

Seamer Setup Guide

High-Capacity Seamers

CASK BREWING SYSTEMS INC.

First Edition, January 2024



cask
global canning solutions



Technical Service & Support

Toll Free: 1-800-661-8443 Direct: +1 403-640-4677

support@cask.com

cask.com

Official supplier of Ball Corporation for the supply of printed aluminum cans to our customers

Confidential

High-Capacity Seaming Setup Guide

First Edition January 2024

Authored & Edited by Pierre Lanciault & Miles Gibson

Copyright

© 2016-2024 Cask Brewing Systems Inc. All rights reserved.

Disclaimer

The information presented in this manual has been reviewed and validated for accuracy. The included set of instruction and descriptions are accurate for Cask Canning Systems in their stock condition as supplied by Cask Brewing Systems Inc., at the time of this manual's production. However, subsequent products and manuals are subject to change without notice. Therefore, Cask Brewing Systems Inc. assumes no liability for damages incurred directly or indirectly from errors, omissions, or discrepancies between any subsequent or altered products and this manual.

Purpose

This is a step by steps guide to adjust Cask High-capacity seamer. It's critical to measure and evaluate the quality of the seams according to the manufacturer specifications after each step of this guide and adjust as needed. Make sure you are referring to Manufacturer specifications of the cans and lids you are using.

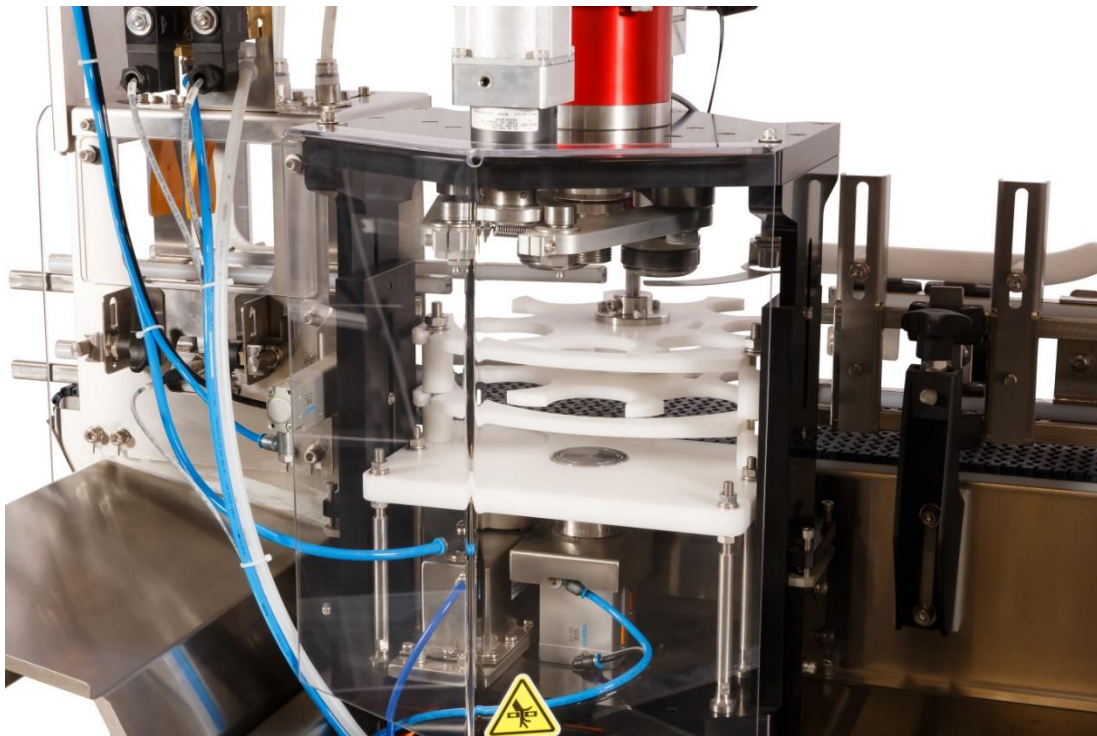


Figure 1 Cask High-Capacity Seamer



Table of Contents

| | | |
|------------|---|----|
| Section A. | Setting Up the Seamer | 3 |
| A.1 | Before You Begin..... | 3 |
| A.2 | Air Pressure & Lift Table Height | 4 |
| A.3 | Lift Table Fitment..... | 5 |
| A.4 | Set Lift Table Height Adjustment | 6 |
| A.5 | Set Die 1 Height..... | 10 |
| A.6 | Set Die 1 Lateral Position | 12 |
| A.7 | TEST 1 st Operation Seam..... | 14 |
| A.8 | Measure 1 st Operation Thickness..... | 14 |
| A.9 | Set Die 2 Height..... | 15 |
| A.10 | Set Die 2 Lateral Position | 17 |
| A.11 | Test 2 nd Operation Seam..... | 19 |
| A.12 | Measure 2 nd Operation Parameters..... | 19 |
| Section B. | Company Information | 24 |



Section A. Setting Up the Seamer

A.1 Before You Begin

It is critical to use the manufacturer's specifications for your Cans and lids. There is slight variations in tolerances and specifications from different manufacturers. To achieve accurate seamer setup , you must have the following information:

- Can Body Specification Sheet
- Lid Specification Sheet
- Seaming Specification Sheet

If you don't have this information, it is important you only get this information from the manufacturer or supplier to ensure the specification sheet is for your exact style of cans and lids.

A.2 Air Pressure & Lift Table Height

Since the Lift Table is pneumatically actuated on all Cask seamers, consistent System Air pressure is extremely important to ensure that the Lift Table fully extends during the seaming process. Your air compressor should be sized for the flow demand of your Cask system. The compressor should also be equipped with an inline refrigerated air dryer.

A constant System Air pressure of **6.2 Bar (90psi)** on the main regulator is required to ensure that the table pushes up with enough force to fully extend and clamp the can in place. On high-capacity seamers, the system is equipped with a separate regulator for the lift table pressure. The lift table regulator should be set at **4.1 Bar (60psi)**.



Figure 2 Festo Air Regulator

A.3 Lift Table Fitment

The groove or chamfer of the Lift Table must be correctly sized to fit the bottom ring of the can body. This will keep it centered and straight while being raised and during seaming process.

Most Cask machines are equipped with a set of grooved lift tables, number 1 & 2. These are designed to accommodate smaller or larger can base sizes, respectively.



Figure 3 Cask Seamer Lift Tables

To discover the correct fit, place an empty can on the lift table. Find the best fit between table # 1 and # 2.

Incorrect Fit

If the inner or outer chambers are the wrong size, the can's position will be skewed while being raised. This will result in inconsistent seams, particularly high variation in the body.

Correct Fit

When the chamfers are appropriately sized, the can will stay centered and flat while being raised and seamed.

A.4 Set Lift Table Height Adjustment

The height of the Lift Table is a critical parameter as it directly influences the length of the Body Hook and the can position on the Chuck.

The can table is threaded into the housing to allow for infinite adjustment. Once a desired height has been set, it is held in place by a nylon tipped set screw.

The following steps outline the best practices for initial setup only. The goal of this exercise is to establish enough pressure to create a rough seam that can be measured as a baseline for further adjustment. The Lift Table will most likely require further adjustment to achieve manufacturer specified tear-down measurements.

1. Loosen The Set Screw using a 5/32 Allen Wrench on the lift table housing.

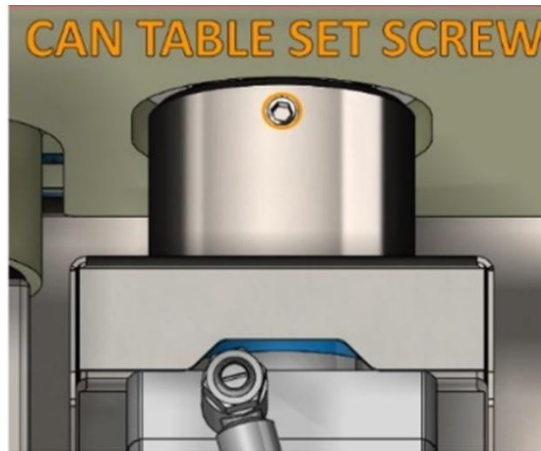


Figure 4 Can Table Set Screw

2. Lift and hold the table assembly up by hand.

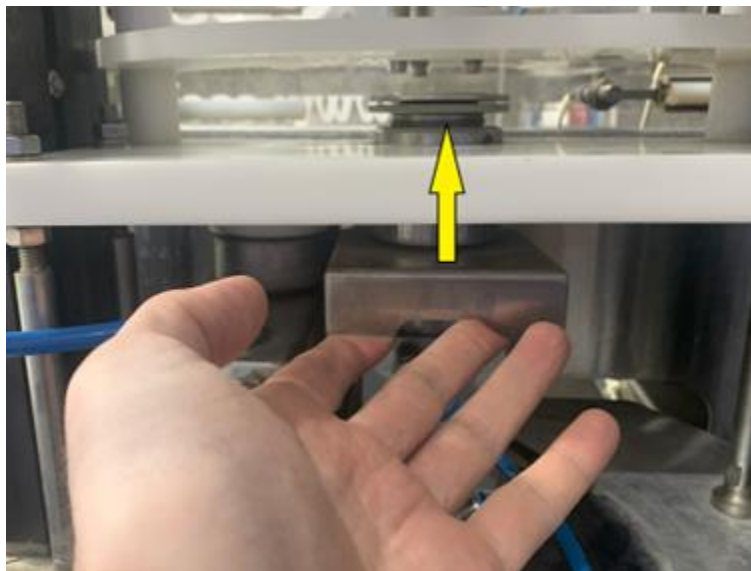


Figure 5 Lifting Can Table Assembly

3. While holding the table up, turn the table clockwise using the knurled edge to lower it until it is well below working height.

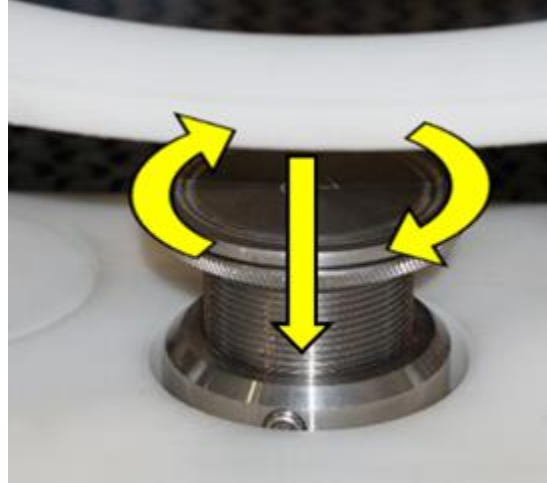


Figure 6 Turning the table clockwise

4. Place an empty can with a lid on the table



Figure 7 Empty Can Placement

5. With the can in place, lift and hold the table assembly up by hand. Spin the table counterclockwise until the table will not go any further and the can is tight against the chuck.

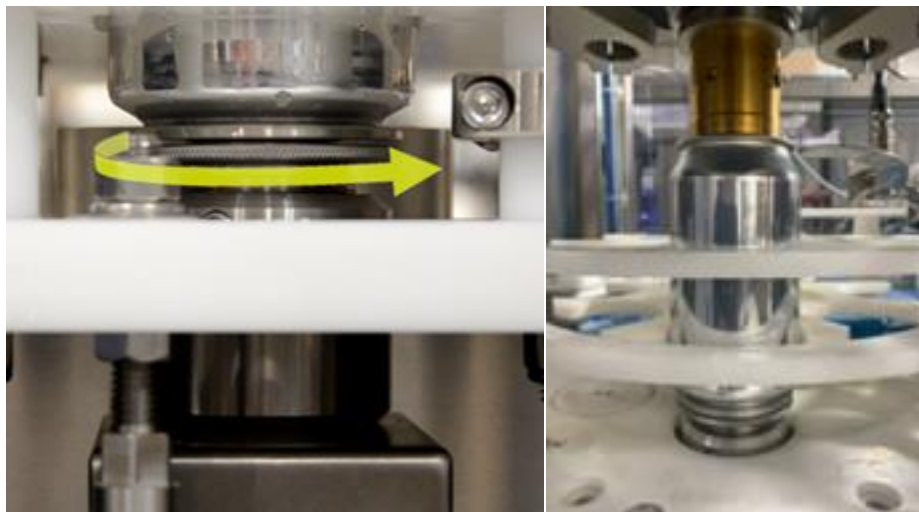


Figure 8 Fitting the can into the chuck

6. Remove the can and spin the table an additional $\frac{1}{4}$ turn counterclockwise past the stopping point.

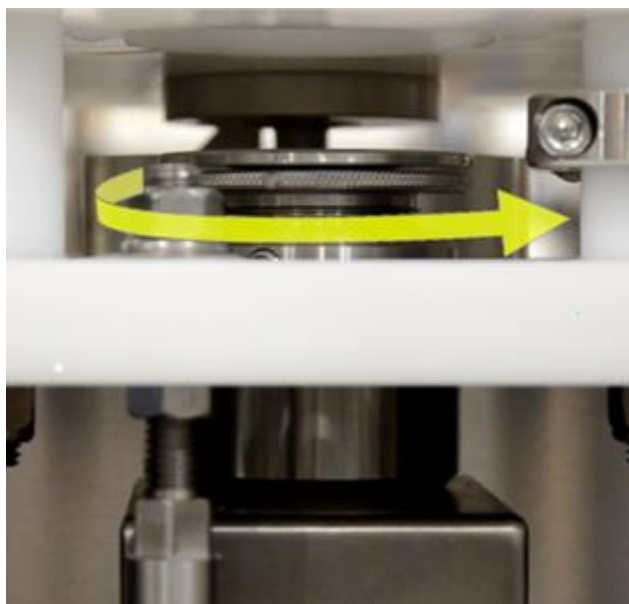


Figure 9 1/4 Turn Counter-Clockwise

- Place an undented empty can with a lid on the lift table. Make sure the can is not making any contact with the carousel or the back guide rails.



Figure 10 Empty Lidded Can on Lift Table

- Press the lift button to lift the table.



Figure 11 Lift Button (HMI) & Lifted Can on Seamer

- Validate that the can with the lid is tight against the chuck. The purpose of this test is to make sure the pressure is applied properly on the can. If the can is getting crushed, the lift table height is set too high and too much force is applied to the can. In this case, lower the table height and test again.
- Re-tighten the set screw of the table.

A.5 Set Die 1 Height

1. Engage Die 1 Arm in position by pressing Move Die #1 Symbol on the HMI Screen



Figure 12 Move Die#1 (HMI)

2. Loosen the Vertical Adjustment Socket Head Screw with a 5/32" Allen wrench. (5mm for Metric style) Take special care to loosen the Socket head screw just enough to turn the die by hand. The goal is to be able to turn the die but not have any side play on the "threads" for accurate height adjustment.



Figure 13 Loosening the Vertical Adjustment Socket

- Thread the die body counterclockwise to bring the seaming die lower until the shoulder of the seaming die is resting on the lip of the seaming chuck.

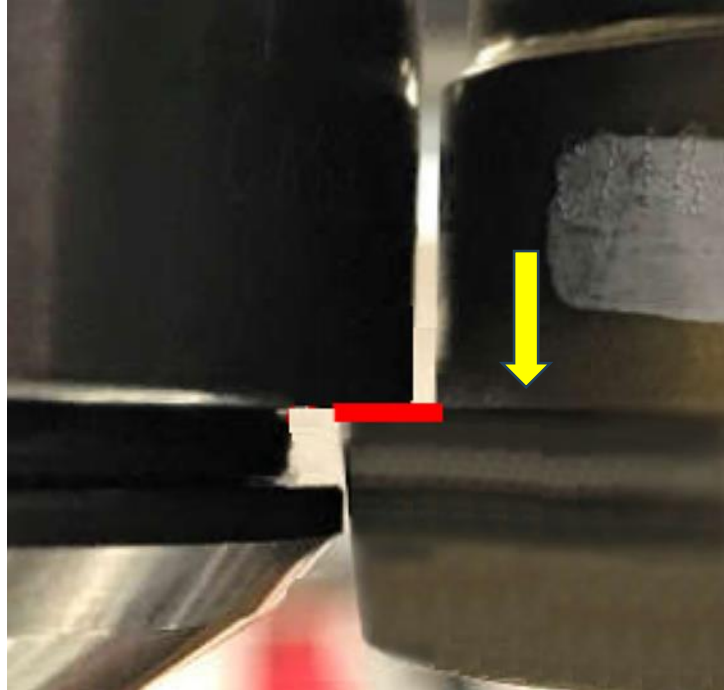


Figure 14 Seaming Die resting on Seaming Chuck

- Spin Clockwise 1/8 of a turn to raise Die 1 to a safe working height. The goal is to create a 0.003"–0.005" (0.07mm–0.12mm) gap between the shoulder of the seaming die and the lip of the chuck.
- Re Tighten the socket head screw.

Make sure that the seaming die is not making any contact with the upper lip of the chuck by turning the chuck by hand and look for possible contact with the seaming roll.

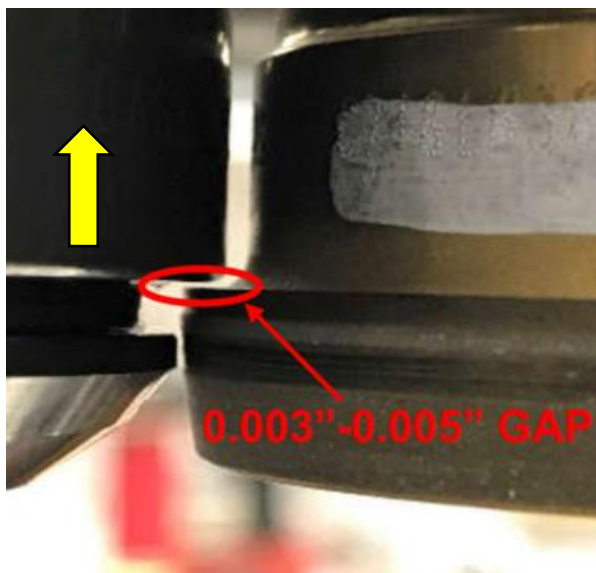


Figure 15 Ensure the Die is not contacting the Chuck

Be Cautious!

Damage will occur if the chuck contacts the seaming roll during the height adjustment.

A.6 Set Die 1 Lateral Position

1. Engage Die 1 Arm in position by pressing on move Die #1 symbol on the HMI Screen.



Figure 16 HMI - Move Die #1 Symbol

2. Loosen the socket head screw slightly at the back of the seaming arm using a 5/32 Allen wrench (5mm for Metric style)



Figure 17 Counterclockwise turn on seaming arm (5/32 Allen Wrench or 5mm Metric)

3. Rotate the cam follower by rotating the hex nut at the bottom of the seaming arm to bring the die closer or further away to the chuck.

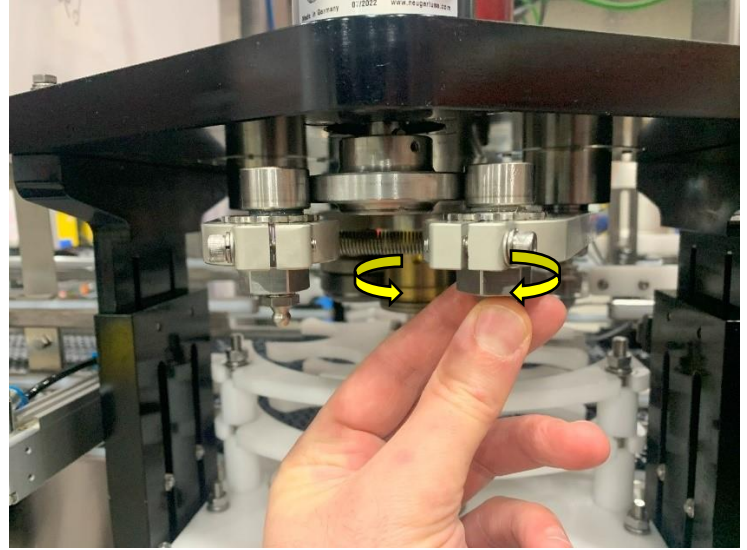
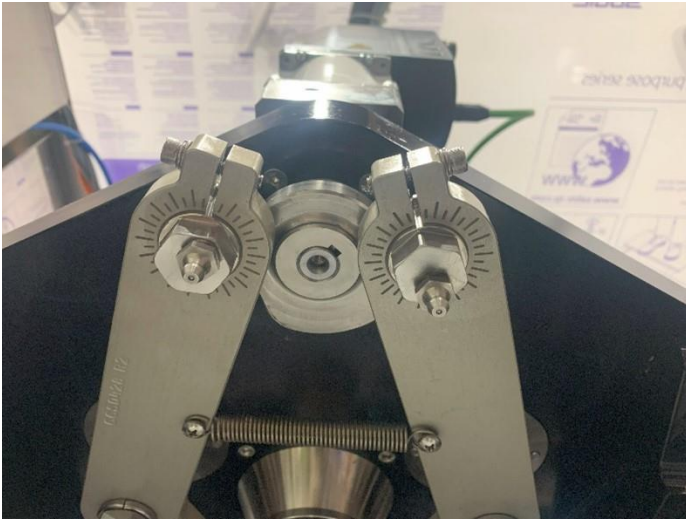


Figure 18 Rotate Hex Nut at Bottom of Seaming Arm

4. Insert 1st Op Wire Gauge in the groove of the Seaming die, then adjust the Seaming Die closer to the chuck until all free space is eliminated. You should feel resistance when you pull/push on the wire gauge.

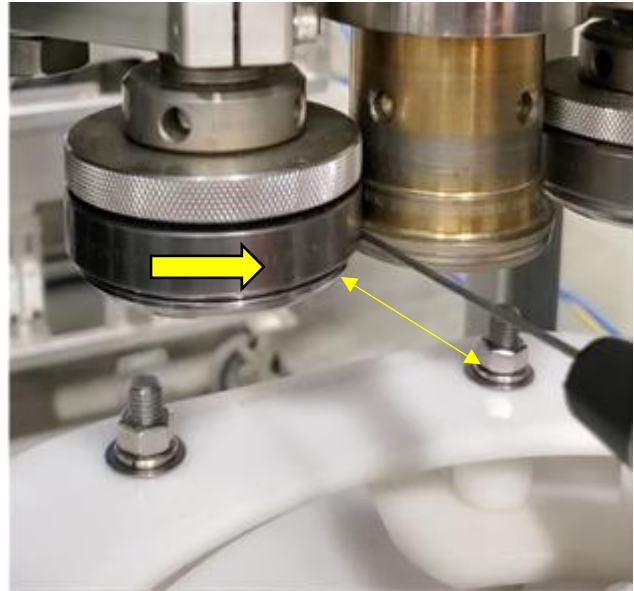


Figure 19 Use of 1st Op Wire Gauge

5. Once the Seaming Die has been adjusted, re-tighten the lateral Adjustment Socket Head Screw

A.7 TEST 1st Operation Seam

1. Place a can full of water with a lid on the lift table.
2. Press on Test Seaming Die #1 Symbol on the HMI to complete a 1st Operation Seam of the Can.



Figure 20 HMI - Test Die# 1 Symbol

A.8 Measure 1st Operation Thickness

The 1st Operation Seaming Die is set laterally to achieve cover hook and 1st Operation Seam Thickness.

1. Measure 1 operation seam thickness with a micrometer. Take measurements at 4 different spots on the can. (Adjust as needed according to the manufacturer specifications.)

The micrometer will naturally come to rest at a slight downward slope due to the geometry of the seam

However, it should not feel “loose.”



Figure 21 Micrometer positioned on can for measuring 1st Op Thickness

A.9 Set Die 2 Height

1. Engage Die 2 Arm in position by pressing on Die #2 Symbol on the HMI Screen



Figure 22 HMI - Move Die 2 Symbol

2. Loosen the Vertical Adjustment Socket Head Screw with a 5/32" Allen wrench (5mm for Metric style). **Take special care to loosen the Socket head screw just enough turn the die by hand. The goal is to be able to turn the die but not have any side play on the "threads" for accurate height adjustment.**

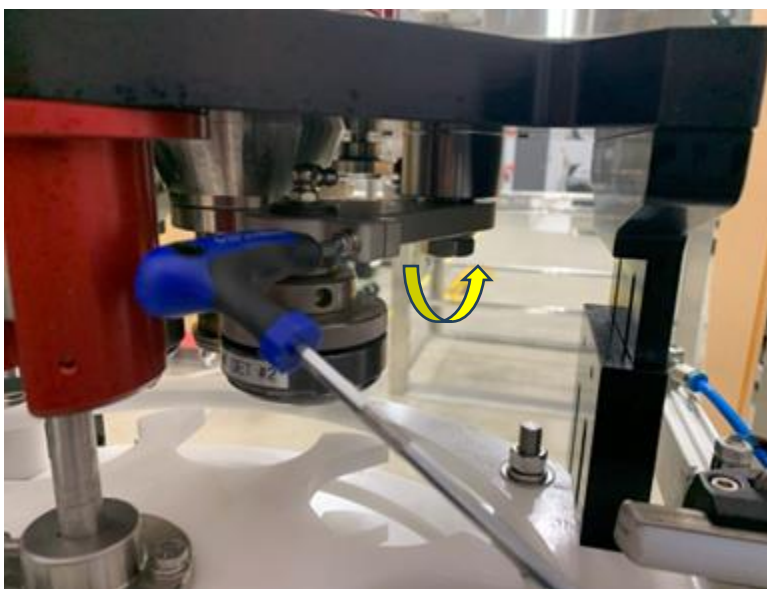


Figure 23 Vertical Adjustment Socket Head Screw Adjustment

3. Thread the Die Body counterclockwise until the shoulder of the Seaming Die rests on the lip of the Seaming Chuck.

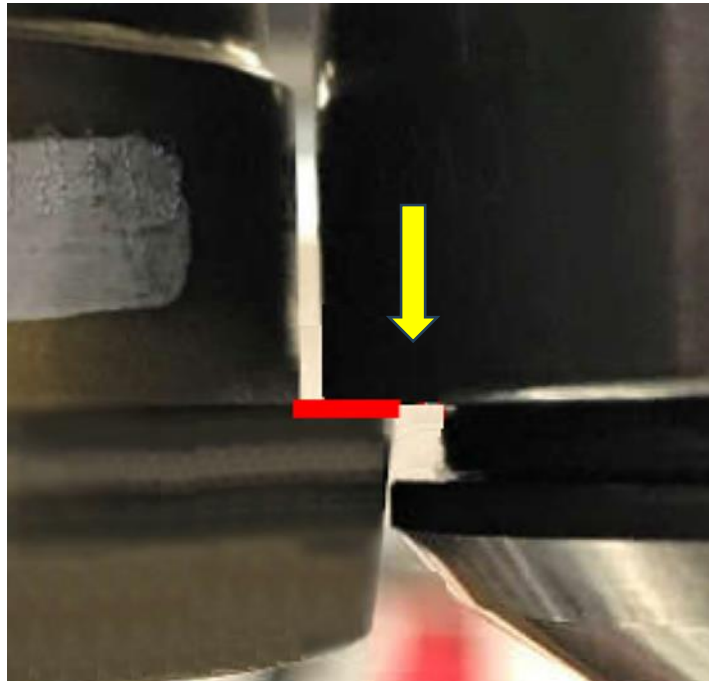
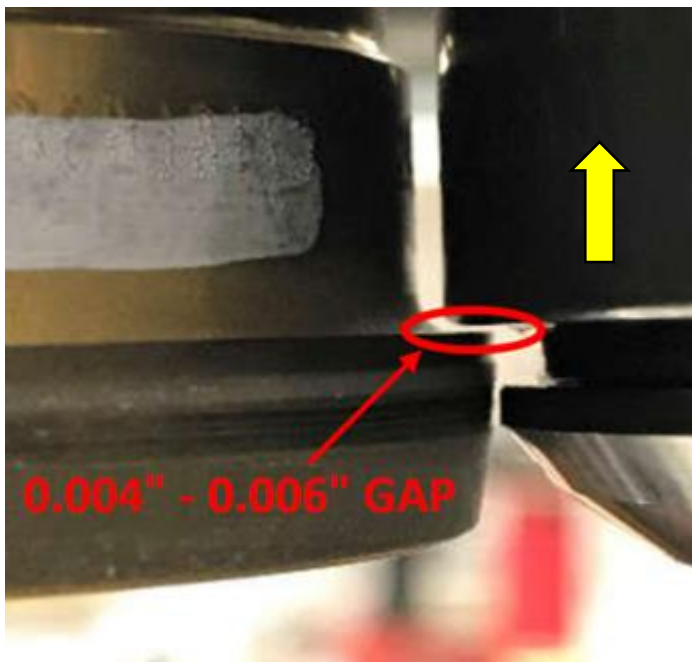


Figure 24 Threading Die Body Counterclockwise

4. Spin clockwise 1/8 of a turn to raise Die 2 to a safe working height. The goal is to create a 0.004"-0.006" (0.10mm-0.15mm) gap between the shoulder of the seaming die and the lip of the chuck.



Be Cautious!

Damage will occur if the chuck contacts the seaming roll during the height adjustment.

Figure 25 Ensure Die is Not Contacting the Chuck

5. Once the Seaming Die has been adjusted, re-tighten the lateral Adjustment Socket head screw.

A.10 Set Die 2 Lateral Position

1. Engage Die 2 Arm in position by pressing Move Die #2 Symbol on the HMI.



Figure 26 HMI - Move Die #2 Symbol

2. Loosen the Vertical Adjustment Socket Head Screw with a 5/32" Allen wrench (5mm for Metric style).

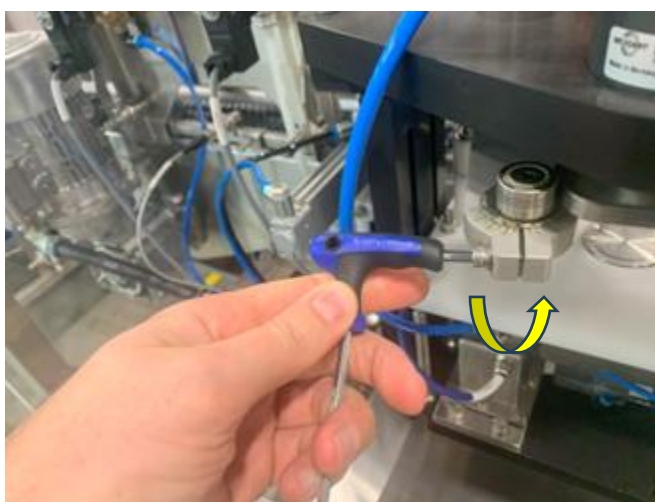


Figure 27 Vertical Adjustment Socket Head Screw

3. Rotate the cam follower by turning the hex nut at the bottom of the arm to bring the die closer or further away to the chuck.

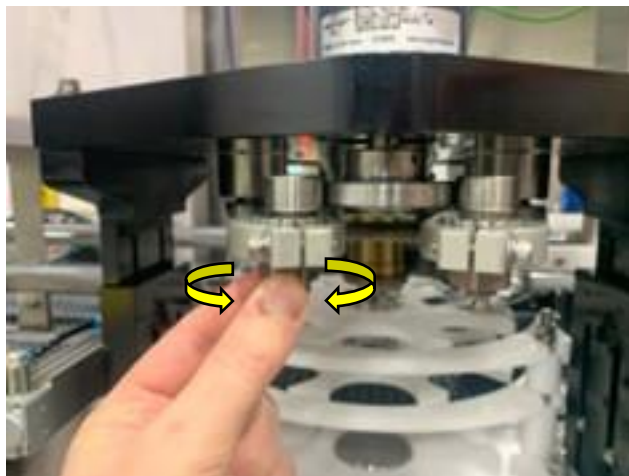


Figure 28 Rotate Cam Follower using Hex Nut at the bottom of the arm

4. Insert 2 Op Wire Gauge in the groove of the Seaming die, then adjust the Seaming Die until all free space is eliminated. You should feel resistance when you pull/push on the wire gauge.

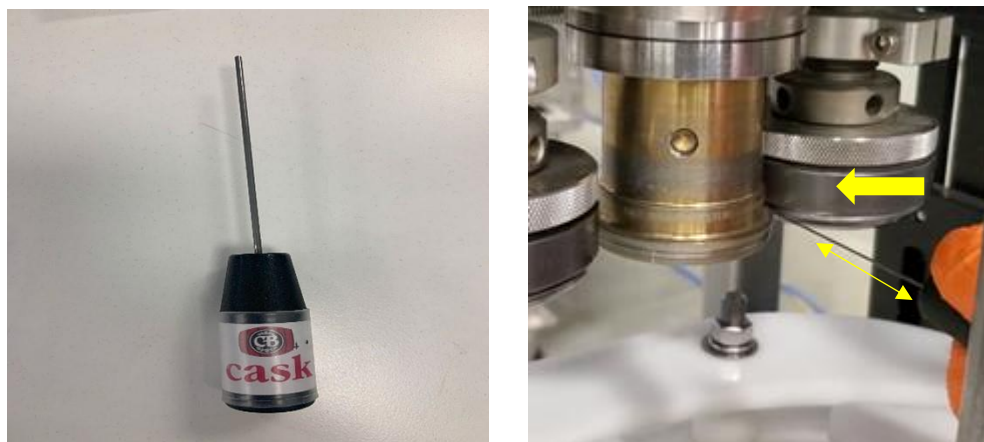


Figure 29 Use of 2nd Op Wire Gauge

5. Once the Seaming roll has been adjusted, retighten the lateral Adjustment Socket head screw.

A.11 Test 2nd Operation Seam

1. Place a can full of water with a lid on the lift table.
2. Press on Test Die #2 Symbol on the HMI to complete a full seam of the can.



Figure 30 HMI - Test Die #2 Symbol

A.12 Measure 2nd Operation Parameters

A.12.1 2nd Operation Thickness

2nd Operation Seam Thickness is controlled by Die 2's lateral position. Die 2 must be able to create enough compression to flatten the seam and disperse the sealant from the lid evenly into the void spaces of the seam.

1. Measure 2nd operation seam thickness with a micrometer. (Adjust as needed according to the manufacturer specifications)
2. Take measurements at 4 different spots on the can. (Adjust as needed according to the manufacturer specifications.)

*The micrometer will naturally come to rest at a slight downward slope due to the geometry of the seam
However, it should not feel "loose."*

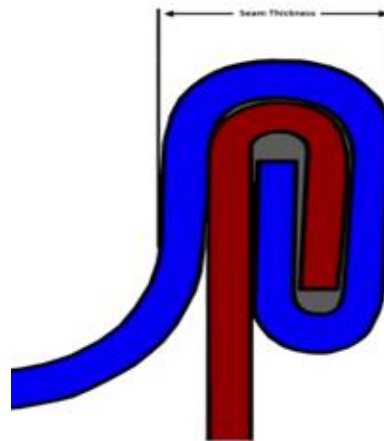


Figure 31 Micrometer positioned on can for measuring 2nd Op Thickness

A.12.2 2nd Operation Seam Height

Seam Height is controlled by many factors, but mainly Seam Roll Vertical & Lateral position.

1. Measure The Seam height with a digital caliper.
2. Take measurements at 4 different spots on the can. (Adjust as needed according to the manufacturer specifications)

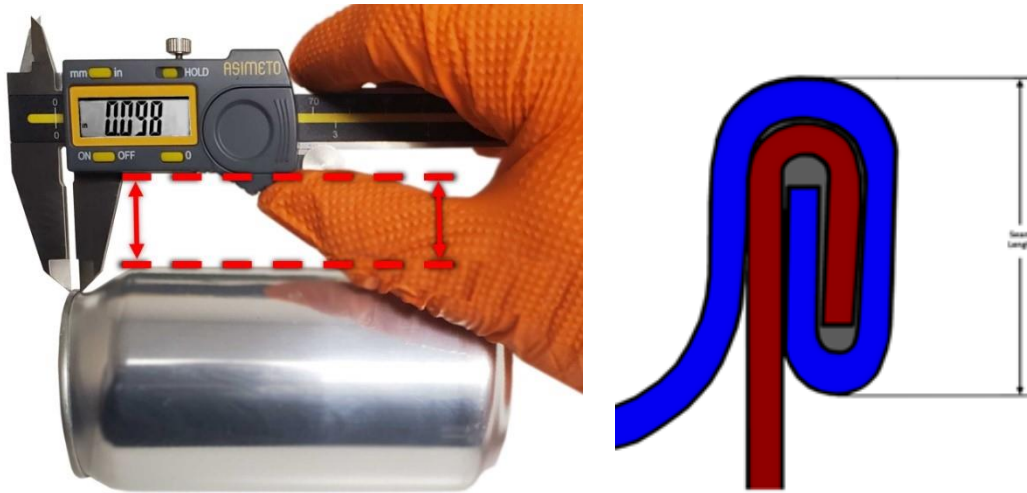


Figure 32 Measuring Seam Height with a digital caliper

A.12.3 Can Tear Down

1. Perform a Can Tear down using the modified can opener.
2. Place the Can Seam Opener on top of the seam in line with the drink spout and spin the crank clockwise to engage it.
3. Continue turning the crank until you have reached the start point, then spin the crank counterclockwise to disengage it.



Figure 33 Use the Modified Can Opener to Remove the Lid

4. Remove the lid and discard it.



Figure 34 Can with lid removed

5. Using a set of side cutter, cut a notch in the seam.



Figure 35 Notch cut in can seam for cover hook removal

6. Pull the cover hook down to separate it from the body hook.



Figure 36 Pulling the Cover Hook down & Cover Hook removed

A.12.4 Measure the Cover Hook

1. Measure the height of the cover hook using the digital callipers.
2. Take measurements at 4 different spots on the can. (Adjust as needed according to the manufacturer specifications)



Figure 37 Measuring the Cover Hook using digital Calipers

3. Perform a visual inspection of the cover hook tightness rating.

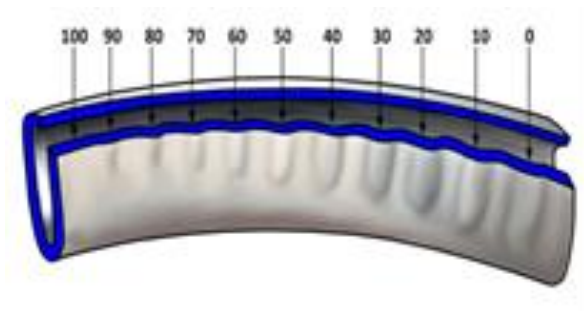


Figure 38 Inspect Tightness Rating

A.12.5 Measure the Body Hook

1. Measure the body hook using the digital calipers.
2. Take measurements at 4 different spots on the can. (Adjust as needed according to the manufacturer specifications)



Figure 39 Measuring the Cover Hook using digital Calipers



Section B. Company Information

Cask Brewing Systems Inc.
Bay 60, 5100-64 Ave SE
Calgary, Alberta, T2C 4V3
CANADA

Toll Free +1-800-661-8443
Direct +1 403-640-4677
Fax +1 403-640-4680
Email support@cask.com
Website www.cask.com

