

Standard Operating Procedure

Title: Tablet Packing Machine and Cartoner – Construction, Operation and Cleaning

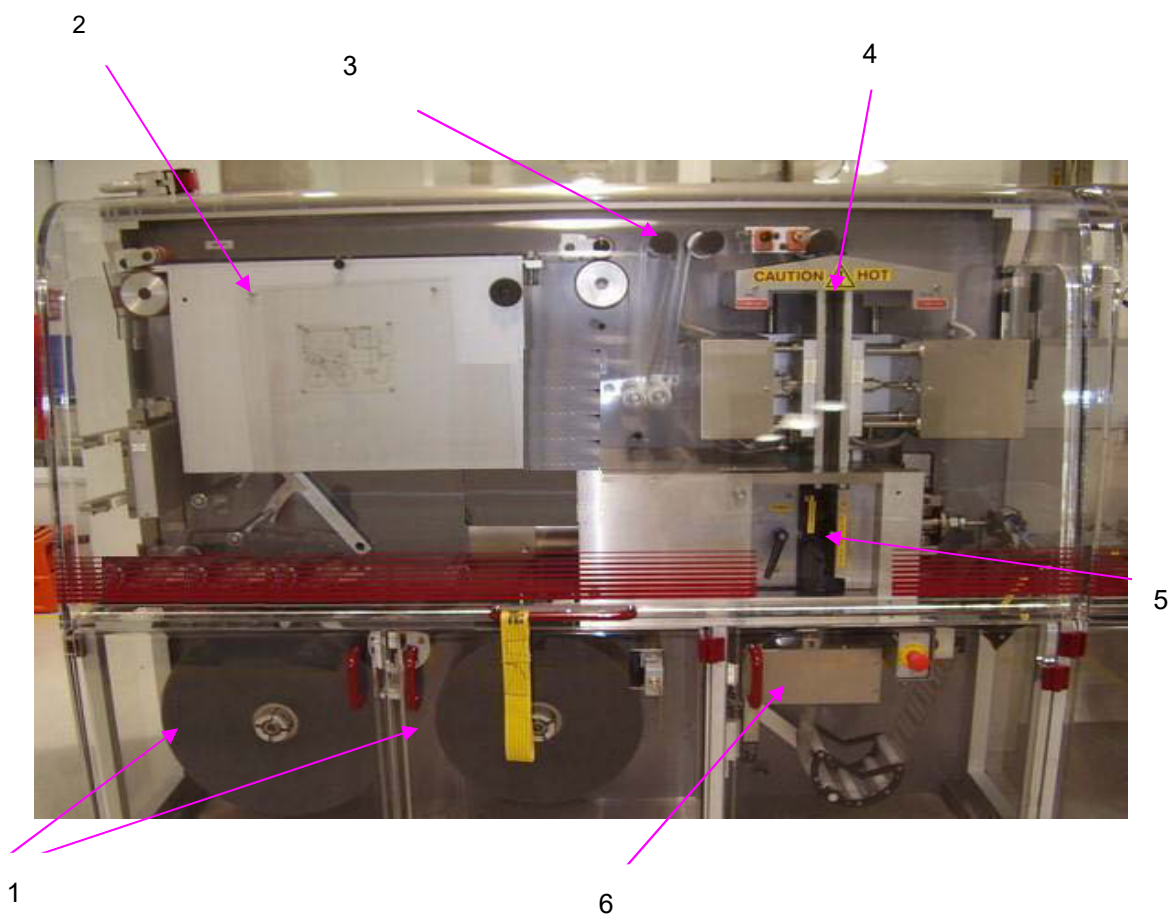
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Procedure

1. Blister Machine Setup

In order to demonstrate a production line we choose to show you a tablet packing operation in this chapter. The pictures we have used for this purpose does not constitute any existing line under operation now. The pictures were taken only for [training purpose](#) and the line which it belonged to was decommissioned long time ago.

Part A

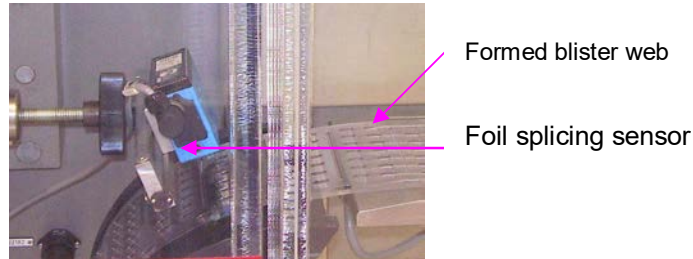


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Part B of the packing line is a continuation of part A. Following are the descriptions of some points of part B:

7. Base foil splicing sensor: This sensor detects any splice (joining with sticky tape) in the PVC film and rejects the splicing parts.



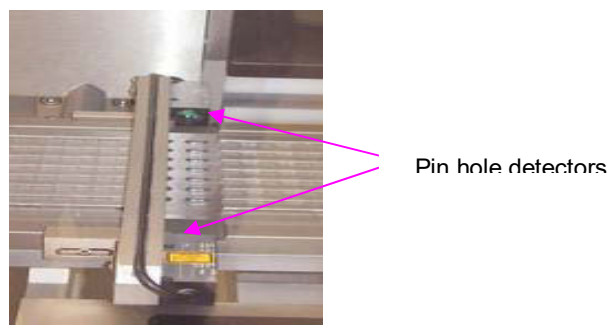
8. Intermediate Bulk Container (IBC): This IBC bins are filled with bulk tablets dispensed from the dispensary.

9. IBC labels: IBC labels are attached with the bin in a plastic sleeve at the time of dispense in order to identify the correct container and the contents readily.

10. IBC lifting hands: Holds the IBC bin in a lifted position.

11 & 12. Hopper & Vibrator tray: IBCs are connected to a hopper to allow a controlled flow of tablets into a vibrator tray. Vibrator tray vibrates gently to help the vacuum dust collector to suck the loose particles away.

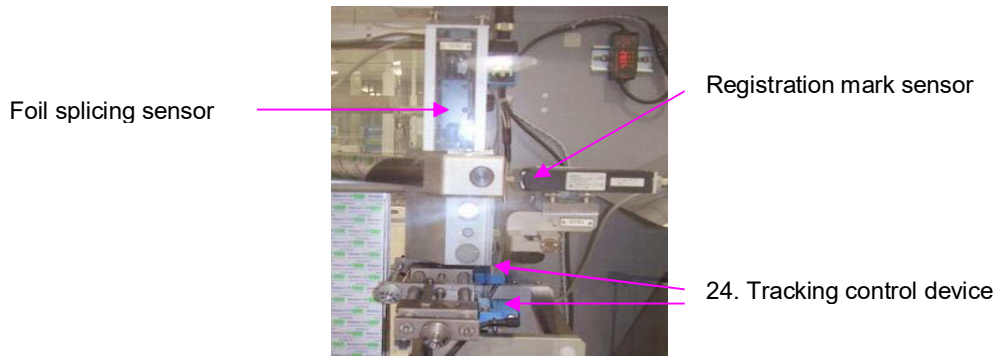
13. Pin hole detector: These two set of sensors can detect any hole on the blister web with a diameter of 100 micron or more and rejects those blisters.



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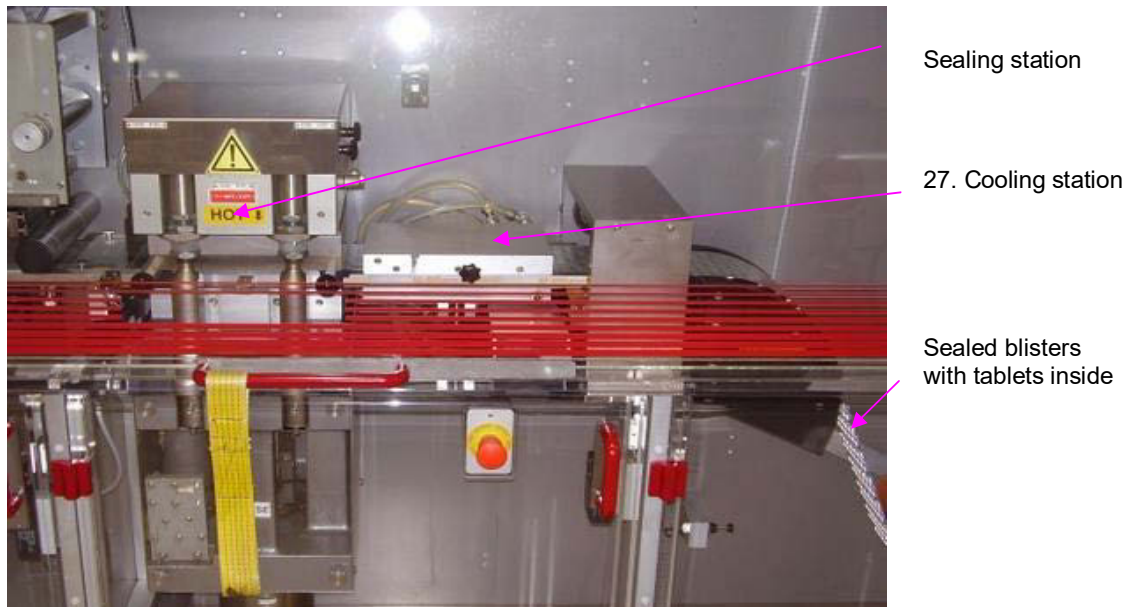
24. Foil tracking control device: A set of two sensors controlling the tracking of lid foil alignment before it will mix with the PVC film with right alignment.



25. Lid foil stretch and draw off device: This device helps to maintain the lid foil with appropriate tension and draws off the foil downward before passing through the sealing station

26. Sealing station: This station is heated with a set temperature and seals the blister foil and printed lid foil with correct alignment.

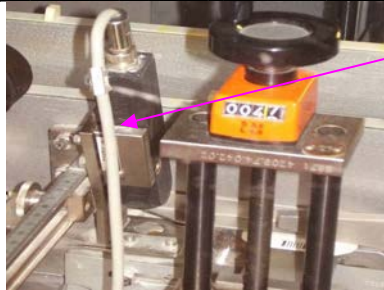
Part E



27. Cooling station: Cooling station is just adjacent to the sealing point and used to cool down the heated blisters to seal properly.

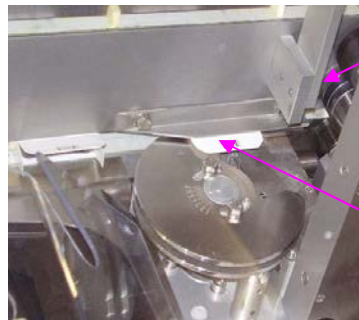
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36. Barcode sensor

37. Carton coding block: In this station cartons are coded on the cover by variable data with a coding block disc.



37. Circular coding block or disc

Carton passing through coding block

38. Print presence sensor: This previously trained sensor identifies the presence of correct variable data on the carton. If a carton with incorrect data or no data at all will pass through, it will reject the carton.



38. Print presence sensor

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4.2. Loading of tablets into the machine

PLEASE NOTE: Gloves must be worn when handling tablets.

Tablets will be loaded by a trained operator into the Hopper from IBC.

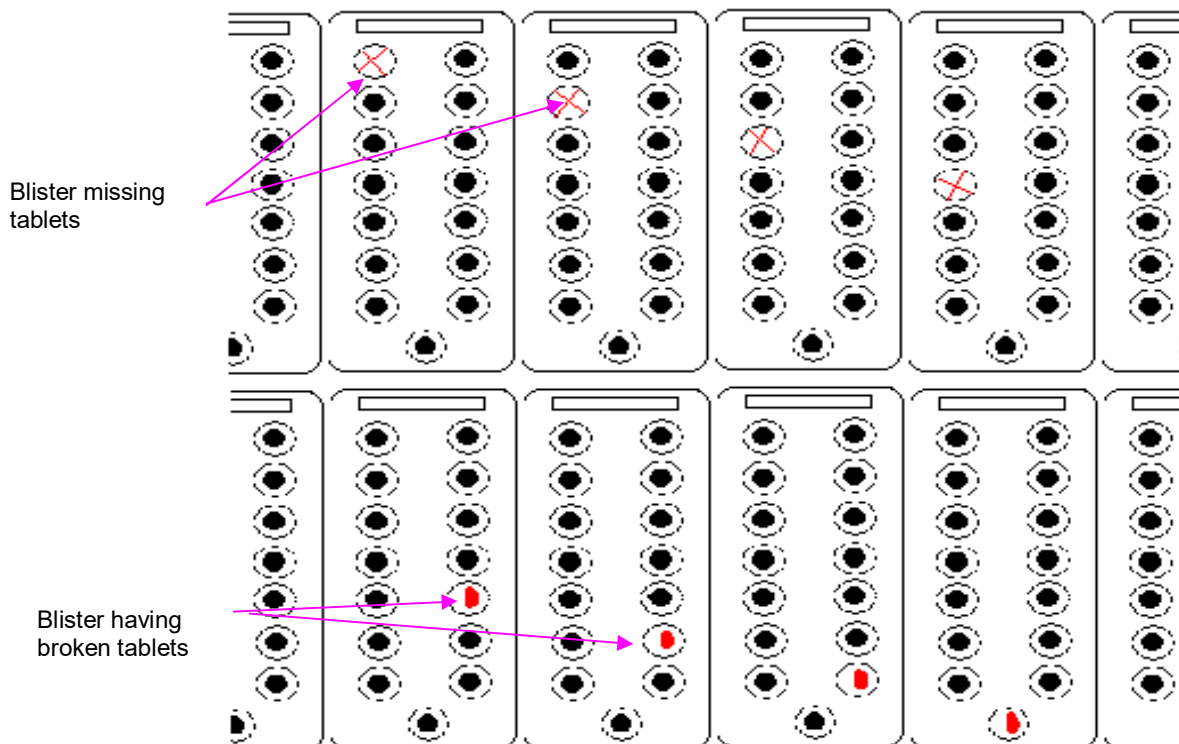
4. Missing and Broken Tablet test

The purpose of this test is to challenge the Vision system to ensure it is working correctly. The Vision system must be challenged at the start of every BPN, start-of-day and every time the Vision system is re-learned.

4.1. Test Method

- 4.1.1. Start with the Missing Tablet test. To validate that the entire region of the blister is being scanned by the vision system, four consecutive blisters in row are tested. A pattern is used to give the camera an opportunity to test the different location of faults.
- 4.1.2. Start at the leading edge of the first blister and as you move across to the next blister remove the tablet one position along the row (see [Figure 1](#)).
- 4.1.3. On the next set of four consecutive blisters, repeat the pattern in reverse, (see [Figure 2](#)). Place into the vacant holes, a tablet that has been cut to represent a broken tablet.

Figure 1 Vision Camera System Challenge



- 4.2.1. The Repeat fault needs to be turned OFF for the Challenge. Start the machine. Verify that the Vision system is locating the faults on the blisters by watching the monitor, and ensuring that the blisters are ejected at the Eject station. If the test fails, contact a line Fitter.

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bristles of the brushes for tablets and tablet fragments. Check that all the grub screws are still intact.

Paddle Manifold

To remove each Paddle motor and gearbox unit, unplug each connector hose. This will enable each unit to be lifted clear of the machine for cleaning. Remove the vacuum hose and head for cleaning.

Turn the Paddle motor and gearbox units upside down so the paddles are facing up.

Unscrew the centre bolt for the Paddle motor and gearbox units

Remove the paddle manifolds slowly.

Clean the inside surface around the gears of each manifold with a cloth moistened with 70% IPA.

Use another cloth moistened with 70% IPA and clean the inside area again. Ensure all the tablet residue is removed. Ensure the internal surface area is completely dry before the 3 paddle manifolds are attached to the Paddle motor and gearbox units.

Brush Box Paddles

Spray 70% IPA over the complete surface of the silicon paddles until they are all completely soaked. Use a clean cloth and wipe the silicon surface dry.

Repeat the above step and use another cloth to dry the paddles completely. Use no less than 2 cloths to clean the silicon rubber paddles.

Do not let these cloths contact any other surface area, except for the paddle silicon rubber. If this occurs, replace the cloth and re-clean.

Product Protruding Flap

The product protruding flap can be cleaned by Spraying with 70% IPA over the entire surface area. Use a clean and new cloth and wipe the entire surface area completely dry. Repeat the above steps. Use no less than 2 cloths to clean the entire surface area. Ensure that all the tablet residue is removed.

Tablet Vibrator

Remove the cover from the Tablet Vibrator so the Sieve can be removed and any stray tablets can be cleaned out from the cavity underneath the Sieve. Spray 70% IPA onto all the product contact surfaces. Take a clean cloth and wipe all the areas until the tablet residue is removed. Repeat the above step. Take another cloth and wipe all the surfaces until they are completely dry. Use no less than 2 cloths to clean all the product contact parts of the vibrator.

Tablet Guide Plate Cleaning

Spray 70% IPA onto the complete surface area of the guide plates until they are completely soaked, while the guide plates are still attached to the machine. Take a clean cloth and wipe down the complete surface area of the Guide Plates. Repeat the above step. Use no less than 2 separate clean cloths to clean the guide rails. Clean this part until all visual signs of the tablet residue and PVC dust are removed.

After the guide plates are clean, remove them from the machine.

Remove the Cutting Die and Perforating station.

Please Note:

Make sure the washers are accounted for when removing each of these stations.