

	Standard Operating Procedure Automatic Spindle Capper		SOP Number B-633	Revision 4
			Effective Date <i>02/28/23</i>	Page Page 1 of 5
Written by/ Date <i>M. Busse 01/20/23</i>		Reviewed by/ Date <i>Janis Mirelen 01/20/23</i>		Approved by/ Date <i>M. Busse 01/20/23</i>
Title: Manufacturing Engineer		Title: Maintenance & Engineering Manager		Title: Quality Assurance Director

1.0 Purpose

The purpose of this procedure is to define the process of setup, operation and cleaning for the Automatic Spindle Capper.

2.0 Scope

This procedure applies to the Automatic Spindle Capper in operation at Ion Labs, Inc.

3.0 Responsibility

- 3.1 It is the responsibility of Production (Packaging) Personnel to follow this procedure.
- 3.2 It is the responsibility of the Department Supervisor/Manager to implement this procedure and to ensure that the procedure is being followed.
- 3.3 It is the responsibility of Production and/or Maintenance & Engineering to keep this procedure aligned with current practices.

4.0 Definitions

- 4.1 IPA – 70% Isopropyl alcohol

5.0 References

- 5.1 B-111, SOP, Cleaning of Manufacturing/Production Areas and Equipment

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6.0 Procedure

6.1 Setup

Note: Refer to the machine manual for setup and operation.

Note: Ensure that the machine is clean and cleared of all previously used materials.

6.1.1 Adjust the cap elevator system for the chosen cap.

6.1.1.1 The cap elevator must be observed during the entire packaging run and adjusted based on the following metrics:

6.1.1.1.1 Number of bottles capped per minute

6.1.1.1.2 Cap Height

6.1.1.1.3 Cap Width

6.1.1.1.4 Elevator Speed

6.1.1.2 The cap elevator is performing as required when the following occurs:

6.1.1.2.1 Caps are being picked up by the elevator.

6.1.1.2.2 Caps with the correct orientation are sent to the cap guide system.

6.1.1.2.3 Caps with the wrong orientation are rejected.

6.1.1.2.4 The cap applier is not starved for caps.

6.1.2 Determine the Index Method required to evenly space the chosen bottle.

6.1.3 Determine the Conveyor Speed required.

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6.1.4 Adjust the cap guide system for the chosen cap.

6.1.4.1 The cap guides must be observed during the entire packaging run and adjusted based on the following metrics:

6.1.4.1.1 Number of bottles capped per minute

6.1.4.1.2 Cap Height

6.1.4.1.3 Cap Width

6.1.4.2 The cap guide is performing as required when the following occurs:

6.1.4.2.1 The cap is smoothly riding the guide to the cap applier system.

6.1.4.2.2 The cap elevator is stopped when the cap guides are full.

6.1.4.2.3 The cap applier system is not starved for caps.

6.1.5 Adjust the cap applier system for the chosen cap and bottle.

6.1.5.1 The cap applier must be observed during the entire packaging run and adjusted based on the following metrics:

6.1.5.1.1 Number of bottles capped per minute

6.1.5.1.2 Cap Height

6.1.5.1.3 Cap Width

6.1.5.1.4 Bottle Height

6.1.5.1.5 Bottle Width

6.1.5.2 The cap applier is performing as required when the following occurs:

6.1.5.2.1 The cap is accurately placed on the top of the bottle.

6.1.5.2.2 The bottle is not damaged while the cap is applied.

6.1.5.2.3 The contents of the bottle are not damaged while the cap is applied.

6.1.5.2.4 The cap is applied completely and without damage.

6.2 Operation

6.2.1 Ready up the Equipment.

6.2.2 Fill the hopper with caps.

6.2.3 Ensure of the following systems are performing as stated in 6.1 Setup.

6.2.3.1 Cap Elevator

6.2.3.2 Cap Guides

6.2.3.3 Index Method

6.2.3.4 Conveyor Speed

6.2.3.5 Cap Guides

6.2.3.6 Cap Applier

6.3 Setup Applicable Accessories: Cap Reject System

6.3.1 Power on the Cap Reject System

6.3.2 Adjust position of Cap Reject System to ensure rejected bottles enter the bin

6.3.3 Adjust the height of Cap Reject System to match the height of the selected bottle

6.3.4 Ensure a reject bottle is properly rejected by Cap Reject System

6.4 Cleaning

6.4.1 This type of equipment does not require any disassembly prior to cleaning

6.4.2 Refer to SOP B-111 Cleaning of Manufacturing/Production Areas and Equipment to follow the cleaning process applicable to equipment type.

Note: Do not use IPA on rubber parts.

7.0 Revision History

Revision	Date	Description of Changes	CCR #	By
1	07/25/13	New	13-623	B. Mosall
2	01/27/16	Biennial review: Changed the SOP format.	15-0947	P. Zittere
3	09/12/19	Scheduled review: Removed obsolete definitions. Added reference to SOP B-111 and SOP B-103.	19-0657	K. Burris
4	01/20/23	Scheduled review: Updated to include all Automatic Spindle Cappers. Updated logo and format. Removed reference to SOP B-103. Updated responsibilities.	CC-22-0217	M. Busse