Operator Training Manual
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Safety
Mission Statement

Protecting the health, safety and security of our employee and those who work on our behalf is a core value for TULSACK. We believe in Zero Harm workplaces, where all incidents are preventable.

This is our Safety and Occupational Health Policy. Although all employees know and understand this policy, TULSACK machine operators inherit the responsibility of running a crew. It is important that all machine operators realize that their demonstration of safe work habits are important to the success of the overall safety program. In order to reemphasize this, we have put together some important safety reminders within this Operator Manual, which are critical to becoming and continuing to be a TULSACK machine operator.

Job Description for Bag Making / Inline Printing Machine Operator

**Department:** Production

**Job Status:** Full Time

**FLSA Status:** Non-Exempt

**Reports To:** Shop Supervisors

**Grade/Level:**

**Amount of Travel Required:** No travel required

**Work Schedule:**

Currently: 5 days per week @ 8 hours per shift.
Note: with over time as required.

**Positions Supervised:**

A machine operator at Tulsack is responsible for supervising a 2-person crew (catchers) that are assigned to his/her machine.

Position Summary:

Set up and/or operate various types of bag making machines as well as flexographic printing machines to produce print on the retail paper shopping bags that are being manufactured.

**Essential Functions:**

**Reasonable Accommodations Statement**

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. Reasonable accommodations may be made to enable qualified individuals with disabilities to perform the essential functions.

**Essential Functions Statement(s)**
• Inspect and examine printed products for print clarity, color accuracy, conformance to specifications, and external defects.
• Reposition printing plates, adjust pressure rolls, or otherwise adjust machines to improve print quality, using knobs, handwheels, or hand tools.
• Examine job orders to determine details such as quantities to be printed, production times, stock specifications, colors, and color sequences.
• Select and install printing plates, rollers, cylinders in machines according to specifications, using hand tools.
• Monitor feeding, and printing process to maintain specified operating levels and to detect malfunctions, making adjustments as necessary and notifying a supervisor of any problems.
• Operate equipment while maintaining the minimum bag speed and ensuring the quality, proper ink coverage, alignment, and registration.
• Notify a supervisor immediately of all needed repairs.
• Immediately notify a supervisor or manager, any instances of insubordination, improper behavior or performance problems regarding his/her crew.
• While wearing the proper protective equipment, clean and lubricate machines and components, using oil, grease, WD40, brushes, rags, hoses, and compressed air.
• Move all heavy or awkwardly packaged materials, using hand trucks, forklifts, or hoists, to transfer them to finishing or designated areas.
• At all times, Follow ALL safety rules/regulations contained in the TULSACK employee handbook.
• Direct and supervise the activities of workers, inspecting, and packaging the product manufactured on their assigned machine.
• Monitor stocks of materials such as paper, ink and glue to maintain supplies during equipment operation.
• Change bag size by using specific tools and written standards for size changes.
• Maintain records of goods produced and waste accumulated during his/her shift. All waste is to be weighed each hour and signed-off and by an Adjuster, Supervisor, or manager only! Machine operators MUST immediately notify an Adjuster, Supervisor, or manger, anytime his/ her waste percentage has reached the specified “Maximum” level for that specific hour of production run time
• Requisition supplies, materials, and equipment and receive stock.
• Supervise and assist as needed, the packaging of bags and labeling of cartons, boxes of finished products to maintain quality standards and reduce waste.
• Place spools twine or paper, and thread through machines.
Moving Machinery Safety

Potential hazards of operating machines and equipment are numerous. Some of the most obvious recognized hazards are from machine motion. Hazardous motion is characteristic of the point-of-operation of the machine, but can also be found in other areas such as behind, to the side, or above a machine.

- Rotating motion of collars, couplings, cams, clutches, shaft-ends, set screws, spindles, etc., can be dangerous by gripping clothing or forcing arms/hands or other body parts into dangerous positions. Rotating parts can also create nip points when two adjacent moving parts are in close proximity (e.g., two cogs, two rolling bars, gears, chain and sprocket, etc.); or a rotating part is in close proximity to a fixed point.

The following applies to all Tulsack Production employees:

- Do not touch or reach over moving or rotating machine parts.
- As per the Dress Code: No Rings, Watches, loose sleeved clothing.
- Do not attempt to override or defeat safety features. Guards and shields must be in place during normal operation. Observe appropriate Lockout/Tagout procedures when guards, shields, or other safety devices are removed or deactivated for maintenance or repair.
- Do not operate a machine outside of the scope of your abilities, even if it is within the machine’s operating limits.
- Communicate with others that may be working or occupying space near-by to avoid human-induced hazards (e.g., when inching the machine alert or instruct each other, etc.).
- Report near-misses or close-calls (an incident where no property was damaged and no personal injury sustained, but where, given a slight shift in time or position, damage and/or injury or illness easily could have occurred) to your Supervisor and Safety Coordinator.
- Know the emergency stop/shut-down procedures for the specific machine operated.
- Inspect machines/equipment prior to each operating shift to ensure that:
  - Points of operation and surrounding areas are clean of debris and other hazards.
  - Shields and guards are in place and controls and interlocks or other safety devices are accessible and operating properly (pay attention to the point of operation, as well as the area behind, and to the side of the machine).
  - Machine components are in good working condition (do not use damaged equipment).
  - Labels and warnings are present and legible.
  - Make yourself aware of all stop buttons locations (Stop the machine immediately if anything unexpected happens).
Operator Safety Signoffs- During the early stages of your training, the Safety Coordinator and/or Training Supervisor, will review the following training topics and retain the signed documents in your employee file. It’s important to know that each of these topics are directly related to an injury incident and are for your protection as an employee.

- Reaching into running machinery
- Plate Marks
- Print Cylinder Guards
- Cleaning Print Plates on Machine
- Resin Roller Guarding

Pre-Use Inspections of chain hoist equipment- During normal machine operations it is necessary for your crews to use the chain hoist in changing out the print cylinders. It’s recommended to check that the pre-use inspections are being performed by your crew and that proper procedures are being used to change out any cylinders or rolls.

Mill roll Shaft lock pin- Several of the machine mill roll carriages have been retrofitted with a Mill Roll Shaft lock pin. These were added to prevent injury from the mill roll shaft coming loose of the carriage and falling from the machine. It is required that these pins be replaced after each mill roll change and maintained as they are a machine guard.

Cut Gloves Usage- Tulsack provides cut resistant gloves for your use while maintaining the machines. It’s mandatory that they be used during the changing out of all blades and/or knives on the machines. When using a fixed or folding blade knife, a cut glove must be worn on the opposite hand of the knife while cutting. Listed are specific components that require the use of cut gloves while being replaced:

- Main Knife Blade
- Slitter Blade
- Dipper/Tucker Blade
Print Setup
1) Main Knife Alignment

1.1 Align arrows on the main knife or set to the home position. Alignment of the main knife is done first in order to establish a set reference point for the entire printing procedure. Alignment can be achieved by the following two methods.

1.1.1 Inch machine
- Hold alarm button for 3 seconds, let off alarm button and hold inch button until desired position is reached, then release button. Repeat process if necessary.

1.1.2 Hand Wheel
- Pull wheel out and rotate clockwise to move machine forward.
- Push wheel back in.
2) Eccentric Knob Adjustment

2.1 Eccentric Knob Adjustment:

2.1.1 Center Up/Down eccentric adjustment knobs.
   - Clockwise moves the print down
   - Counterclockwise moves the print up

2.1.2 Unlock the eccentric adjustment knob by rotating lock ring counterclockwise.

2.1.3 Adjust the gap between the lock ring and knob to approximately 11/8". (Note: This establishes equal travel in either direction.)

2.1.4 Tighten locking ring by rotating it clockwise.
3) Total Print Adjustment
   3.1 Center total print adjustment.

   3.1.1 Align mark on total print adjust gear with the mark on the frame of the machine. This establishes overall up and down print registration.

4) Engaging and Gaging Necessary Print Stations
   4.1 Engage and gage necessary print stations.

   4.1.1 Reusing a previous station set:
       - Use print roller gage to gage station in order to prevent crushing the sensitive print plates.

   4.2 Screens or small print jobs.
       4.2.1 Engage print station.
4.2.2 Ensure all locks are loose and place print roller switch in the “Down” position.

4.2.3 Place printer wrench on the engage bolt and rotate the handle clockwise to slide the print station into engaged position.

4.2.4 Ensure print roller gear is in mesh with backup roller gear and anilox gear.
4.2.5 Tighten lock knobs for ink to plate and plate to paper adjustment.

4.2.6 Place gage on handle side in gap between print roller and backup roller.
- If too close: dial out print cylinder slowly until gage falls through
- If too far apart: dial in print cylinder until gage is pinched, then slightly back out enough to remove gage

4.2.7 Repeat process for all four sides of the roller.

5) Plate Mounting
5.1 Mount plates on cushion back.
   5.1.1 Roll out enough cushion back to place plates on.
   5.1.2 Place plate on cushion back and peel plate back halfway. Roll plate onto cushion back to prevent air bubbles from being trapped between plate
and cushion back.

5.1.3 Peel off other side of plate and repeat process.
5.1.3 Cut around plates using box knife, leaving ¼ inch on all sides except the bottom.

5.1.4 Cut bottom portion of cushion back evenly with plate to prepare for mounting. (Note: Never cut a plate or poke holes in a plate without getting approval from a supervisor.)

5.2 Mount plates on rollers
5.2.1 Loosen gear side print roller (may occasionally hear it called the plate roller) adjustment bolt.
5.2.2 Roll print roller to usable horizontal line and place bottom of plate on horizontal center line while maintaining alignment with vertical center line on the print roller. (Tip: When mounting large plates, remove only bottom half of cushion backing to prevent the top of the plate from sticking to the paper.)

5.2.3 First place one side down, then slowly lower the rest of the plate onto the print roller. Slowly roll on plate while smoothing plate onto cylinder to prevent bubbles from being trapped between the cushion back and print roller.

5.2.4 Ensure the vertical center line is aligned with the vertical center line on print roller. If not, adjust accordingly. (Note: The vertical line is the most important line to register correctly.)
5.2.5 Eliminate air bubbles by using hand to smoothen plate.

6) Plate Alignment
   6.1.2 Loosen the print roller adjust bolts
6.1.3 Align the horizontal center line with the handle side marker.

6.1.4 Place magnetic marker on gear side of print roller in the 12 O’clock position.
6.1.5 Rotate print roller to station and size specific setting.

6.1.6 Tighten print roller adjustment bolt.

6.1.7 Remove magnetic marker from print cylinder

7) Ink

7.1 Install and engage ink tray.

7.1.1 Place ink tray on the platform.

7.1.2 Engage ink tray by rotating the engage lever towards the ink station until the ink tray hits the bottom of the rubber roller.

7.1.3 Lock ink tray in place by holding the engage lever and pushing the lock lever away from the ink tray lock mechanism.
7.1.4 Pour ink into tray until ink level slightly exceeds rubber roller.

7.1.5 Nip anilox:

I. Turn on agitation for the station.

II. Nip anilox by rotating adjust knob clockwise.

III. Turn handle side adjustment knob 2 full rotations.

IV. Turn gear side adjustment knob 2 full rotations.

V. Repeat process until no thick ink is visible on anilox roller. (Note: Alternating between sides will prevent one side from being nipped too tight.)
VI. Tighten nip roller locking knob

8) Guards

8.1 Install all guards on printer and lock guards in place by rotating knobs clockwise.

9) Start Machine

9.1 Start machine

I. Hold alarm bell for 3 seconds or until start button illuminates.

II. Press start button.

III. Turn seam glue switch to on position and hold fast button until machine speed reaches 60 bpm.

10) Dialing Stations

10.1 Dial in all stations

10.2 Dial out ink to plate using ink to plate adjustment knob.

10.3 Dial out handle side and gear side evenly until no ink is being transferred then slowly dial back in both handle and gear side evenly until full image is printing.

10.4 Repeat process for plate to paper using plate to paper adjustment knob.

10.5 When printing is at full operation, lock station using print station locking knob.
11) Print Inspection

11.1 Grab fresh bag from front of the machine.

11.2 Compare bag to Production Proof and make adjustments accordingly.

11.3 Adjustments can be done using the following methods:

11.3.1 Eccentric adjustment (Up and Down adjustment):

   I. Adjust eccentric knob to align registration from station to station.

11.3.2 Side to Side adjustment:

   I. Unlock knob by pushing lock lever counterclockwise.
   II. Rotate clockwise to move print gear side. Rotate counterclockwise to move print handle side.
III. Lock by rotating lever counterclockwise.

11.3.3 Overall Up/Down print adjustment:
   I. Unlock overall print adjustment by turning lock counterclockwise.
   II. Rotate overall print adjustment knob clockwise to move the whole print up.
   III. Rotate counterclockwise to move whole print down.
   IV. Lock overall print adjustment knob by turning print adjustment lock knob clockwise until tight.

12) Supervisor Inspection
   12.1 Fill out print approval on traveling work order for the operator position.
   12.2 Take folder and approval bag to supervisor for final print approval.
Size Change Procedure
<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Gear</th>
<th>Cut off Length</th>
<th>Center Grip to Jaw Distance</th>
<th>Jaw to Jaw Distance</th>
<th>Side Gripper to Centerline</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 x 6 x 12</td>
<td>41 Tooth</td>
<td>410</td>
<td>105</td>
<td>138</td>
<td>198</td>
</tr>
<tr>
<td>16 x 6 x 16</td>
<td>50 Tooth</td>
<td>500</td>
<td>104</td>
<td>138</td>
<td>198</td>
</tr>
<tr>
<td>16 x 6 x 19</td>
<td>59 Tooth</td>
<td>590</td>
<td>105</td>
<td>138</td>
<td>198</td>
</tr>
<tr>
<td>13 x 7 x 17</td>
<td>55 Tooth</td>
<td>550</td>
<td>118</td>
<td>164</td>
<td>161</td>
</tr>
<tr>
<td>13 x 6 x 16</td>
<td>50 Tooth</td>
<td>500</td>
<td>97</td>
<td>138</td>
<td>161</td>
</tr>
<tr>
<td>18 x 7 x 18</td>
<td>59 Tooth</td>
<td>590</td>
<td>133</td>
<td>164</td>
<td>223</td>
</tr>
<tr>
<td>10 x 5 x 13</td>
<td>42 Tooth</td>
<td>420</td>
<td>87</td>
<td>111</td>
<td>122</td>
</tr>
<tr>
<td>8 x 5 x 10</td>
<td>35 Tooth</td>
<td>350</td>
<td>87</td>
<td>111</td>
<td>98</td>
</tr>
<tr>
<td>14.5 x 9 x 16.25</td>
<td>55 Tooth</td>
<td>550</td>
<td>130</td>
<td>215</td>
<td>179</td>
</tr>
<tr>
<td>9 x 6 x 14</td>
<td>44 Tooth</td>
<td>440</td>
<td>104</td>
<td>138</td>
<td>107</td>
</tr>
<tr>
<td>10 x 7 x 12</td>
<td>42 Tooth</td>
<td>420</td>
<td>108</td>
<td>164</td>
<td>122</td>
</tr>
<tr>
<td>13 x 7 x 13</td>
<td>44 Tooth</td>
<td>440</td>
<td>108</td>
<td>164</td>
<td>161</td>
</tr>
<tr>
<td>10 x 5 x 10</td>
<td>35 Tooth</td>
<td>350</td>
<td>96</td>
<td>111</td>
<td>122</td>
</tr>
<tr>
<td>5 x 3 x 8</td>
<td>56 Tooth</td>
<td>280</td>
<td>61</td>
<td>72</td>
<td>65</td>
</tr>
<tr>
<td>12 x 7 x 12</td>
<td>42 Tooth</td>
<td>420</td>
<td>106</td>
<td>163</td>
<td>148</td>
</tr>
<tr>
<td>12 x 7 x 15.75</td>
<td>51 Tooth</td>
<td>510</td>
<td>106</td>
<td>163</td>
<td>148</td>
</tr>
</tbody>
</table>
Step 1) Change the mill roll and position the roll by adding half the face, one gusset, and one inch. Then add the same dimensions of the bag you are changing to. Take the difference and move the roll from the previous spot on the shaft towards/away from the guide collars on the handle side.

1a) Install Timing Gear for print stations

Step 2) Move the gear side of the handle feed section. To get the right measurements use the paper bag width diagram and add half the face, one gusset, and half the back of the bag you are change to. Take this measurement and measure from the center of the handle feed tracks. Move the gear side until you get the right measurement. Use gauge if available.

Step 3) Set the speed of the patch paste pads. Jog the machine until the pads are on the backup roller. Then loosen up both gears and set the gauge one number less than the cutting gear you are changing to.

Step 4) Set the speed for the perforation knives. Jog the machine until the knives are on the backup roller. Then loosen up both gears and set the gauge to the number cutting gear you are changing to.

Step 5) Change the former, and set the former guides and rollers to the former.

Step 6) Set the gusset wheels by measuring from the inside tip of the wheels closest to the draw roller, to the outside edge of your former one half your gusset size minus 1/8”.

Step 7) Move draw rollers so the draw rollers are covering about three quarters of the tube and a quarter is not. Unless you’re running the minimum width bag then just move to avoid the handle.

Step 8) Change cutting gear and set the speed of the cut off knife by using the gauge or mark on the gauge of the knife. Set the gauge at the same number as the cutting gear.

Step 9) Move the pinch rollers, snap off segments, and score segments to the center of the gussets. Unless you are running the minimum size width then just move these units away, from the handle.
Step 10) Set the score blades to half the size of the bottom.

Step 11) Move the opening cylinder to the correct width; the same size as your bag.

Step 12) Change stretch cams and/or opening cylinder cams. Then move the inside cam that raises up your gripper and set the cam so the grippers raise and slide off the bag at the same time. When starting the machine up at the slowest speed at the end of the change increase or decrease stretch depending on the bottom size.

Step 13) Move the forming shoes to the correct width.

Step 14) Remove the tucking blades and set the side grippers by measuring from the scribed center line to the tip of the gripper, half your bag width minus 4 mm. Then move and/or open vacuum holes one hole in from the tip of the grippers.

Step 15) Move the ironing guides 4mm to the inside of your side grippers, or as close as your bottom paster allows.

Step 16) Move the center gripper(s) by measuring from the tip of the gripper to the front jaw minus 4mm. The right measurement is 70% of the bottom width you are changing to.

Step 17) Open the jaw to jaw to the right width bottom you’re changing to. Measure from front jaw to back jaw minus 8mm. When doing just a bottom width change remove back tucking blade.

Step 18) Replace the front tucking blade with the same width as your bag and slightly round the corners so the blade can avoid the side grippers when it enters the jaw.

Step 19) Reinstall the back dipper blade and set the blade 2mm from the stationary jaw of the jaw.

Step 20) Change the bottom paste pads.

Step 21) Thread the paper through the machine all the way up to the draw roller and have someone roll the paper. Do not let the paper go through the machine until you are ready to time it up.

Step 22) Before you set the gusset width make sure the gusset wheels’ nest to the draw rollers are snug with the paper. Check this while the machine is running at its slowest speed. Then check the gusset width and move if necessary. Then set the former guides to smooth the paper out.

Step 23) Set the snap off segments to grab the tube as the cutting knife enters the slot. Then set the pinch rollers to release the tube when the snap off segment have the tube.

Step 24) Adjust the tube to the center gripper to grab 4mm.

Step 25) Push the start button and run the machine at the slowest speed to set the perforation even with the cutting knife. This is adjusted with the total differential button.

Step 26) Start the machine at the slowest speed and make sure everything is lined up properly.

Step 27) Line up the patch resin pad with perforation.

Step 28) Line up the patch handle with the resin.
Step 29) Start the machine up slow and make sure everything is lined up properly then gradually increase the speed.
Parts Needed to do the Changes

1) For cutting length change, each tooth on the cutting gear is equal to 10mm. For example, 35NT gear is equal to 350 mm cutting length.

2) For width changes, the forming plate should be equal the width of the bag minus 1/8”. For example, on a 8” wide bag, the former should measure 7 7/8”.

3) For width changes, the tucking blades should be the same width as your bag. The front blade should be slightly rounded on the corners to avoid the side grippers when entering the jaw.

4) For bag width and bottom width changes, the bottom paste pad should be changed according to the size. Check the cutting table for pattern.

5) For bottom width change, replace the side cam of the opening cylinder and/or stretch cams to match the bottom width if necessary.

*Always put ink on the plates by using the “Ink to plate knob” before adjusting the plates to the paper.

* To increase ink on the plates, turn the knob clockwise (right)

To decrease, turn the knob counter clockwise (Left)

This should be done in small turns on alternating sides of the printer to ensure even application of ink.

*One ink has been evenly applied to the plates, begin dialing the plates to the paper using the same small turns on alternating sides of the printer. This will ensure an even amount of pressure on to the paper.
### Forming Table Measurements
*(From Former to the edge of the table)*

<table>
<thead>
<tr>
<th></th>
<th>NL1</th>
<th>NL4</th>
<th>NL5</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot;</td>
<td>330mm H/S</td>
<td>10&quot;</td>
<td>18&quot;</td>
</tr>
<tr>
<td>13&quot;</td>
<td>318/361 mm</td>
<td>13&quot;</td>
<td>14.5&quot;</td>
</tr>
<tr>
<td>14.5&quot;</td>
<td>300 mm H/S</td>
<td>8&quot;</td>
<td>13&quot;</td>
</tr>
<tr>
<td>16&quot;</td>
<td>280/321 mm</td>
<td></td>
<td>16&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>255 mm H/S</td>
<td></td>
<td>14&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12&quot;</td>
</tr>
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<td>240 mm</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>13&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8-3/4&quot;</td>
</tr>
</tbody>
</table>

**WARNING!!** Before you reset the former and gussets, make sure everything is out of the way. Bars, Wheels, etc...

1. Set to “Origin” and Push Start.
2. Set to “Data” and enter the correct size in (mm), push and hold “Start”. The start button will light up and go out.
3. Set to “POSI” and start.

<table>
<thead>
<tr>
<th></th>
<th>NL3</th>
</tr>
</thead>
<tbody>
<tr>
<td>9&quot;</td>
<td>228.8 mm</td>
</tr>
<tr>
<td>14.5&quot;</td>
<td>368.3 mm</td>
</tr>
<tr>
<td>13&quot;</td>
<td>330.2 mm</td>
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<tr>
<td>6&quot;</td>
<td>152.4 mm</td>
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<tr>
<td>18&quot;</td>
<td>457.2 mm</td>
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<tr>
<td>10&quot;</td>
<td>254 mm</td>
</tr>
<tr>
<td>4-7/8&quot;</td>
<td>123.8 mm</td>
</tr>
<tr>
<td>8&quot;</td>
<td>203.2 mm</td>
</tr>
<tr>
<td>16&quot;</td>
<td>406.4 mm</td>
</tr>
</tbody>
</table>
Machine Cleanup Procedure
Print Station Cleaning Process

1.1 Attach spout and then attach the hose to spout. Put the hose in the ink bucket.

1.2 Disengage the ink tray and place mill roll core under gear side of tray in order to place tray on a gradient.

1.3 Open valve to let the ink flow out through the hose. Use paint spatula to help ink circulate out.

1.4 Switch hose from paint bucket to water bucket.

1.5 Spray anilox completely with soap and then scrub anilox using steel brush. Scrub in a circular motion until roller has been completely scrubbed. (Note: Start on the handle side and continuously spray anilox with soap while scrubbing to ensure proper cleaning and to minimize possible damage of anilox roller.)
1.6 Rinse steel brush and paint spatula with water in the water bucket.
1.7 Rinse the anilox roller with water until it’s completely clean.

1.7 Turn off anilox and tilt tray to drain water.

1.8 Close valve and remove hose, spout, and mill roll core.
1.9 Remove the tray and take and give to catcher to wash in the washroom.
1.10 Wash the ink tray thoroughly.
1.11 Un-nip the anilox.

1.12 Loosen gear side bolts and remove the plate from the roller.

1.13 Tighten gear side bolts
1.14 Remove sticky back from plate (Do not leave plates on the roller or stuck to the cushion back).
1-Hour Clean-Up

1) Shut down machine. Break web and inch machine until paper is clear of the forming table. Inch machine again until the resin applicators are in a cleanable position.

Turn off all clutches. On all machines except N/L 138s, work with the packaging inspector to toggle machine lock out switch while you’re cleaning the front end. It is the operator’s responsibility to make sure the machine lock outs are being used. On machines that lock outs have not been installed, push an emergency stop button.

2) Take handles down and clear the handle section of handles. Turn off resin switches or valves and the hot melt pump. Immerse 4” resin head in water. Disengage the slitter from machine. Run paper and twine out of unit.
3) Inspect and clean handle delivery section.

4) Clean forming table and immerse seam glue head in water.

5) Run paper out of the front end.
   
   a) Clean all draw rollers, segments, and brass plates (if there is glue build up) up to main drum.

   b) Scrape paste off the main drum surfaces and clean with cleaning solution and scouring pad.
c) Scrape paste off dipper blades and holders.

d) Blow out entire machine. Then apply a liberal amount of WD-40 to all the rollers, segments, shafts, main drum and dippers.

e) Web up front end.

6) After slitter is cleaned:

   a) Change slitter blade at this time if necessary. **Be sure to turn off slitter blade and wear Kevlar gloves while changing the blade.**

   b) Install cleaned resin pans and roller scrapers (if applicable).

   c) Run handles to the pin wheels and engage slitter.

   d) Start machine and make adjustments to the amount of resin being applied to handles.

7) Run Machine.
4 Hour Clean-Up

1) Shut down machine. Break web and inch machine until paper is clear of the forming table. Remove the bottom paster. Inch machine again until the resin applicators are in a cleanable position. Turn off all clutches. On NL 2, 4, 6, 8, and 9, do not inch machine again until the resin rollers and applicators are clean. It is the operator’s responsibility to make sure the machine lockouts are being used. On machines that lock outs have not been installed, push an emergency stop button.

2) Take handles down and clear the handle section of handles. Turn off resin switches or valves and the hot melt pump.

Immerse 4” resin head in water. Disengage the slitter from machine. Run paper and twine out of slitter. Turn off all resin line valves to slitter and handle section.

3) While paste pot and resin rollers are being cleaned:
   a) Clean ink stations and remove ink trays for cleaning.
b) Clean handle delivery areas.

c) Clean forming table and immerse seam glue head in water.

4) After paste pot and resin roller areas are cleaned:
   
a) Run paper out of the front end.

   b) Clean all draw rollers, segments, shafts and brass plates up to main drum.

   c) Remove small round cover plates off the ends of the opening cylinder shaft and blow out. Also back blow the h/s, g/s, and center vacuum ports. Put cover plates back on.

   d) Remove vacuum plates, remove set screws and blow out all cavities.

   e) Replace set screws and reinstall vacuum plate.

   f) Scrape paste off the main drum surfaces and clean with cleaning solution and scouring pad.

   g) Clean out front and back jaws.

   h) Repeat the steps D, E, F, and G for each station on the main drum.
i) Scrape paste off dipper blades, holders, transfer belt covers, etc.

j) Make sure the gripper areas of the transfer drum and delivery drum are free of paste build up.

k) Blow out entire machine.

l) Then apply a liberal amount of WD-40 to all the rollers, segments, shafts, main drum and dippers to keep corrosion build-up from freezing up segments.

m) Wipe down front end Plexiglas.

n) Make sure the machine is stocked for the next shift. 4”, mill rolls, hot melt, etc.

o) Change slitter blade at this time if necessary. After 4” paper and twine have been ran to the end of the slitter, turn off the hot melt unit disconnect.

p) Install ink trays in stations that are running prints. Install paste pot and resin pans.

q) If bottom paster needed new pads, make sure new pads were made.

r) Web up front end.

s) Make sure the resin applicator pads are off the paper.

t) Power down machine and turn off printer lights.
Machine Terminology
**General Name:** Opening Cylinder

**O/C Vacuum Suction Cup**

**O/C Vacuum Hole**

**O/C Gripper**

**Smash Roller**

**Vacuum Plate**

**Center Grips**

**Front Jaw**

**Back Jaw**

**Side Gripper**

**General Name:** Main Drum
Appendix A

Safety Signoff Documents
Safety Training Topic: Taking care of plate marks

Plate marks are a common occurrence when using flexographic printing process. In order to keep employees safe, the following procedures have been discussed with the following operator:

Procedures:
If the plate mark cannot be remedied with adjusting the print dial in:
- Stop the machine
- Turn off the dry prevent motor of the respective ink station
- Remove any guards necessary to access the printing plate
- Use necessary means to stick the plate down to prevent the plate marks
- When done making adjustments to the printing plate, replace any guards removed, and turn the dry prevent back on before starting the machine

NEVER ATTEMPT TO KNOCK DOWN PLATE MARKS WITH YOUR HANDS WHILE THE MACHINE IS RUNNING

Operator’s Printed Name: ________________________________
Operator’s Signature: ________________________________
Date: __________________

Supervisor’s Printed Name: ________________________________
Supervisor’s Signature: ________________________________
Date: __________________
Safety Training Topic: Proper use of Printer Plate Cylinder Guards

All paper bag machines at TULSACK outfitted with guards to cover the plate cylinder must be used properly, and in place, on the machines at the appropriate times. The following are the guidelines:

If the machine is in the “Run” mode, the guards must be in place on the machine covering the Plate Cylinder, with no exception.

If the machine is in an “Inch, or Jog” mode, the guard may be removed for the time during which setup is being done.

If the machine is in the “off” mode, the guard may be removed in order to access the plate to make adjustments.

During times allowed to have this guard removed, caution must be used to ensure other powered rollers, such as the rubber and anilox rollers, are not in a moving state while making adjustments.

NEVER REMOVE THE PLATE CYLINDER GUARD WHILE THE MACHINE IS IN A “RUN” MODE TO MAKE ADJUSTMENTS TO, OR ATTEMPT TO CLEAN THE PRINTING PLATE.

Operator’s Printed Name:___________________________________________
Operator’s Signature:_______________________________________________
Date:_________________________

Supervisor’s Printed Name:___________________________________________
Supervisor’s Signature:_______________________________________________
Date:_________________________
Safety Training Topic: Cleaning Printing Plates while on the machine

Dirty printing plates are a common occurrence when using flexographic printing process. In order to keep employees safe, the following procedures have been discussed with the following operator:

Procedures:
If the plate is dirty enough that it is necessary to clean:
- Stop the machine.
- Remove the print cylinder guard if applicable.
- Turn OFF the dry prevent motor of the respective ink station
- Use a nylon brush and rags to clean the printing plate.
- When done cleaning the printing plate, turn the dry prevent back on before starting the machine
- Replace the print cylinder guard.

NEVER ATTEMPT TO CLEAN THE PRINTING PLATE WITH HOLDING A BRUSH WITH YOUR HANDS WHILE THE MACHINE IS RUNNING

Operator’s Printed Name:_______________________________________________
Operator’s Signature:____________________________________________________
Date:_________________________

Supervisor’s Printed Name:_______________________________________________
Supervisor’s Signature:___________________________________________________
Date:_________________________
Safety Training Topic: Proper use of Resin Roller Guards

Several paper bag machines at TULSACK have been outfitted with guards to cover the resin rollers. They must be used properly and on the machines at the appropriate times. The following are the guidelines:

If the machine is in the “Run” mode, the guards must be in place on the machine covering the Resin Roller Area, with no exception.

If the machine is in an “Inch, or Jog” mode, the guards may be removed for the time during which the resin rollers or applicator blocks are being worked on.

If the machine is in the “off” mode, the guard may be removed in order to access the resin rollers or applicator blocks to make adjustments and for cleaning purposes.

During times allowed to have this guard removed, caution must be used to ensure other components, such as the resin applicator blocks, are not in a moving state while making adjustments and cleaning.

NEVER REMOVE THE RESIN ROLLER GUARD WHILE THE MACHINE IS IN A “RUN” MODE TO MAKE ADJUSTMENTS TO, OR ATTEMPT TO CLEAN THE RESIN ROLLERS/APPLICATOR BLOCKS

Operator’s Printed Name:___________________________________________
Operator’s Signature:______________________________________________
Date:___________________________

Supervisor’s Printed Name:_________________________________________
Supervisor’s Signature:____________________________________________
Date:__________________________