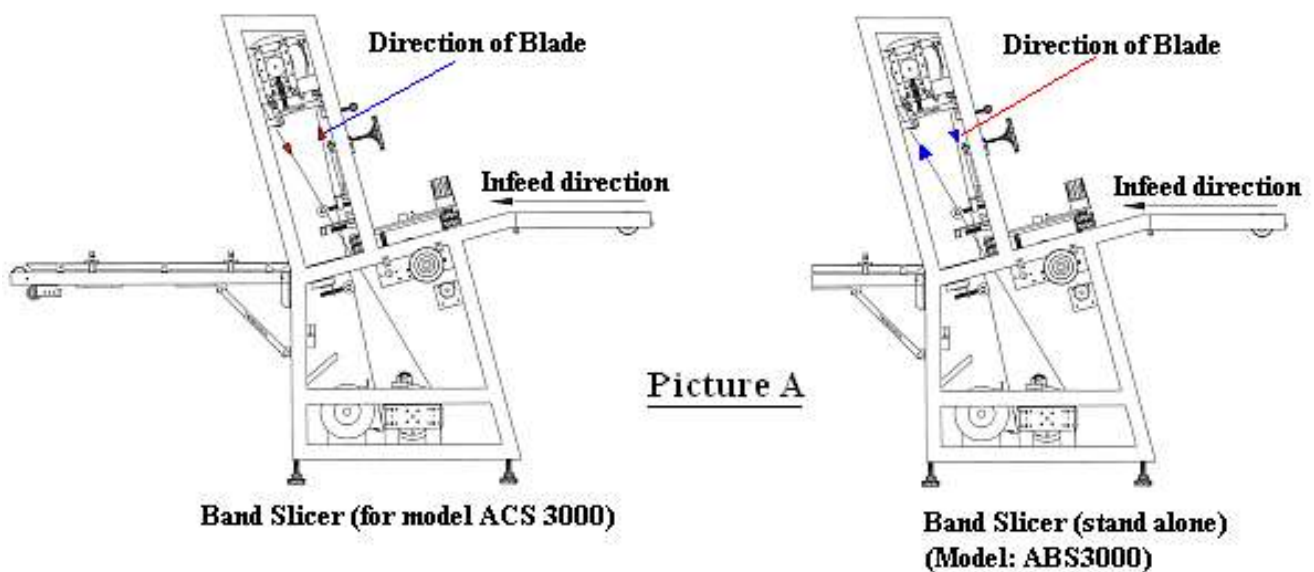
Remove the rear cover from the slicer (synchronizer side). The top drum becomes visible.

Step 2:

Supply electric power to the machine, turn the main switch on.

Starts the machine in operation for 1 or 2 seconds. (See Operation Chapter)

Check if the blades are moving in the right direction as shown in the picture below.



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### Step 3:

When the direction of rotation is correct go to step 4. If the direction of rotation is wrong, exchange two of the three phases in the plug of the line cord and check again.

### Step 4:

Place the rear cover back on the machine and tighten the screw.

The installation of the slicer now has done.

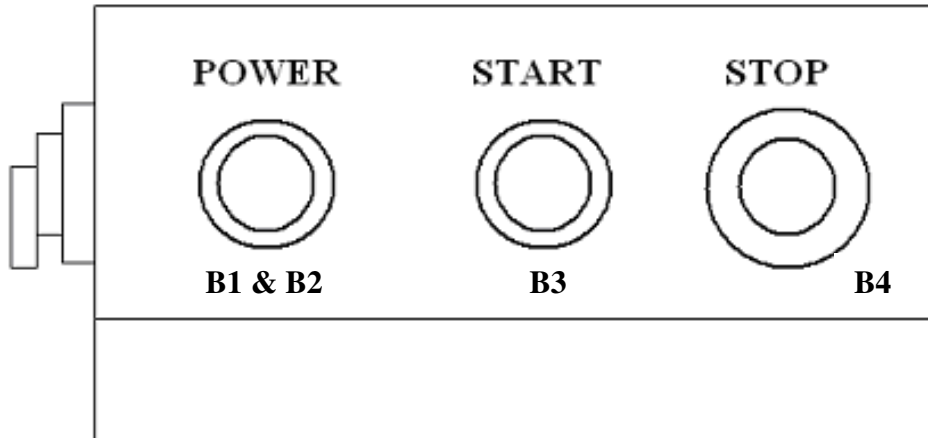
The machine is ready to adjust for production.

## **4.0 Machine Operation**

### **4.1 Operating Panel:**

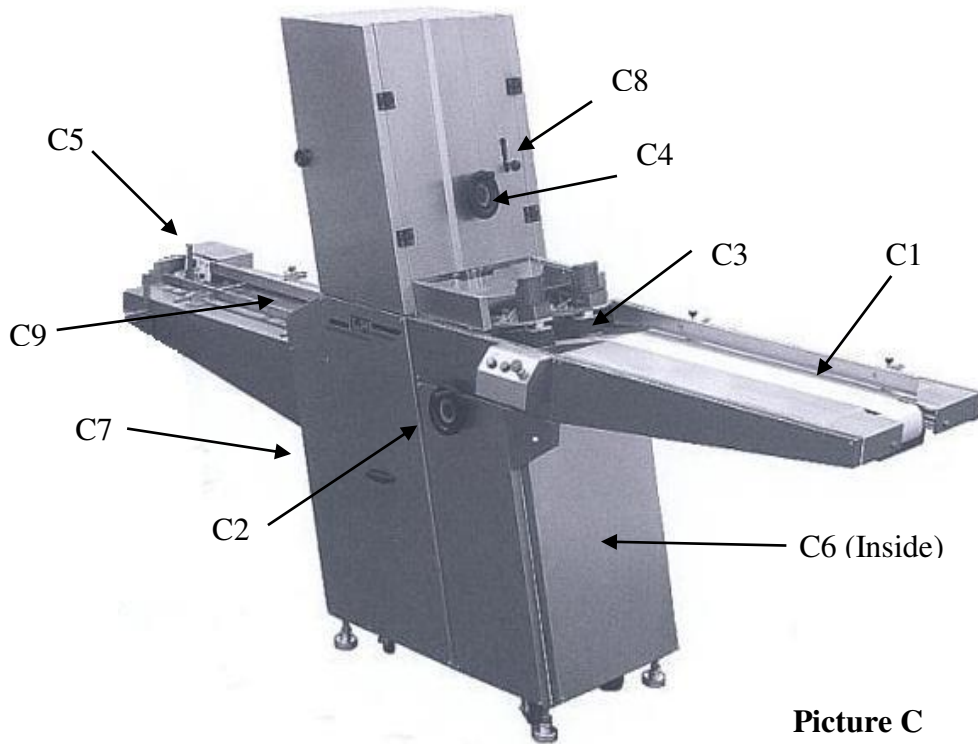
In this chapter all functions on the operation panel, of the slicer, will be described.  
Please refer picture B below.

- 1) Main switch 'B1':  
Turn clockwise to switch on electric power on the machine. (Not available if install with Bag loader)
- 2) Yellow lamp 'B2':  
Indicates that there is power on the machine
- 3) START pushbutton 'B3':  
Press to start the machine in operation.
- 4) STOP pushbutton 'B4': (multiple units)  
When one of the pushbuttons is pressed, the machine stops immediately.  
Turn and release the pushbutton.



**Picture B**

## 4.2 Machine Adjustment



**Picture C**

Refer to Picture C

- 1) Guider infeed 'C1':  
Loosen the two "knobs" to adjust.  
This guider must stand in line with the side-belts infeed.
- 2) Side-belts infeed 'C3':  
Turn the hand wheel 'C2' to adjust.  
Turn the side-belts must apply with such a pressure to the bread, that the bread pushes each other through the blades.
- 3) Upper guiding system 'C4':  
Turn the hand wheel to adjust.  
The upper guide block must be positioned just above the top of the bread.  
Set the adjustment before the machine is put in operation.
- 4) Side guiding sliced bread 'C5':  
Loosen the two "knobs" to adjust.  
Adjust the side guiding wider than the longest bread.  
Make sure the guiding doesn't apply pressure to the bread.
- 5) Variable in / outfeed speed 'C6' & 'C7':  
In certain cases, the slicer gets exercised with variable in – and outfeed speed.  
With these adjustments it's possible to vary the production capacity.  
Makes sure that the outfeed speed is always set higher than the infeed speed.  
In case install with Bag loader the outfeed speed is control by Bag loader speed.

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- 6) Operation hone stone / congress stone / re-sharpening stone installation 'C8':  
Push the handle upwards and move about the hone stones a few times across the blades. In case this doesn't help sufficient then exchange the blades.
- 7) Photo-cell product detection synchronizer 'C9':  
Loosen the "knob" to adjust.  
Adjust this so, that product gets detected directly after it's completely on the synchronizer.



## **5.0 SAFETY DEVICES:**

In this chapter the various safety devices of the slicer will be described.

### **5.1 Conditions**

\*\*\*\*WARNING\*\*\*\*

Never bypass any safety device in this machine.

Never put the machine in operation without guarding, except when checking the direction of rotation of blades, with due regard to the safety precepts.

### **5.2 Doors**

The doors are installed with safety switches.

The slicer can operate when the doors are properly closed. Open the door when there is no power on the slicer.

### **5.3 Blades Motor**

The motor is protected with a thermal relay.

When the motor is overload and does not move, reset the thermal relay in switch box.

### **5.4 Safety broken blade**

If a blade brakes apart, it will hit against a contact plate.

The contact plate will activate a micro switch which stops the machine.

Replace the broken blade and reset the machine by turning the power off and on.

### **5.5 Safety double bread**

Only applied when working together with a Bag Loader.

In case two breads lie in the same compartment a photocell will be activated which stops the machine.

Reset the machine by removing one of the breads.

## **6.0 Maintenance**

This chapter will handle the preventive maintenance of the Bag Loader.

Proper preventive maintenance schedule will prevent problems during production and extend the working life of the machine.

\*\*\*\*\*WARNING\*\*\*\*\*

Qualified maintenance person is needed to perform the prevention maintenance.

### **6.1 Cleaning**

- Do this daily after production.
- Open both doors
- Remove the product remnants from running surfaces and conveyor belts.
- Clean the guiding blocks well with air pressure!
- Remove all product remnants from the inside of the machine.
- Keep the guiding shaft and spindles well clean.

### **6.2 Inspection points**

- Check tension and condition of the V-belts belt drive drums.
- Check tension and condition of the blades (see chapter 6)
- Check tension and condition of the various driving chains.
- Check tension and condition of the various conveyor belts.
- Check the operation of the various adjustments:  
Adjust them minimal (1x) a day to clean the guide shafts and spindles.  
Especially check the spine shaft of the side adjustment infeed. Keep this well clean and greasy.
- Perform the following points each time blades get exchange:
- Remove all procurements out of the guiding blocks.
- Check pins guiding blocks on wearing.
- Check position scrapper's top-and bottom drum.
- Check bearings top-and bottom drum.
- When the slicer is exercised with a oil-spray then check the operation.

The frequency of maintenance depends on the quantity and kind of products that are sliced. This is determined best during practice.

## **6.3 Exchange and inspection of the Blades**

This chapter handles the exchange and inspection of the blades.

\*\*\*\*\*WARNING\*\*\*\*\*

This action may only be executed by a qualified person.

### **6.3.1 Hone stone installation for re-sharpening blades**

Hone the blades when:

- The points of the blades are starting to get blunt.
- It gets harder than usual to press the bread through the blades.
- More crumbs are coming down from the bread than usual.

### **6.3.2 Inspection points**

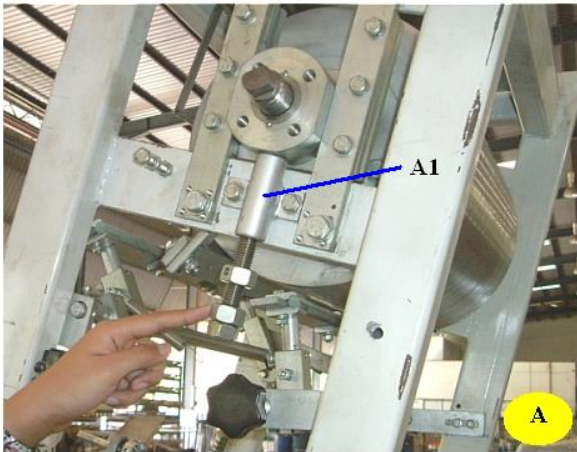
In case there are often broken blades then check the machine on the following points.

- Check all components off the drums, guide blocks, grind installation visually and clean them as good as possible.
- Check if the drums and blades are free of adhered bread.
- Gauge the blade tension over the entire width of the machine.  
To do this a tension gauge is needed. (See chapter gauging blade tension)  
In case a tension gauge is not available then check both adjust bolts (A) of top drum.  
The lock nuts may not be moved. Both bolts must be well tightened against the tensioning bracket (A1) and should be place with a washer.
- Check the tension of the belt drive of the drums.
- Check and clean the guiding blocks.  
It must be possible to easily move the blades between the pins of the Guide blocks.  
In case the pins are worn out you can turn them 90 degrees to provide the blades with a new running surface.

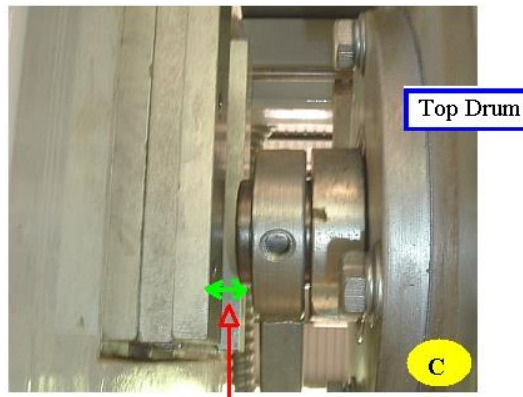
### **6.3.3 Exchange of the blades**

Please follow the Step A to M on the next pages to exchange the blades.

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Step 1: Loosen the "Jack" in picture A.



Gap / Space / Distance

Step 2: Loosen the screw shaft (pic. B) on top of machine until there is a space / gap / distance between screw shaft and the top drum (pic. C).

**NOTE:** Loosen only one side of screw shaft (as shown) because if you loosen both sides the top drum will fall down.

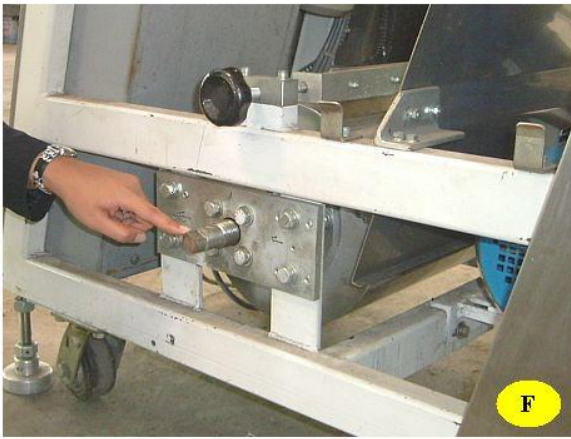


Step 3: Loosen the medium size flower knob on the top until there is a gap / space / distance between the knob and the inner shaft.



Step 4: Loosen the bigger size flower knob at the bottom until there is a gap / space / distance between the flower knob and the inner bottom shaft.

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Step 5: Loosen the screw shaft (pic. F) at the bottom until there is a gap / space / distance between the screw shaft and the bottom drum.

**NOTE:** Loosen only one side of screw shaft (as shown) because if you loosen both sides the bottom drum will fall down.



Step 6: You will see a spring on top of machine near the medium size flower knob.



Step 7: Release the spring from the other end near the "Jack", but do not take off from its place.



Step 8: Insert the slicer blade one by one to the bottom drum first. Please ensure the sharp blade face to the bottom flower knob (as shown in small picture).



Step 9: Twist the slicer blade and insert it into the top drum. Carefully, place the sharp blade into the slot and shaft in proper position (refer pic. K).

Please ensure the sharp blades face to the front (place where the bread are placed and inserted for slicing purpose).



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Step 10: Repeat step 8 & 9 until all slicer blades are properly installed.

Step 11: Once all the slicer blades are properly installed, please tighten all the loosen parts as follows:-

- i) The top screw shaft in picture B.
  - ii) The medium size flower knob on the top.
  - iii) The bigger size flower knob at the bottom.
  - iv) The bottom screw shaft
- \*\* Please ensure no gap / space / distance available.

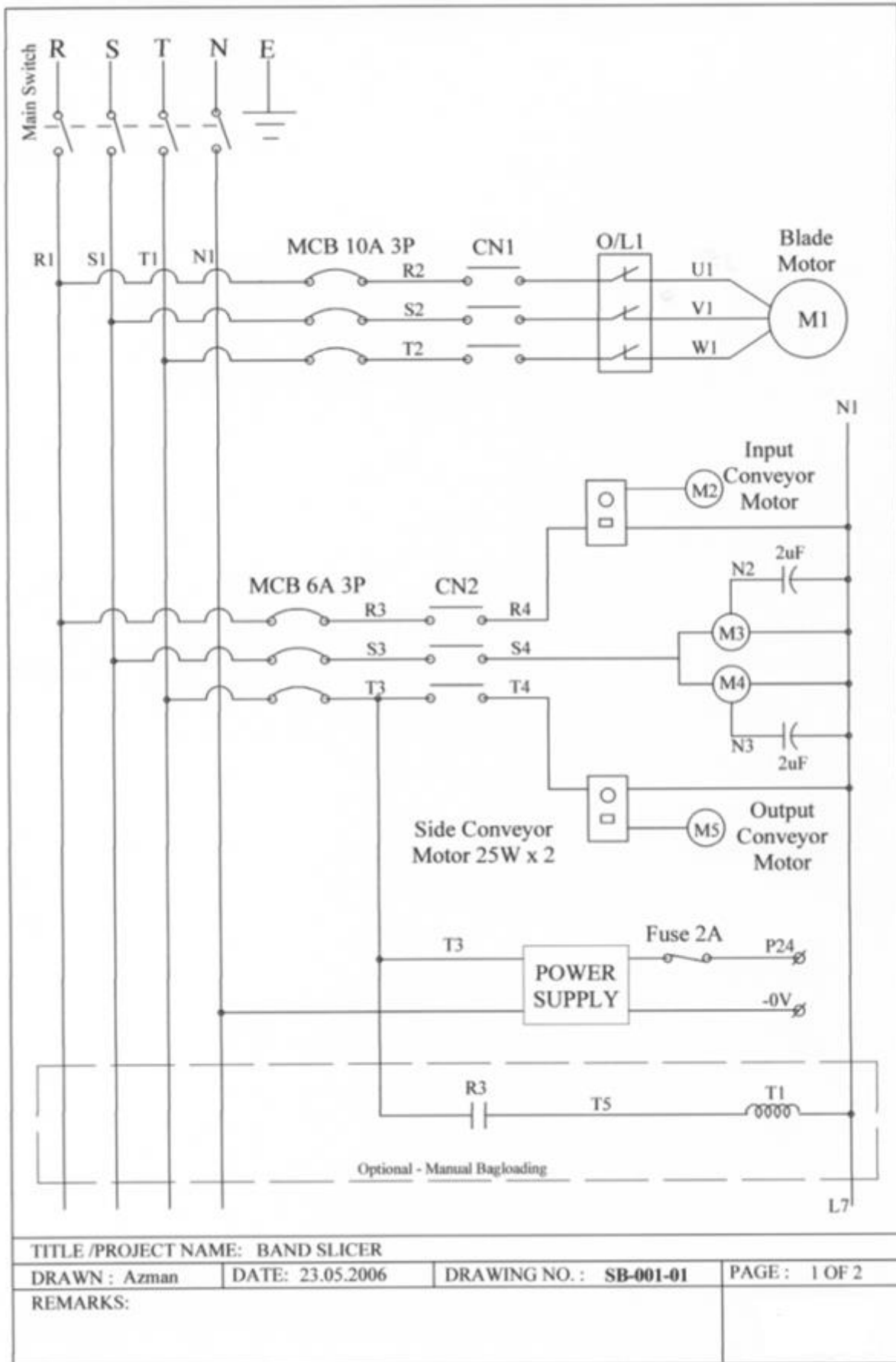
Step 12: Re-attached the spring in picture G to its normal position.

Step 13: Lastly, tighten the "Jack" to string all the slicer blades.

## **7.0 Trouble Shooting**

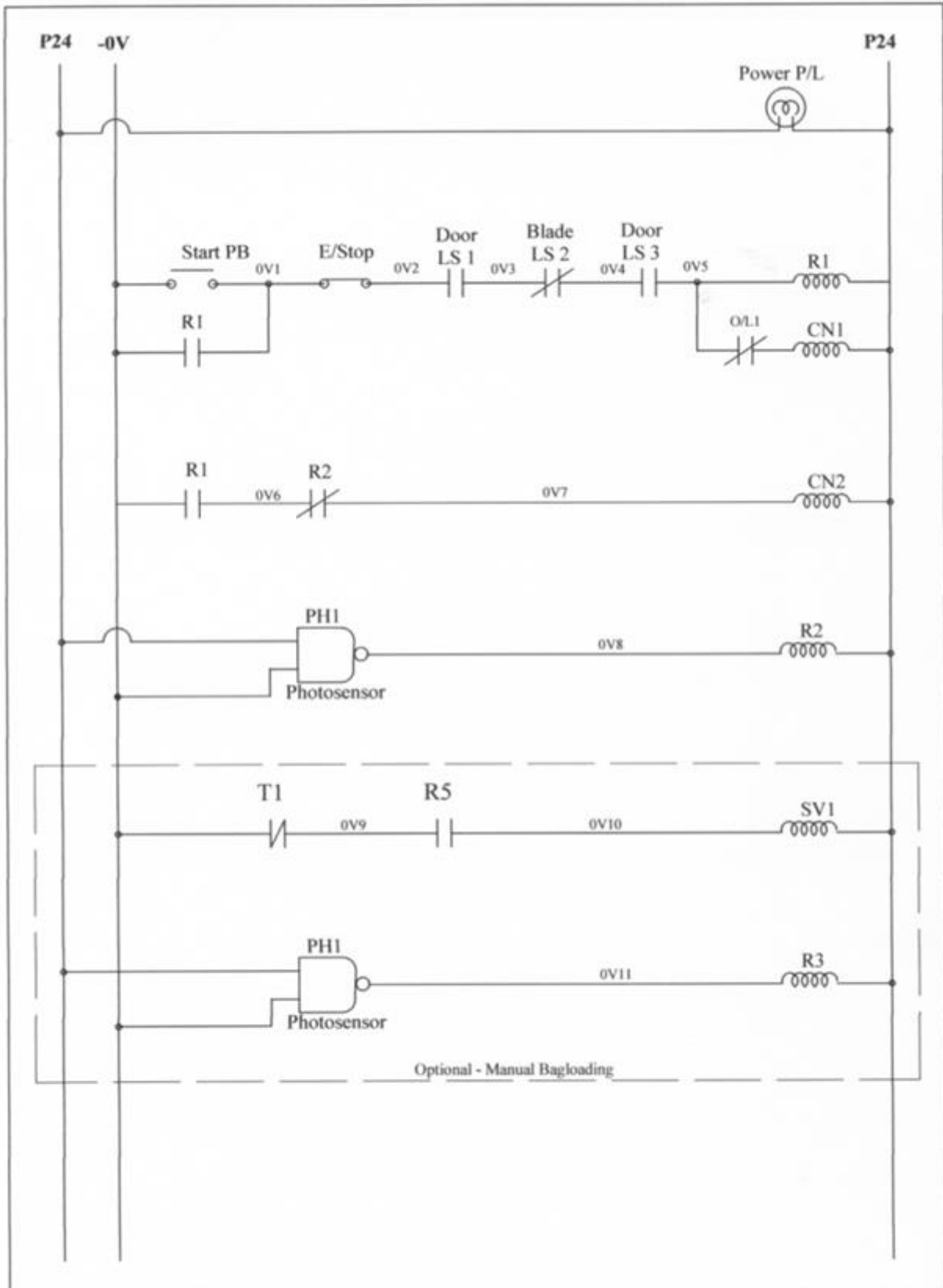
<b>TROUBLE</b>	<b>CAUSE ELECTRICAL</b>	<b>CAUSE MECHANICAL</b>
Machine cannot start	<ul style="list-style-type: none"> <li>- Main switch or switch operation panel Bag Loader.</li> <li>- Emergency stop button.</li> <li>- Safety in operation.</li> </ul>	
Blades are breaking		<ul style="list-style-type: none"> <li>- Blades are blunt.</li> <li>- Tension V belts to low.</li> <li>- Infeed speed to high.</li> <li>- Tension of the blades.</li> </ul>
Slice thickness is uneven		<ul style="list-style-type: none"> <li>- Tension of blades</li> <li>- Guiding pins worn out</li> <li>- Infeed belts too small</li> <li>- Outfeed guide too small.</li> <li>- Height adjustment too low.</li> </ul>
Infeed and outfeed does not stop	<ul style="list-style-type: none"> <li>- Photocell failure</li> <li>- Contactor &amp; control relay failure</li> </ul>	
Infeed belts do not run	<ul style="list-style-type: none"> <li>- Contactor &amp; control relay failure</li> <li>- Speed controller failure</li> </ul>	<ul style="list-style-type: none"> <li>- Belts slip</li> <li>- Driving infeed</li> </ul>
Outfeed does not run.	<ul style="list-style-type: none"> <li>- Contactor &amp; control relay failure</li> <li>- Photocell failure</li> <li>- Speed controller failure</li> </ul>	<ul style="list-style-type: none"> <li>- Driving Outfeed</li> </ul>

### 8.0 Electrical Diagram





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TITLE /PROJECT NAME: BAND SLICER			
DRAWN : Azman	DATE: 23.05.2006	DRAWING NO. : SB-002-01	PAGE : 2 OF 2
REMARKS:			