



# OPERATION MANUAL

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CORKER



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# **CAUTION!**

Persons operating this machinery are reminded to observe their own company safety policies. In addition, the following safety rules should be observed:

**DO NOT REACH INTO THE MACHINE WHILE IT IS IN OPERATION.**

**USE ONLY THE CORRECT TOOL FOR THE JOB BEING DONE.**

**STAY ALERT, REMEMBER LOCATION OF CONTROL SWITCHES.**

## **MAINTENANCE**

The main electric switch supplying power to the machinery should be locked out or disconnected when repairs to work is performed on this equipment.

Machine should be cleaned and inspected regularly. All safety switches must be operable, attachments secure and machine free of broken glass and paper.

Do not hand lubricate when the machine is in operation.

Work area should be kept clean and as dry as is practical.

The repair or adjustment of this equipment should be performed only by persons qualified through technical training and ability, as assigned by your company.

## **OPERATION**

All guards should be securely in place before operating the machine.

Company rules on eye protection should be followed.

Loose clothing or jewelry such as neckties, rolled sleeves, over blouses, bracelets, watches and rings should not be worn when operating the machine.

Report all malfunctions, unusual operation and defects immediately  
Please exercise caution with any moving parts, including the conveyor and any pinch or drive rolls.

Stop the machine before placing hands or arms near or into any area where moving parts are located.

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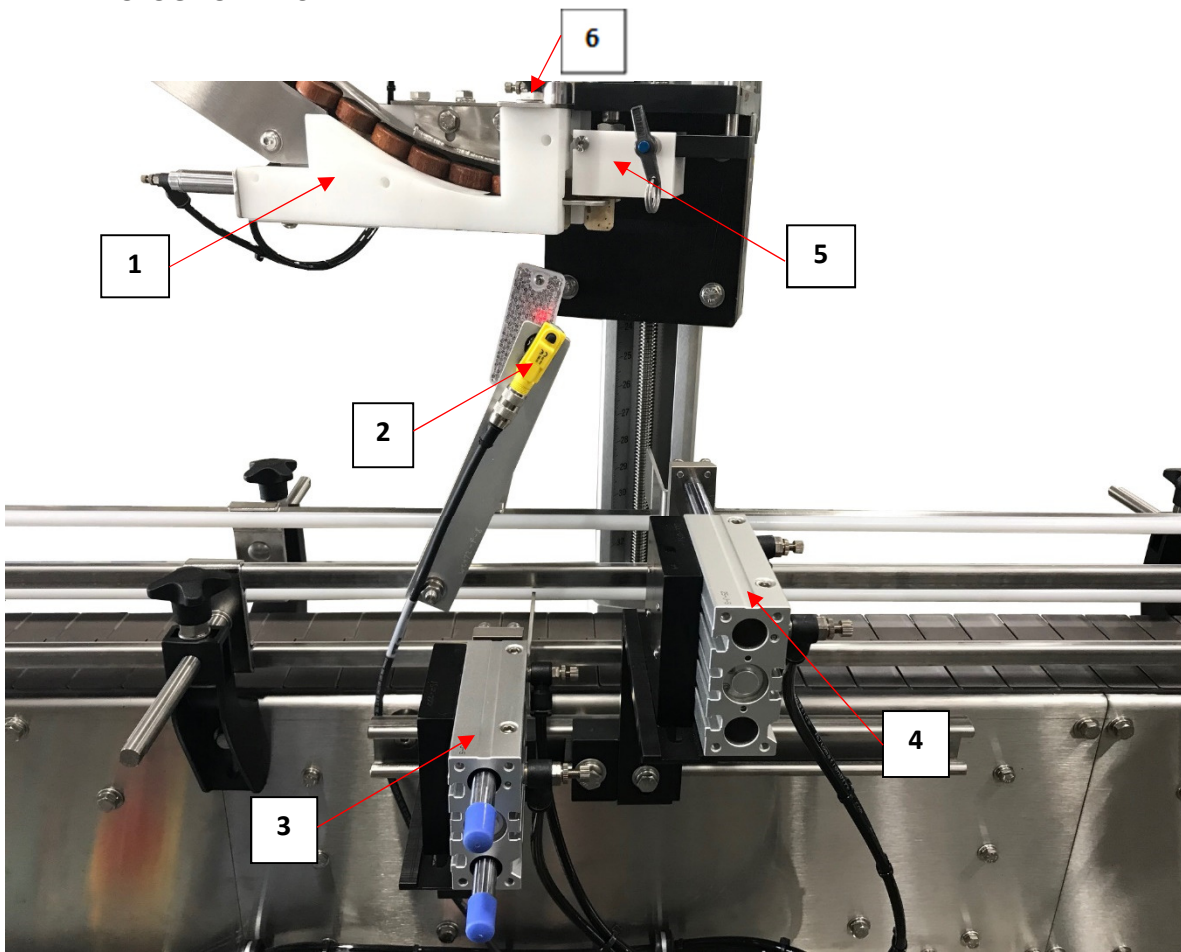
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## SECTION ONE – GENERAL INFORMATION

### 1.1 TERMINOLOGY OF MACHINE



1. Corker Chute

2. Entry Gate Eye

3. Entry Gate

4. Exit Gate

5. Corker Chuck

6. Holdback Pin

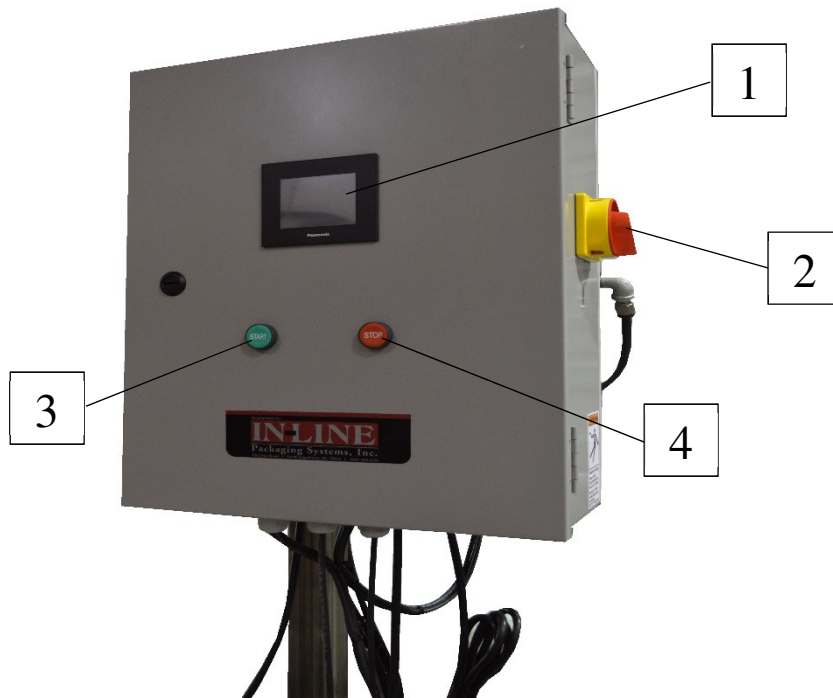
## 1.2 SPECIFICATIONS – STANDARD MACHINE

ITEM	SPECIFICATION
Conveyor width	4 1/2 inches standard
Machine speed	variable
Machine weight	600 lbs
Overall dimensions	Variable, standard is 72"x48"
Electric requirements	110VAC @ 6 amps
Air requirements	60psi @ 3-4 cfm

## 1.3 FUNCTIONAL DESCRIPTION OF MACHINE

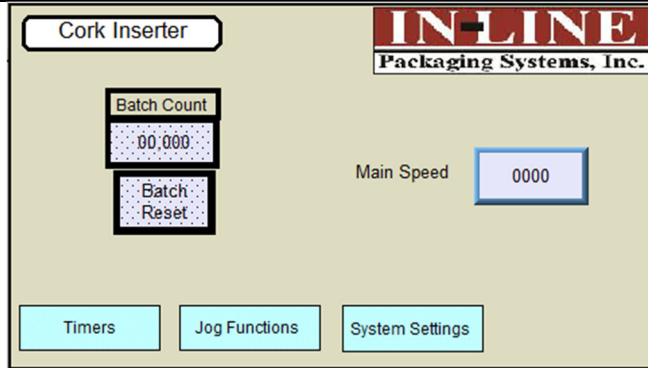
The In-Line Chuck Corker is a semi or fully automatic (as ordered) corker capable of placing a variety of corks on containers of various shapes and sizes. If the automatic sorter or bulk hopper are purchased, the machine will automatically sort and feed plastic top corks from a bulk hopper and deliver them to the escapement and cork applicator. The applicator will transfer the cork from the chute escapement on to the container and insert the cork in to the cork retainer, pressing the cork to its position on the neck of the container. The containers will be automatically indexed and centered under the application station for container to cork alignment and released after the cork has been applied.

## 1.4 BASIC MACHINE CONTROLS



- |   |                   |
|---|-------------------|
| 1 | MAIN INTERFACE    |
| 2 | MAIN POWER SWITCH |
| 3 | CONVEYOR START    |
| 4 | CONVEYOR STOP     |

## SCREEN SETTINGS



### Main Screen:

**Main Speed:** Enter speed of machine conveyor (ipm)

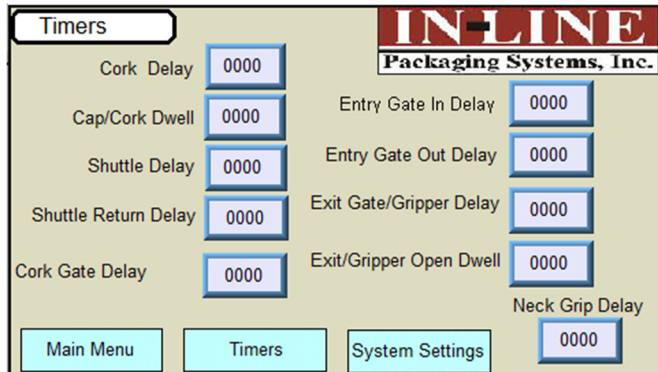
**Batch Count:** Displays current batch count

**Batch Reset:** Press to reset count to 0

**Timers:** Access screen for Timers

**Jog Functions:** Access screen for Jogging Devices

**System Settings:** Change system settings



### Corker Timers Screen:

**Cork Delay:** This number affects the timing in which the capping cycle starts after the Gripper closes.

**Cap/Cork Dwell:** This number affects the time in which the chuck will remain down when applying a cork or cap

**Shuttle Delay:** This number affects the time in which the Shuttle moves a cap/cork to the Plunger

**Shuttle Return Delay:** This number affects the time in which the Shuttle returns to the Chute.

**Entry Gate In Delay:** This number affects the timing in which the gate closes to hold bottles back.

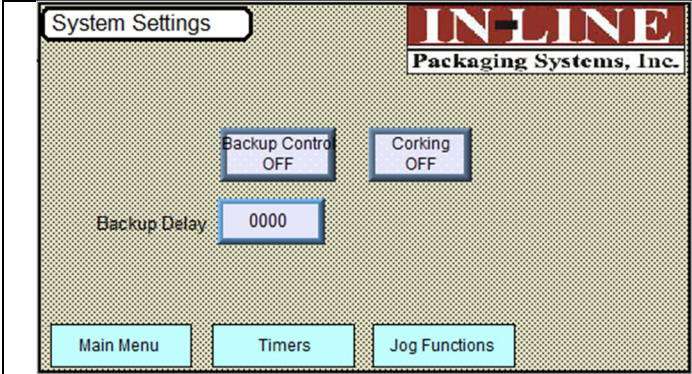
**Entry Gate Out Delay:** This number affects the timing in which the gate retracts after the cycle.

**Exit Gate/Gripper Delay:** This number affects the timing in which the Gripper closes to start cycle after a container is detected.

**Exit Gate/Gripper Dwell:** This number affects the time in which the Gripper remains engaged.

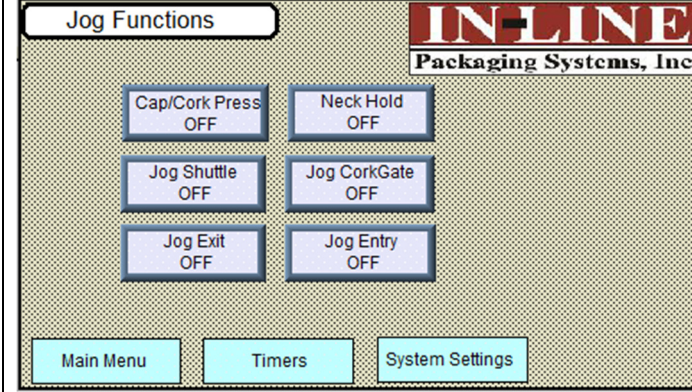
**Neck Grip Delay:** This number affects the time in which the Neck Gripper Mechanism engages.





**System Settings Screen:**

- Corking On/Off:** Push to Toggle On or Off
- Backup Control On/Off:** Push to Toggle On or Off
- Backup Delay:** Set to control when Exit Gate and Entry Gate will open to control discharge flow of bottles.



**Jog Functions Screen:**

- Cap/Cork Press:**
- Jog Shuttle:** Press to Jog Cork/Cap Shuttle
- Jog Exit:** Press to Jog Exit Gate
- Jog Neck Hold:** Press to Jog Neck Hold
- Jog Cork Gate:** Press to Jog Cork Gate
- Jog Entry:** Press to Jog Entry Gate

## **SECTION TWO – UNCRATING AND INSTALLATION**

### **2.1 POWER AND AIR CONNECTIONS**

A grounded electrical male plug is provided with the machine, and is connected to the main electrical enclosure on the side of the machine. Plug this into any grounded receptacle. On machines with coders or that require air, an air filter/reservoir with a ¼" male quick disconnect fitting attached, is provided underneath the main electrical enclosure on machines that require compressed air. You can supply compressed air to the machine by either a mating quick disconnect on the end of an air hose, or you can permanently pipe air to the machine using standard pipe and connecting directly into the air filter using threaded pipe connections. If you permanently pipe air into the system we recommend a cut-off valve be mounted at the machine. Some changeover adjustments are easier if the operator is able to temporarily turn off the air pressure.

### **2.2 INSTALLING IN PRODUCTION LINE**

Move the machine into its permanent location. Adjust the conveyor height of the machine to match the heights of the adjoining machines as required. Leveling Pads are provided with the Labeler that allow some vertical adjustment. If necessary, make spacing blocks to raise the height. Approximately 12 inches of lineal space (as a standard, extensions are available) is provided on each end of the machine to allow a crossover from or to the next machine. Butt the conveyor ends as close to each other as possible and then use conveyor rails to guide the bottles across narrow dead plates onto the conveyor.

### **2.3 LEVELING BASE MACHINE**

Once the machine is installed, level the main conveyor through the machine by using a bubble level. Place the bubble level along the length of the machine and also perpendicular to the conveyor at the label station. Leveling the machine is important to the quality of labeling since this will affect the web path and container path. Verification that the machine is square and level will ensure proper operation.

## **SECTION THREE – PREPARING FOR OPERATION**

### **3.1 LOADING CAPS OR CORKS**

The machine can be ordered with a bulk hopper and cork chute, cork chute only, or corker only. If the hopper is ordered then level of the hopper should be set to allow only properly oriented corks to remain on the elevator chain, if corks are feeding backwards then the elevator/hopper should be adjusted to be more vertical to cause backwards corks to fall off. The hopper should be loaded with several hundred corks but not loaded completely full.

### **3.2 SET CONVEYOR RAILS TO CONTAINER SIZE**

The guide rails are adjusted in from the front and rear adjustments so the bottles are centered under the cork chuck on the conveyor chain.

### **3.3 ADJUST HEIGHT OF TORQUEING HEAD TO CONTAINER**

The vertical height of the cork chuck is adjusted using the handwheel located behind the spindle motor. This height is based on the cork being placed fully into or torqued on the container so that the internal spring on the chuck is fully compressed when the cork is fully seated. The vertical stroke length of the spindle is adjustable by removing the cover and adjusting the spindle travel screw and nut. The chuck must be high enough to allow bottles to move under it on the conveyor, and the stroke set long enough for corks to fully seat.

### **3.4 ADJUST GRIPPERS BASED ON ACTUAL SIZE**

Round bottles require grippers made to the size of the bottle and may be changed from bottle to bottle. The gripper, rear bottle stop, and stripper plate are adjusted in so that the bottle when gripped is centered under the chuck and has enough pressure to keep the bottle from spinning while cork insertion is occurring.

## SECTION FOUR – OPERATIONAL ADJUSTMENTS

### 4.1 ADJUSTING TIGHTNESS OF CAP OR PRESSURE ON CORK

Cork tightness is adjusted by increasing or decreasing the pressure on the torquing clutch. The pressure should be set so the chuck stalls when the cork is tight, if the pressure is set too high and the cork is over-tightened premature wear to the torquing pad in the chuck will occur.

The cork insertion depth is adjusted by increasing the stroke or height of the chuck mechanism.

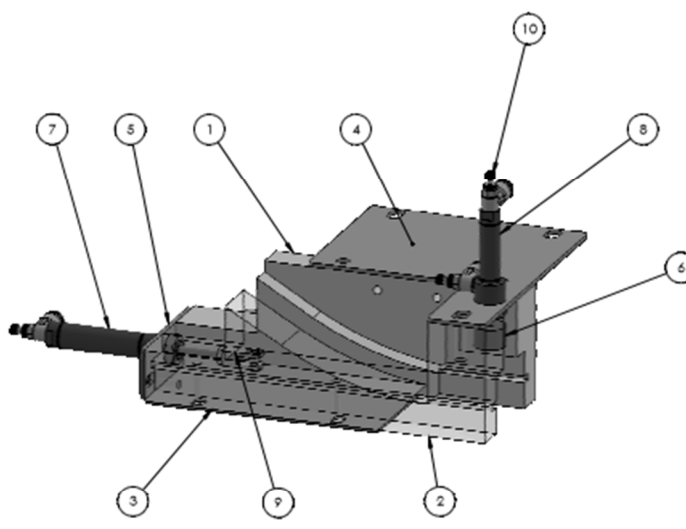
### 4.2 CHUTE ADJUSTMENT

<b>NEXT ASSEMBLY</b>	<b>QUANTITY</b>	<b>REVISIONS</b>			
CRK-101	1	<b>REV</b>	<b>DESCRIPTION</b>	<b>DATE</b>	<b>REVISED BY</b>
		A	CHANGED TO ADJUSTABLE ASSEMBLY/REMOVED SLIDE	4/13/18	JCW

ITEM NO.	PART NUMBER	QTY.
1	CRK-006-REVA-LEFT SLIDE GUIDE	1
2	CRK-007-REVA-RIGHT SLIDE GUIDE	1
3	CRK-012-REVA-MAIN BOTTOM SUPPORT PLATE	1
4	CRK-013-REVA-MAIN UPPER SUPPORT	1
5	CRK-014-REVA-SLIDE CYLINDER MOUNT	1
6	CRX-072-RUBBER STOP	1
7	CRX-061-AIR CYLINDER	1
8	CRX-062-AIR CYLINDER	1
9	CRX-063-AIR CYLINDER CLEVIS	1
10	RSX-020-1_4	4



<b>IN-LINE</b>		PACKAGING SYSTEMS, INC.	
<b>PART NUMBER:</b> CRK-003	<b>MATERIAL:</b> ASSEMBLY	<b>FINISH:</b> ASSEMBLY	<b>NAME:</b> LOWER CHUTE
USE A MIN. 1/8 LETTERING TO PUNCH OR ELECTRO ETCH PART # ON PART. NOTE: IF THERE IS A PARTICULAR PLACE WHERE WE WANT THE PART #, WE WILL INDICATE WITH *		DATE: 4/12/2018 DRAWN BY: JCW CHECKED BY:	DESCRIPTION: ASSEMBLY REFERENCE INFORMATION: CORKER ASSEMBLY
THIS DRAWING AND ALL IDEAS INCORPORATED IN ITS DESIGN IS THE EXCLUSIVE PROPERTY OF IN-LINE PACKAGING SYSTEMS, INC. ITS ACCEPTANCE CONSTITUTES AN AGREEMENT THAT IT SHALL BE TREATED AS A CONFIDENTIAL DOCUMENT USED FOR NO OTHER PURPOSE THAN TO AND IN ITS CONSTRUCTION. THAT IT IS TO BE RETURNED UPON REQUEST, AND THAT IT IS NOT TO BE DISCLOSED OR COPIED EXCEPT AS AUTHORIZED IN WRITING BY IN-LINE PACKAGING SYSTEMS, INC.		X 1/2 300 x 300 300 x 300 X 1/4 300 x 300 300 x 300 ANGLE: 45° PROTECTED SURFACE	SHEET: 1 OF 1 WEIGHT: 0 LBS. DRAWING NUMBER: CRK-003 REV: A

## **SECTION FIVE – PERIODIC MAINTENANCE, CLEANING, AND LUBRICATION**

### **5.1 MAINTENANCE**

Ensure that you perform a monthly visual inspection for wear. The torquing chuck life will vary depending on cap design, characteristics, and desired cap tightness.

### **5.2 CLEANING THE MACHINE**

The Corker comes in stainless and aluminum construction. Cleaning the machine regularly is recommended using soap and water.

### **5.3 LUBRICATION**

The lubrication points on the machine are:

1. The conveyor idler sprockets inside the frame of the machine may need some grease once/year. The conveyor idler sprockets are located under the conveyor chain.
2. Any threaded rod for linear motion should have light oil applied to it periodically to keep the mechanism moving freely.
3. The spindle cylinder has grease fittings and should be lubricated bi-monthly.

## **SECTION SIX – TROUBLESHOOTING**

### **6.1 NOTHING WORKS AT ALL**

1. Check main power. Is machine plugged in? Is main power switch turned on?
2. Check fuses inside control panel.
3. Are speed controls turned up above zero?

### **6.2 NO CAP OR CORK HAS BEEN PLACED OR HAS BEEN PLACED INCORRECTLY**

1. Ensure that the photo-eye sensor is properly connected. A test for this is to identify if the green light located on the sensor is on and that when an object running past it causes the orange light to blink. This indicates a count. Ensure that the reflector is properly positioned directly across from the sensor.
2. If repetitive chuck actuation occurs ensure that the gripper eye is centered on the bottle and the sensor is adjusted to turn on and remain on from the time the bottle is detected until the bottle exits the gripper area. If the gripper eye flashes on/off after the capping has occurred the chuck will fire a second time.

## SECTION SEVEN – PARTS DIAGRAM

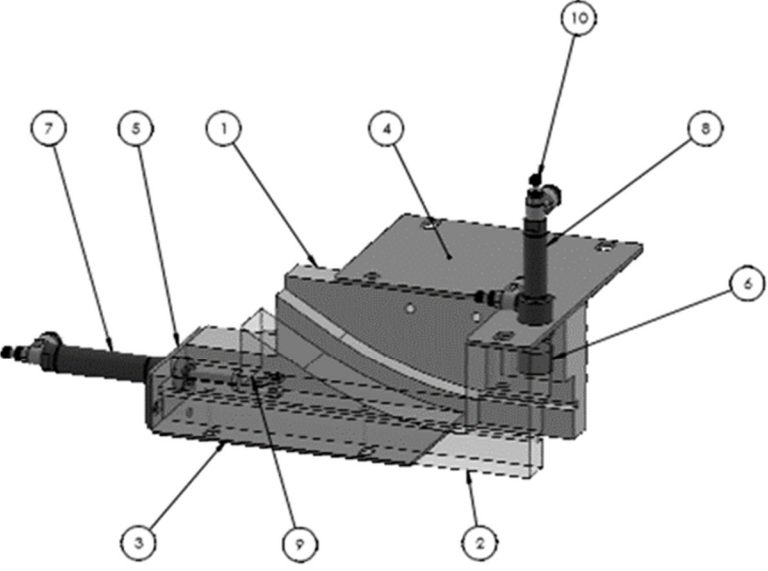
### CRK-003

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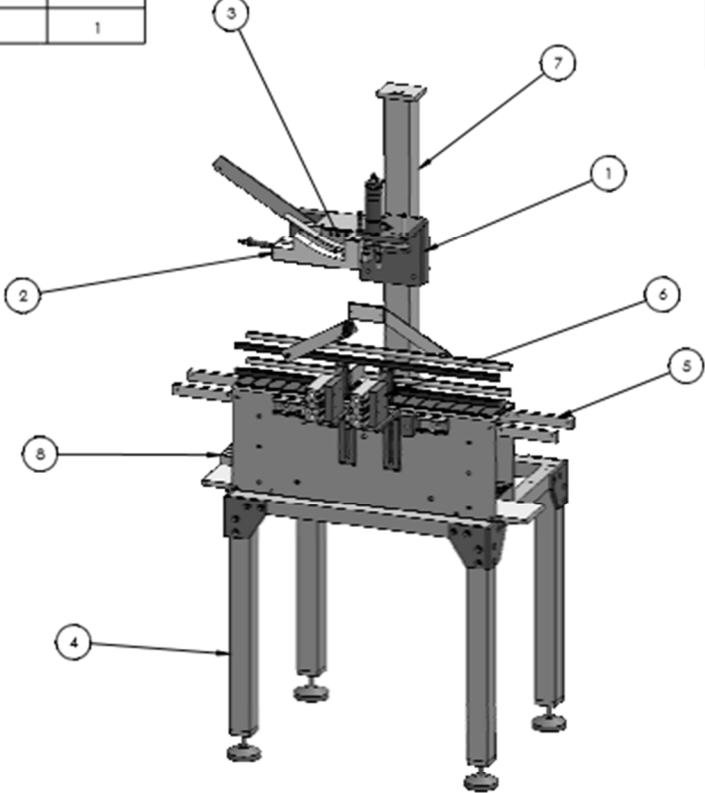


<b>IN-LINE</b>		PACKAGING SYSTEMS, INC.	
PART NUMBER: CRK-003	MATERIAL: ASSEMBLY	FINISH: ASSEMBLY	NAME: LOWER CHUTE
USE A MIN. 1/8 LETTERING TO PUNCH OR ELECTRO ETCH PART # ON PART. NOTE: IF THERE IS A PARTICULAR PLACE WHERE WE WANT THE PART #, WE WILL INDICATE WITH *		DATE: 4/12/2018 DRAWN BY: JCW CHECKED BY:	DESCRIPTION: ASSEMBLY REFERENCE INFORMATION: CORKER ASSEMBLY
<small>                     THIS DRAWING AND ALL IDEAS INCORPORATED IN ITS DESIGN IS THE EXCLUSIVE PROPERTY OF IN-LINE PACKAGING SYSTEMS, INC.                      ITS ACCEPTANCE CONSTITUTES AN AGREEMENT THAT IT SHALL BE TREATED AS A CONFIDENTIAL DOCUMENT USED FOR NO OTHER                      PURPOSE THAN TO AND IN ITS CONSTRUCTION, THAT IT IS TO BE RETURNED UPON REQUEST, AND THAT IT IS NOT TO BE                      DISCLOSED OR COPIED EXCEPT AS AUTHORIZED IN WRITING BY IN-LINE PACKAGING SYSTEMS, INC.                 </small>		<small>                     UNLESS OTHERWISE SPECIFIED                      DIMENSIONS ARE IN INCHES                      TOLERANCES ON:                      BREAK ALL EDGES EXCEPT SEE MAX                      FRACTIONS + .002                      .X + .1     .XX + .02                      .XXX + .01     .XXXX + .005                      ANGLES ± .05°                      FINISHED SURFACE                 </small>	PAPER SIZE: B     SCALE: 1:2     SHEET: 1 OF 1     WEIGHT: 0 LBS. DRAWING NUMBER: CRK-003     REV. A

\*Some parts may be specific to your machine.

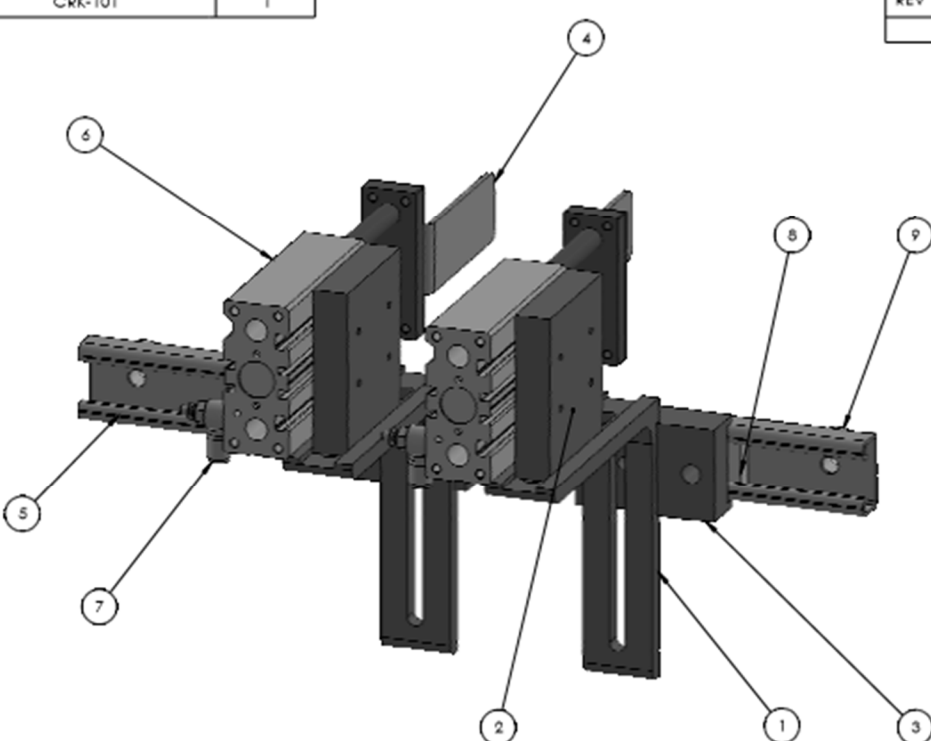
## CRK-101

NEXT ASSEMBLY	QUANTITY	REVISIONS																														
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8	CRK-106-PNEUMATIC	1																														
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USE A MIN. 1/8 LETTERING TO PUNCH OR ELECTRO ETCH PART # ON PART. NOTE: IF THERE IS A PARTICULAR PLACE WHERE WE WANT THE PART #, WE WILL INDICATE WITH *		ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN INCHES TOLERANCES UNLESS OTHERWISE SPECIFIED ARE: FRACTIONS & DECIMALS 3/16" & 1/8" .001" & .005"		DATE: 4/12/2018 DRAWN BY: JCW CHECKED BY:																												
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\*Some parts may be specific to your machine.



## CRK-104

NEXT ASSEMBLY	QUANTITY	REVISIONS			
CRK-101	1	REV	DESCRIPTION	DATE	REVISED BY
					

ITEM NO.	PART NUMBER	QTY.
1	CCC-095-ANGLE	2
2	CCC-096-CYLINDER MOUNT PLATE	2
3	CCC-097-REVA-ADJUSTMENT PLATE	2
4	CCC-098-ANGLE	2
5	CCC-100-EXTRUSION RAIL	1
6	CCX-087-75mm CYLINDER EXTENDED	2
7	PSX-974-FLOW CONTROL	4
8	RS033	2
9	RS034	2

<b>IN-LINE</b>		PACKAGING SYSTEMS, INC.	
PART NUMBER: CRK-104	MATERIAL: ASSEMBLY	FINISH: ASSEMBLY	NAME: CORKER GATES
USE A MIN. 1/8" LETTERING TO PUNCH OR ELECTRO ETCH PART # ON PART. NOTE: IF THERE IS A PARTICULAR PLACE WHERE WE WANT THE PART #, WE WILL INDICATE WITH *		DATE: 4/12/2018	DESCRIPTION: ASSEMBLY
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		REFERENCE INFORMATION: CORKER ASSEMBLY	
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DRAWING NUMBER: CRK-104		REV.:	

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## SECTION EIGHT – RECOMMENDED SPARE PARTS

PSX411LR-M12QD PHOTOEYE (gripper, entry gate, backup)	-1
PSX915 AIR SOLENOID	-2
PSX634-RELAY	-2
PSX125 CONVEYOR CHAIN	-2 FEET
RSX019 GRIPPER/HOLDBACK/SHUTTLE	-1
BFX137 SPINDLE MOTOR	-1
CCX063 CLUTCH	-1
TORQUING PAD (CHANGE PART)	-4