

SEMI-AUTOMATIC

CASE OVER PRODUCT

PACKER

**OPERATOR AND
TECHNICAL MANUAL**

SCOTT AUTOMATION LTD.

BUILT FOR

Siesta Holdings Ltd. (WAIWERA NZ)

MARCH 2003

AP09463

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MARCH 2003

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OPERATION

All operators are to be familiar with the operational and safety aspects of this machine before using it.

1. Set up the machine for the case size and packing pattern required according to the information in the following pages.
2. Switch on main power to the machine. Close all doors and release any emergency stops, which are locked on. Press reset button followed by start button.
3. Ensure that adequate supplies of case-blanks and dividers if required are available within easy reach.
4. Press the blue “Reset” button on the electrical cabinet shown in the photos on the “Set-up Procedures” page that follows. This will reset the machine. Then push the green “Start” button on the control panel to start the conveyors. **NOTE: Pressing the start button after the reset will set parts of the machine moving to go to their home position. Therefore make sure know one is reaching into the machine.**
5. Sweep your hand through the swipe unit to “Index” the first product into the collation area. Note the “Index” swipe is time sensitive therefore
 - a. Too fast a sweep while note register.
 - b. Too long a sweep will turn the machine off for safety reasons. Restart machine if this happens.
6. Erect cases (and dividers if required), and place over each completed collation (set) of product as it is presented at the operator station.
7. Note: Do not “over-bend” the lower major flaps of the case.
8. Note: Positively close the upper minor flaps (before indexing the box onto the conveyor.)
9. Sweep the “Index” swipe again to complete the previous operation and present the next collated pattern of bottles.
10. To reset the COP press and release the E-stop. Restart M/C as above. To reset the counting by pressing the “Start” button for 2 seconds

Warning:

1. Do not allow the out-feed conveyor to form a backlog of finished cases.

The case index drive has a clutch fitted for safety reasons, but this is not intended to run for extended periods as an overload protection device, and if allowed to do so, will result in damage to the machine. The drive motor will turn off if the clutch slips for an extended time.

2. Keep a regular watch of the tape reels to ensure they do not run out. The machine does not have a tape run-out stop fitted.

COP MACHINE SPECIFICATIONS

Case Size Range

The Cop is unique in its design with minimum maintenance requirements and positive case handling. Our chain-less case transport ensures years of reliability in the harsh corrugated environment. The machine has a tape closure system. The COP has a compact footprint for best utilisation of your floor space.

Carton Range:	Min-Max	L	W	D
	Minimum	200mm	150mm	150mm
	Maximum	550mm	350mm	450mm

GENERAL MACHINE SPECIFICATION

Production speed:	Up to 15+ cpm. (Speeds based on products run)
Change-Over:	Lead screws with hand wheels. Positive slotted adjustments in some areas.
Finish colour and type:	Product contact surfaces: Stainless steel/engineered plastics. Painted surfaces: Powder coated. Plated surfaces: Electro Zinc Plated.
In-feed height:	850 - 1050mm ± 20mm.
Discharge height:	850 - 1050mm ± 20mm.
Case set-up style:	Manually place by operator.
Case transport system:	Chain-less horizontal transport system. Offers maintenance free operation.
Coding:	Optional
Flap folder:	Mechanical Positive case closures.
Tape system:	3M AccuGlide II Heads

GENERAL ELECTRICAL SPECIFICATIONS

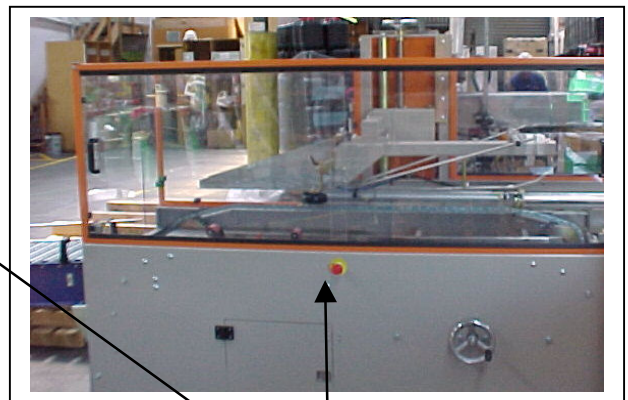
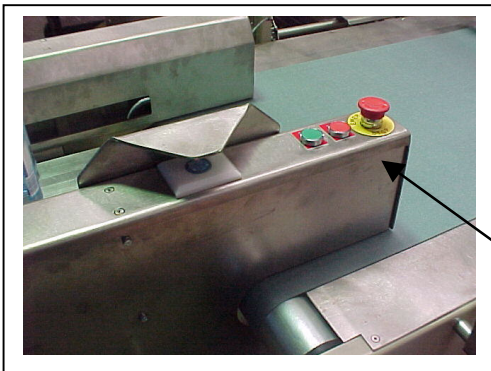
Voltage:	400 volts 3 phase, 50 Hz, Neutral and Earth.
Electrical Enclosure:	Operator's station located in common with main electrical enclosure.
PLC:	Allen-Bradley SLC 1200
Misc. Electrical:	Banner, Sick, SEW, Interroll and A-B hardware
Operator interface:	Stop, Start, Reset buttons and Index start hand sensor. Two E-stops.

SET-UP PROCEDURES

NOTE: READ THE SAFETY SECTION BEFORE OPERATING OR ADJUSTING THIS MACHINE

1. All procedures are carried out with the machine TURNUED OFF. DO NOT ATTEMPT SET-UP OR ADJUSTMENT WHILST THE MACHINE IS SWITCHED ON.

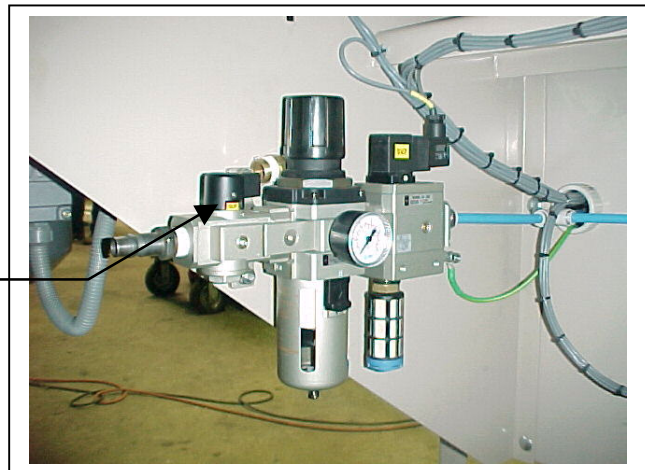
Use the one or more E-stop buttons, and a lockout notice.



DOOR SAFETY SWITCH

E-STOP

AIR ISOLATION VALVE



2. Use the product and cases, which are to be run, as guides in setting up the machine. In general a "slight clearance fit" between product and machine is the right setting.

3. Tools needed are:

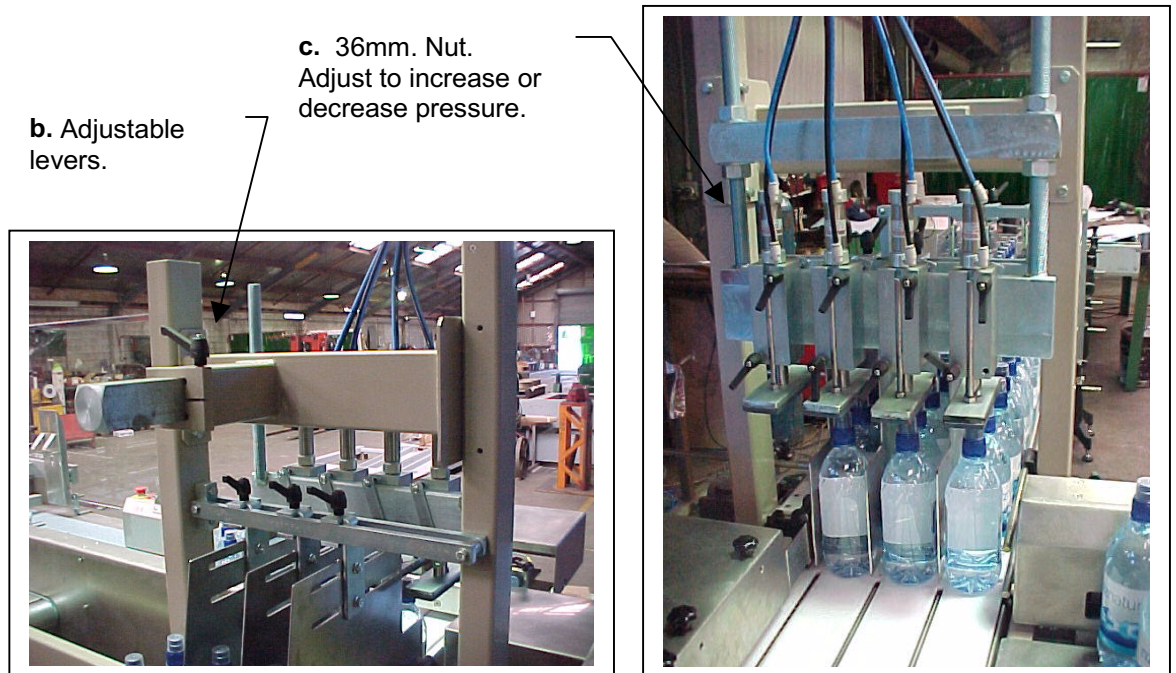
1 x Large 8 x 150mm. Screw driver.

1 x 36mm Open end Spanner

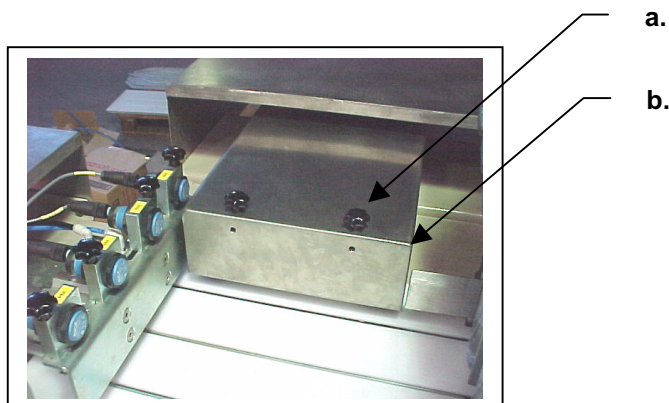
1 x 13mm Open end Spanner

Procedure

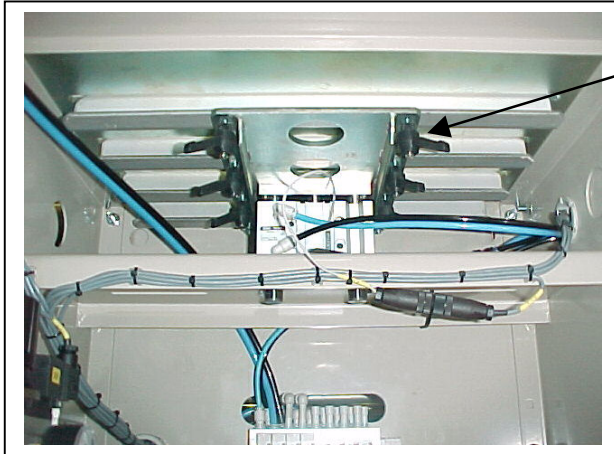
1. Set-up infeed conveyor and product clamp.
 - a. Adjust the product infeed conveyor guides as for the rest of the conveyor line.
 - b. Use Kipp levers to adjust clap position over product.
 - c. Adjust product clamp to place enough pressure on the product to stop movement of the product



2. Change the collator cross-feed pusher.
 - a. Remove pusher (2 thumbscrews).
 - b. Install new pusher and replace thumbscrews.



3. If necessary, adjust the drop-down guides in the collator section. Access to the fixing nuts is below the pusher cylinder in the area shown in photo

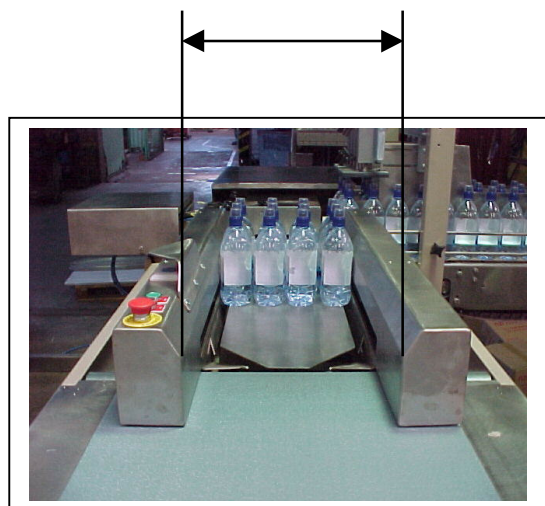
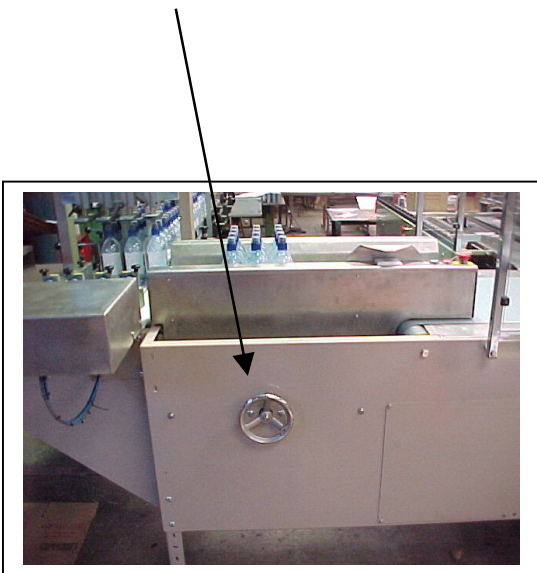


Adjuster levers for drop-down guides.

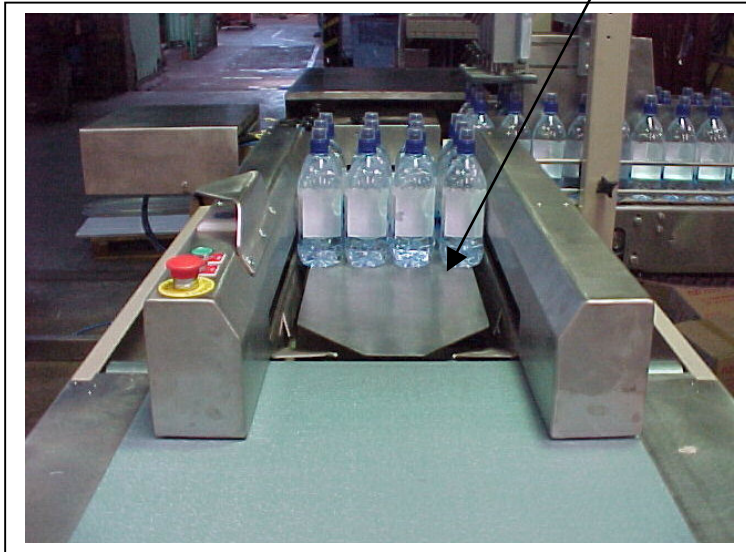
4. Adjust the width between the case-placement guides using the Hand-wheel.

Hand-wheel

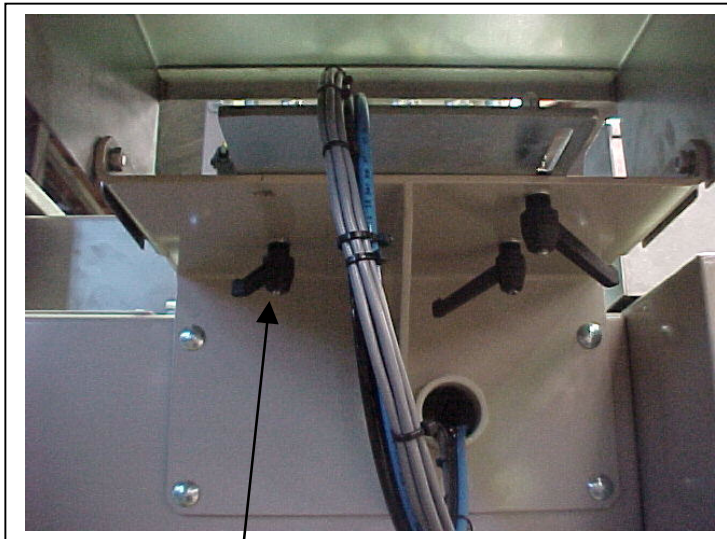
Case placement position



5. Change the collator load-support plate.



6. Adjust the position of the collator backstop (with sensors).

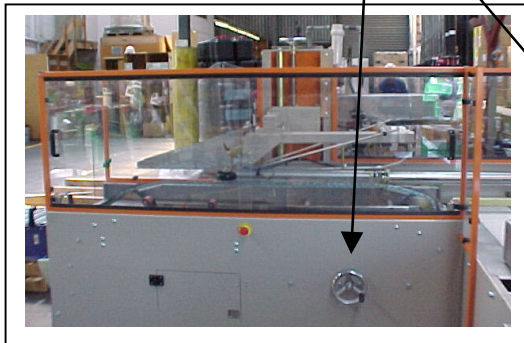


Use the Adjustment levers

7. Adjust the height of the "rear minor-flap" tucker.



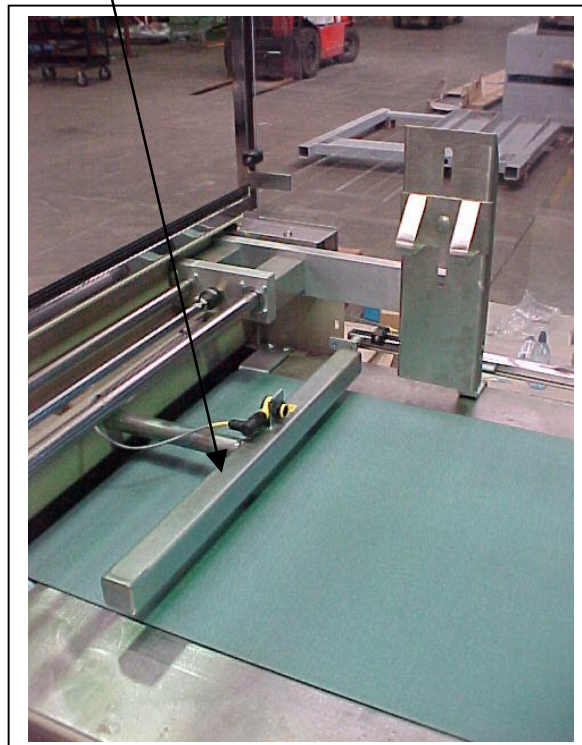
8. Adjust the closer section bottom guides, using the Hand-wheel. The black wheels help the top major flap closures. They should apply a light pressure on the case.



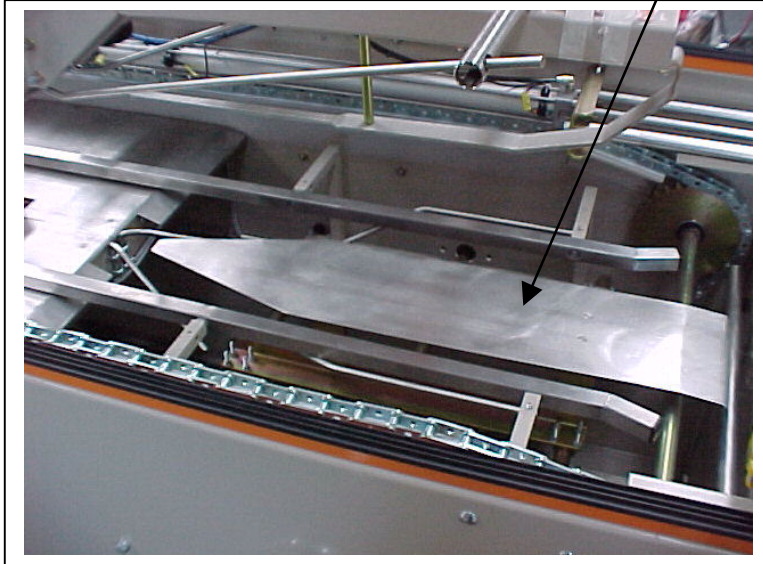
9. Adjust the closer-section height using the Hand-wheel shown in the photo.



10. Set the conveyor end-stop to linecenterline of the case with that of the rear flap tucker.



11. Change the case support plate in the closer section.



12. Make any necessary adjustments to accessories such as coding devices, etc.

Tape Threading

Follow the tape-head manufacturers instruction sheets and the diagrams on the units themselves. Access to the bottom tape reel is provided via the door shown in the photo. A switch is installed to stop the machine if this door is opened.

NOTE:- Always turn-off machine before changing tape. Use the one or more E-stop buttons, and a lockout notice.



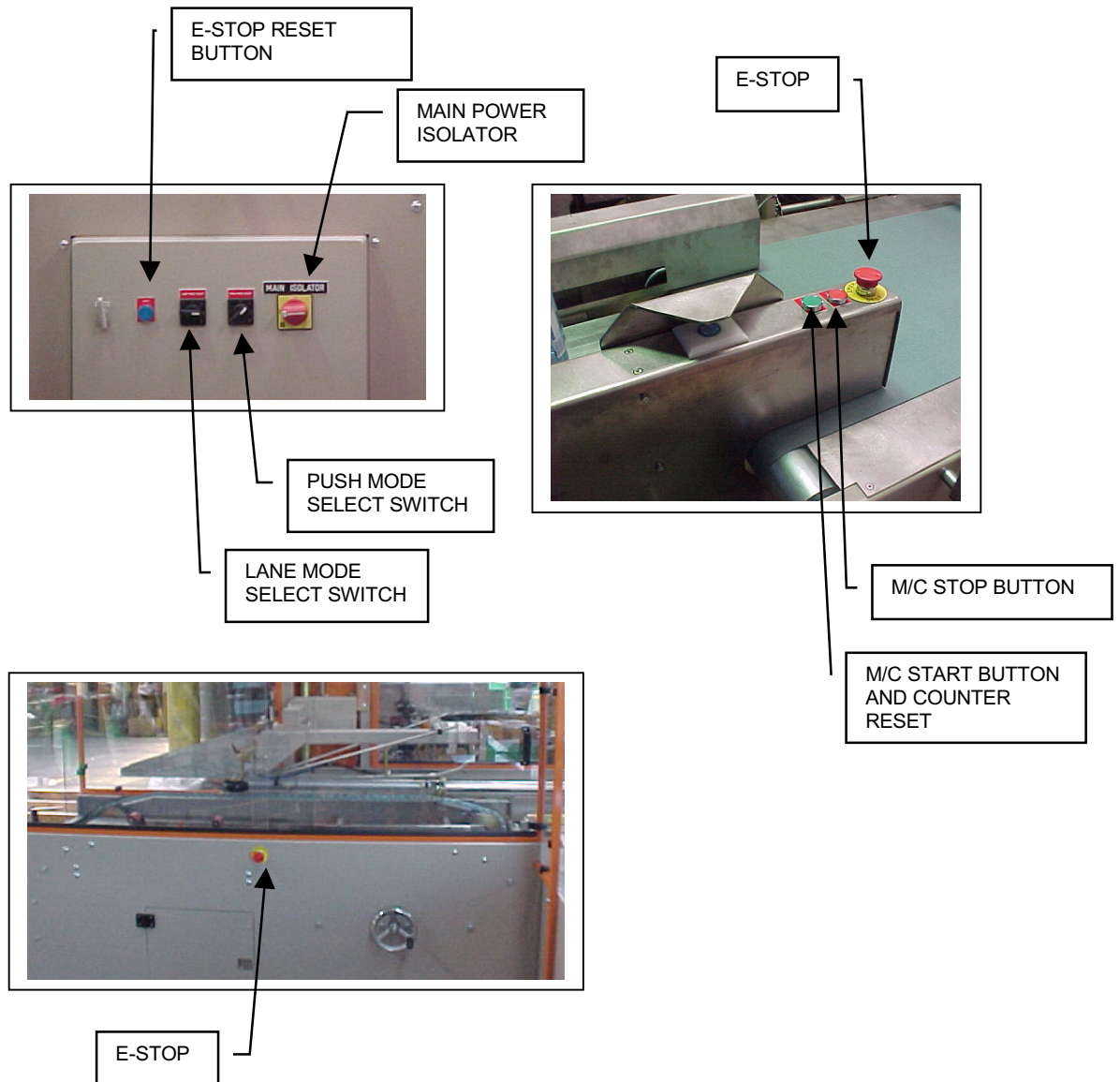
Controls

There are no operator-useable controls inside the cabinet shown in the photo below.



Operator controls are:

- One Mains Isolator, Reset, Start/Stop buttons and Two Emergency Stop as shown in the photos below. A Swipe unit to index product through the machine. “1-4” product coalition switch.



SAFETY

This machine uses electric motors, chains, pneumatic cylinders, sharp knives, conveyor belts, etc. which can create hazards.

Hazards have been guarded against by the best practical means, **however care and attention to personal safety is always required around any machinery.**

- NEVER INTERFERE WITH ANY GUARD OR SAFETY DEVICE.
- READ THE INSTRUCTIONS, SAFETY WARNINGS AND RISK ANALYSIS.
- ALWAYS OBSERVE SAFETY WARNINGS.

NEVER ADJUST OR REMEDY ANY PART OF THE MACHINE UNLESS IT IS SWITCHED OFF AND A "HOLD CARD" APPLIED.

NEVER REACH INTO THE MACHINE AT ANY TIME.

- ALWAYS SWITCH OFF THE MACHINE BEFORE WORKING ON ANY PART OF IT FOR ANY REASON.

SERVICE

1. Lubrication

1.1 Pneumatics

Check the air service unit every week, and drain the filter if required.

1.2 Gearboxes

Service according to manufacturers data sheets in this manual.

1.3 Chains

Lightly lubricate approx. once per month (depending on usage) with chain-lube spray.

1.4 Bearings

All bearings are “sealed for life” type.

2. Adjustment

Chain and belt adjusters are provided - see photos below



3. Cleaning

Regular cleaning to prevent the build-up of cardboard dust, and spilt product, etc will help to minimise unnecessary wear and tear, and reduce breakdowns. Failure to keep the equipment clean will increase the likelihood of problems.

4. Help

If you have a problem with the machine, and you have checked that the air and power are okay, the machine is properly adjusted, and the emergency stop buttons are all released, (to avoid unnecessary call-out/service charges), call

The Service Department

Scott Automation Ltd.

(09) 834 2702

RISK ANALYSIS & HAZARD CHECK LIST

Job No	AP09463
Description	SCOTT-60 CASE OVER PACKER
Project No	90320000
Customer	Siesta Holdings Ltd. (Waiwera NZ)
Date	17 July 2002
It is assumed that the personnel operating this machine have been properly trained, have read and understand the safety section of the operator manual, and are wearing the appropriate protective safety clothing.	
This risk assessment also assumes the equipment is being used under normal industry operator and environmental conditions. It is however up to the customer to satisfy themselves that these normal conditions are appropriate and therefore the risks that are derived from them are consistent with their in house safety standards.	
This risk analysis uses the following judgement factors as set out below:	
A	HIGH RISK OF INJURY
	Safe guards must be incorporated. Serious injury possible.
B	SUBSTANTIAL RISK POSSIBLE
	Eliminate as far as possible. Injury is possible if personal are unaware of the potential problem.
C	LOW RISK
	Customer to decide if additional safeguards are warranted. Would require a deliberate act to cause injury.

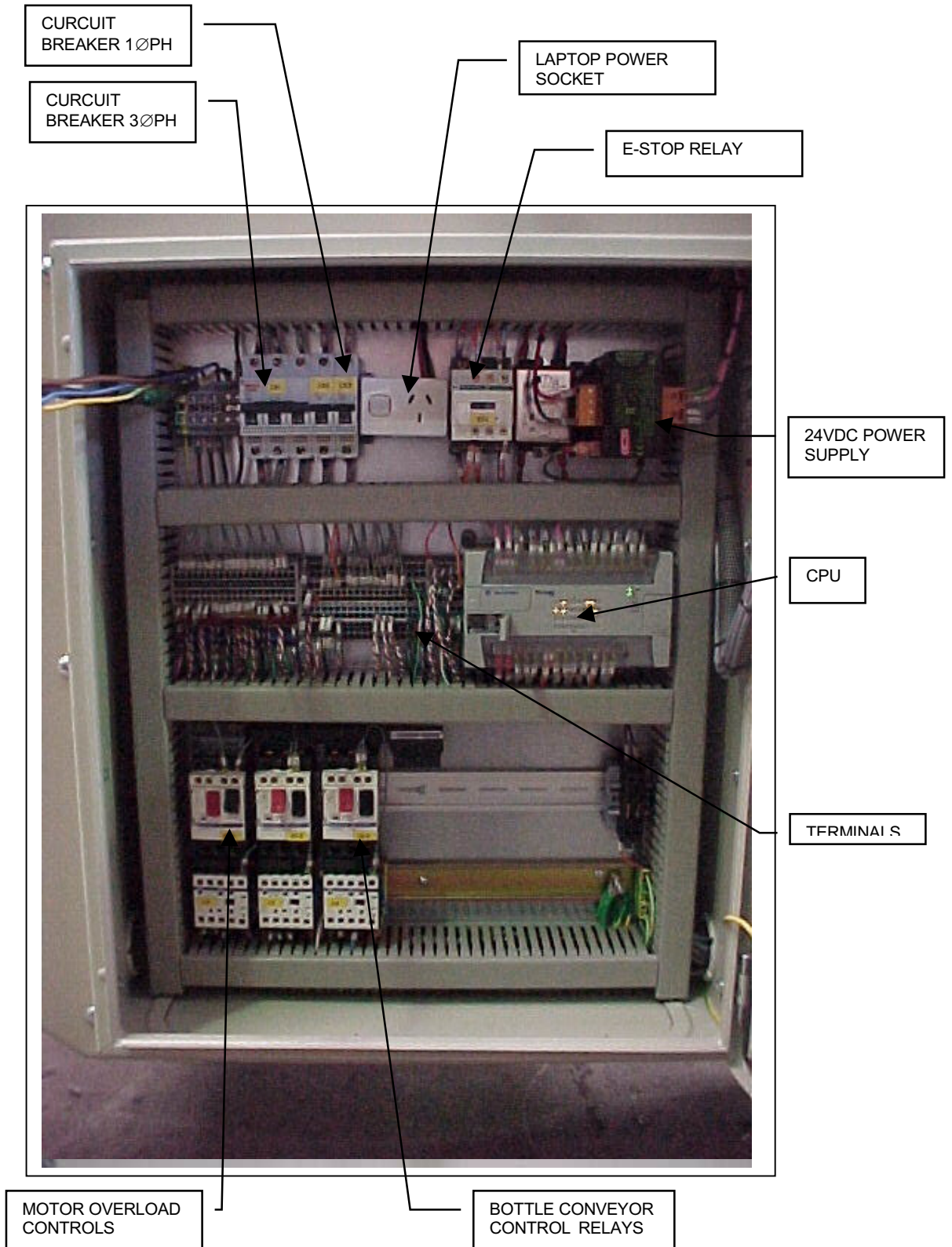
Item	Hazard	Risk	Hazard Reduction	Risk
1	Product clamps squashing fingers or hands.	B		C
			Clamps must be adjusted correctly to allow only 12mm between top of bottle and clamp rubber.	
			If infeed is running correctly there is no need for hands to be in this area	
			It is not practical to guard against this act. Owners of this equipment must set up administrative controls to prevent any incident of this nature.	
2	Product and box forming areas. It is possible to jam fingers in these areas as the mechanical bottle and box control/moving units move product around.	B		C
			Operators must check that all items are clear before index button is activated.	
			It is not practical to guard against this act. Users of this equipment must understand that it is possible to jam fingers in the Bottle and box forming areas while someone else starts up the machine. It is not practical to guard against this act. Owners of this equipment must set up administrative controls to prevent any incident of this nature.	
3	Box flap folding area. It is possible to jam fingers as the pusher bar indexes the box through the folding area.	B		C
			All guards must be in place and safety interlock in place.	
			Operators must check that all items are clear before index button is activated.	
			The box pusher drive clutch must be adjusted correctly i.e. Just be able to push one box through with no clutch slip.	
			Users of this equipment must understand that it is possible to jam fingers in the Box folding areas while someone else starts up the machine. It is not practical to guard against this act. Owners of this equipment must set up administrative controls to prevent any incident of this nature.	

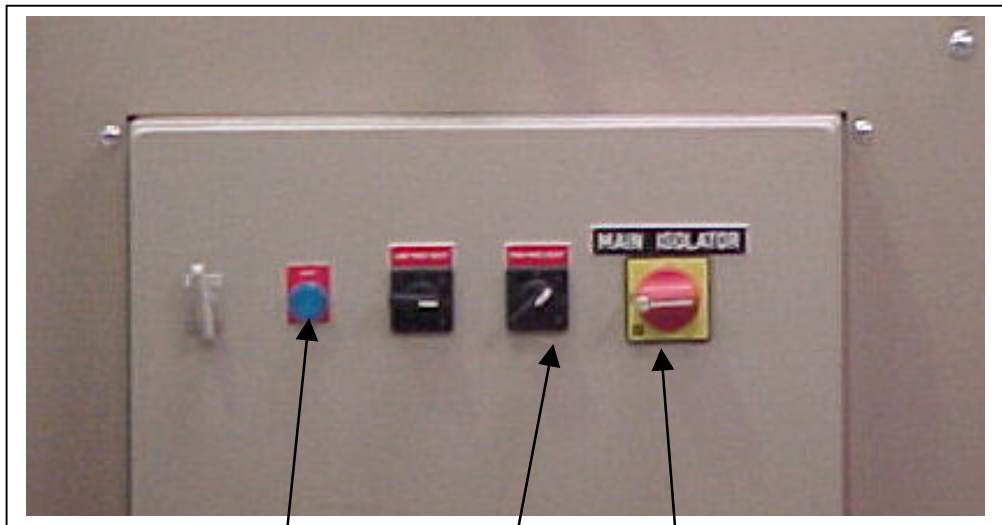
4	Loading tape onto tape heads it is possible to cut fingers in cutting blade.	B		C
			Users of this equipment must understand that it is possible to cut fingers when changing tape. It is guarded to add in the prevention of this act. Owners of this equipment must set up administrative controls to prevent any incident of this nature.	
5	When working on any mechanical items or reaching into the machine it is possible to course injury if the machine is not isolated. This is due to the possibility of the machine starting.	B		C
			The machine must be isolated and a hold card applied when working on any mechanical or reaching into the machine.	
			Users of this equipment must understand that it is possible to jam body parts when working on any mechanical items or reaching into the machine if someone else starts up the machine. It is not practical to guard against this act. Owners of this equipment must set up administrative controls to prevent any incident of this nature.	
6	When working or tampering with any electrical items the in machine it is possible to course injury if the machine is not isolated.	B		C
			The machine must be isolated and only a qualified electrician should inspect and repair any electrical issues.	
			Users of this equipment must understand that it is possible to be electrocuted is the electrical systems are tampered with. It is not practical to guard against this act. Owners of this equipment must set up administrative controls to prevent any incident of this nature.	

PLC PROGRAM AND I/O LIST

ELECTRICAL DRAWINGS

CABINET LAYOUT





E-STOP RESET
BUTTON

PRODUCT LANE
COLLATION SWITCH

MAIN POWER
ISOLATOR

PNEUMATIC DRAWINGS

MANUFACTURERS DATA SHEETS

The following pages contain service information on some of the proprietary items used in the manufacture of this machine. References to these are contained in the manual.