

MAINTENANCE SECTION HL6200

PACER/METER BELT



Maintenance Points for Pacer/Meter Belt

DAILY PM - Belt Tracking

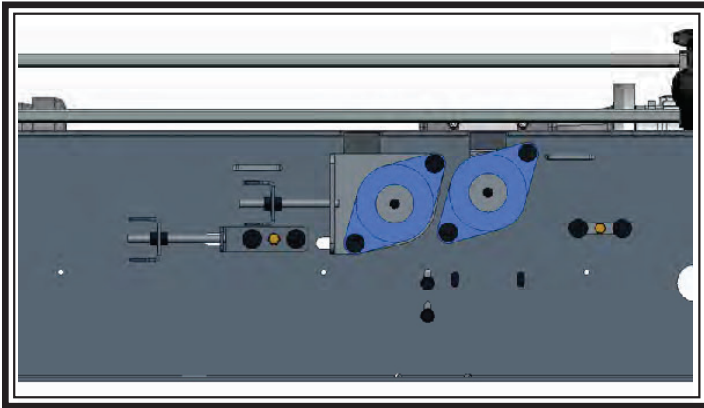
If adjustment is required:

MAINTENANCE SECTION

HL6200

EVERY 130,000 LOADS PM **PACER/METER BELT**

Check tension of drive:



LOCK OUT ALL POWER SOURCES

Proper belt tension on the Pacer/Meter belt is essential for positive starts/stops and belt tracking. Under tensioning can result in belt slipping during high line pressure, over tensioning can cause belt and or bearing failure

EVERY 1,500,000 LOADS PM **PACER/METER BELT**

Replace drive belts. Or as wear occurs.

TO TENSION AND TRACK BELTS:

- 1) Be sure frame is square. Assemble shafts so they are parallel to each other and square to the frame. Measure from the end of the frame to the center of each shaft on both sides to ensure they are parallel. Measure to the edge of each pulley to make sure they are in line.
- 2) Install the snubber rolls so they are parallel to the drive and idler roller. Initial installation should be at the the center of the take up slot.
- 3) With the conveyor turned off, tension the belt until it conforms to the pulley crowns. There should be no play between the edge of the belt and the crowned pulleys. Be sure to take up equal amounts on each side so the shafts remain parallel.

BELT TENSIONING CONTINUED:

4) Now operate the belt conveyor and observe closely to see if there is any slippage at the drive pulley and the belt. If slippage occurs, more tension is needed. Do not over tension the belt.

5) Track belt with snubber rollers only. "The belt moves toward the end of the roll it contacts first." With the belt empty and running, adjust the snubber closest to the tail pulley. Let the belt run for several revolutions after each adjustment. Try to spread the adjustment evenly between the two snubber rollers.

6) Verify tracking with a full load, and adjust if needed.

MAINTENANCE

HL6200 PALLETIZING SECTION

DAILY OPERATOR PM



View of Upper Palletizing Section



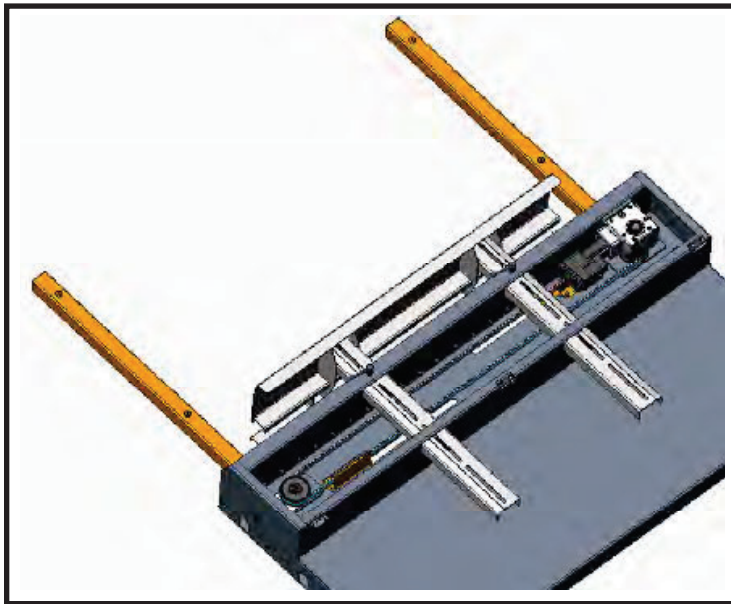
View of Lower Palletizing Section

Clean the area under the hoist daily.

LOCK OUT MACHINE BEFORE PREFORMING ANY MAINTENANCE

MAINTENANCE

HL6200 PALLETIZING SECTION DAILY OPERATOR PM



Check side layer guides for smooth action.

Belt tension should only be tight enough to keep the teeth from jumping.

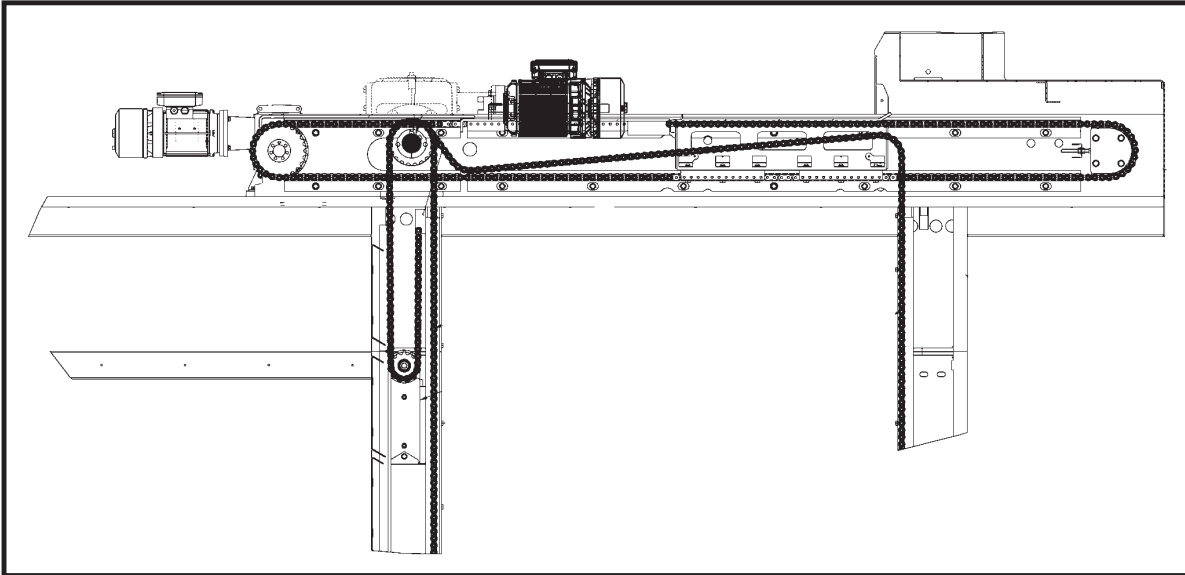


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MAINTENANCE

HL6200 PALLETIZING SECTION

400,000 LOADS PM



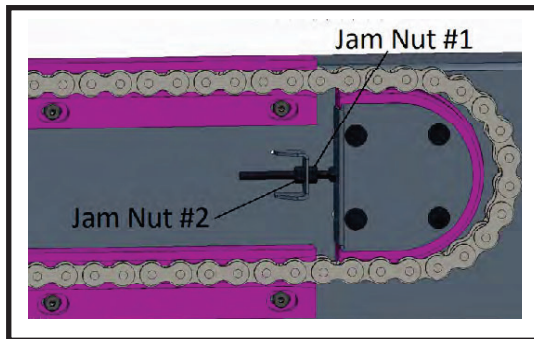
Layer Stripper Chains

The layer stripper chain will stretch over time.

Noise will be the primary indicator to re-tension. Over/undertravel, excessive contact, or plate impact will also indicate the layer stripper chains need re-tensioning.

LOCK OUT ALL POWER SOURCES!

Layer Stripper Chain Tensioning Continued



Loosen the four capscrews locking the UHMW to the frame.

Loosen jam nut #1.

Tighten jam nut #2.

Lock in plate with jam nut #1.

Tighten frame mounting capscrews.

Do not overtighten.

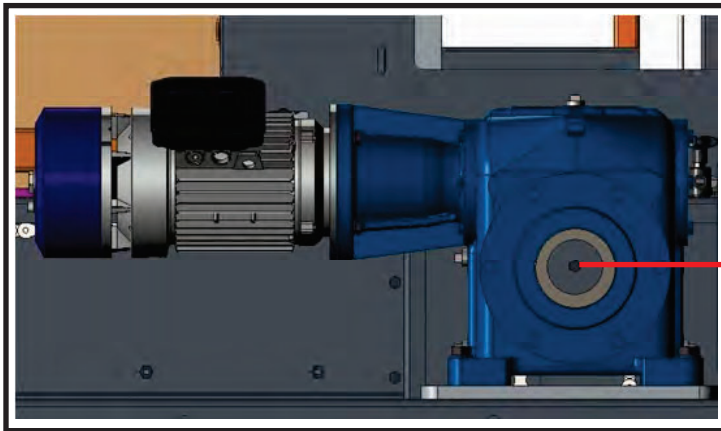
Must perform this procedure for both sides.

LOCK OUT MACHINE BEFORE PREFORMING ANY MAINTENANCE

MAINTENANCE

HL6200 PALLETIZING SECTION

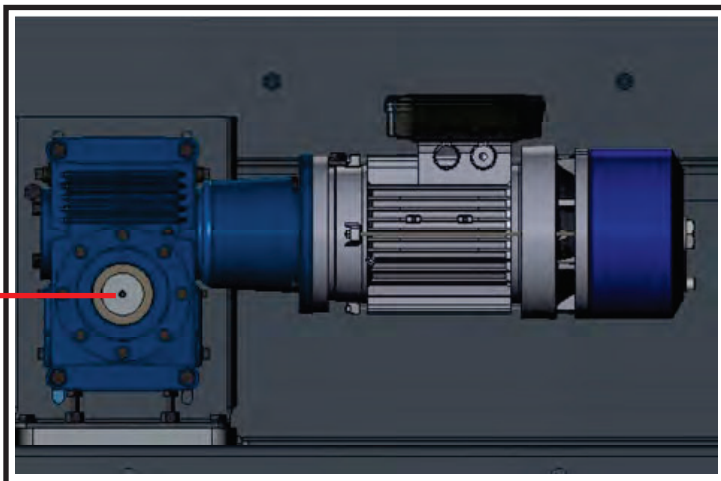
400,000 LOADS PM (cont.)



Fill Level

Replace fluid in Layer Stripper and Hoist Gearboxes with Mobile SHC634.

These are the only boxes that require inspection.



Fill Level

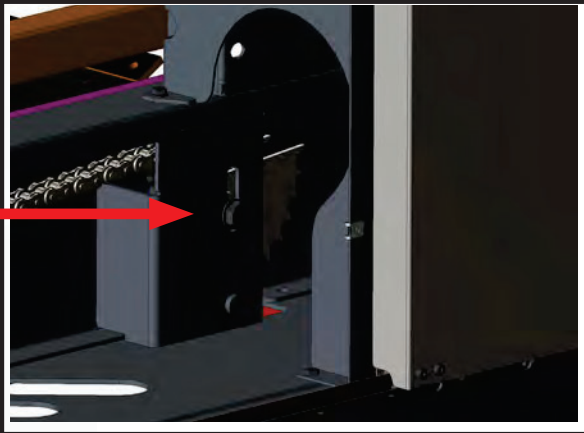
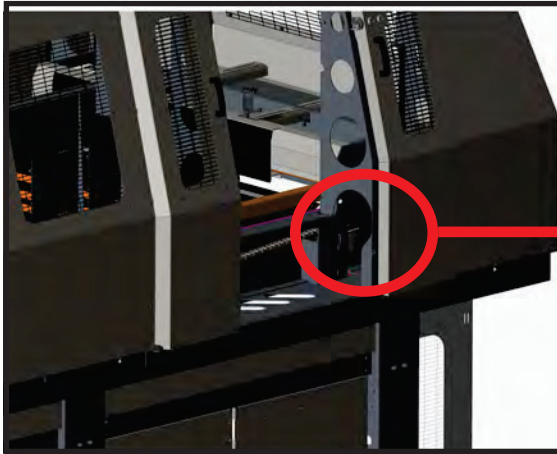
Fill for continuous run condition halfway up lower shaft.

LOCK OUT MACHINE BEFORE PREFORMING ANY MAINTENANCE

MAINTENANCE

HL6200

PALLETIZING SECTION: ECCENTRIC IDLER



To Re-level:

The eccentric idler is used to adjust the height on the hoist.

Lower the hoist to the bumpers at the lowest position.

LOCK OUT ALL POWER SOURCES!

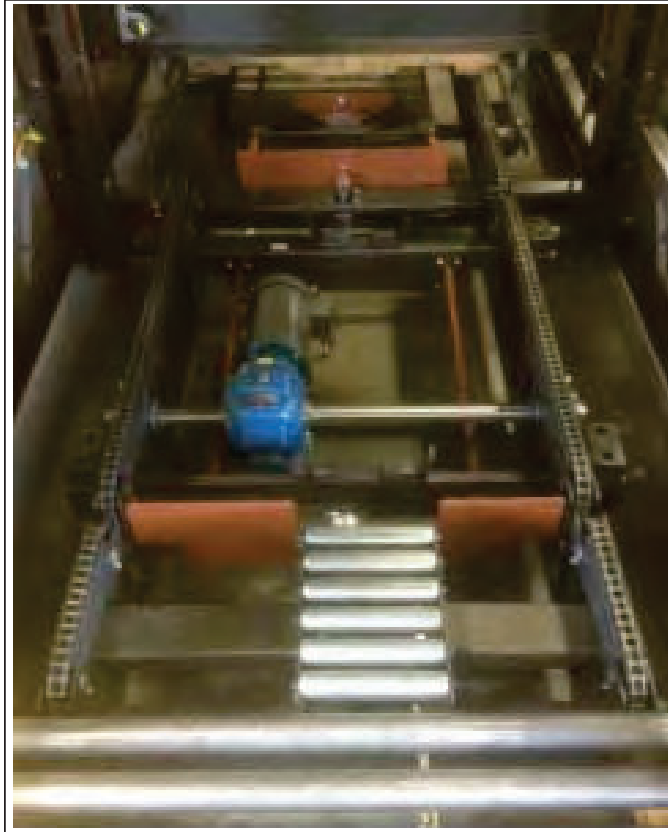
Loosen the bolt holding the eccentric idler and rotate idler until the appropriate height is reached.

Replace chains when 3% stretch is reached.

MAINTENANCE

FULL LOAD CONVEYOR SECTION

Daily Preventive Maintenance



Inside the Hoist Frame is a Conveyor referred to as the Full Load Conveyor.

Daily-

Clean under the Full Load Conveyor. Any product left under the Full Load Conveyor may cause damage to the Lift Mechanism.

Watch that the loads transition smoothly to the discharge conveyor.

MAINTENANCE

FULL LOAD CONVEYOR SECTION

130,000 Load Preventive Maintenance



The Full Load Conveyor is guided on vertical frame components inside the Palletizing Section frame.

Check the play in the Hoist Guides.

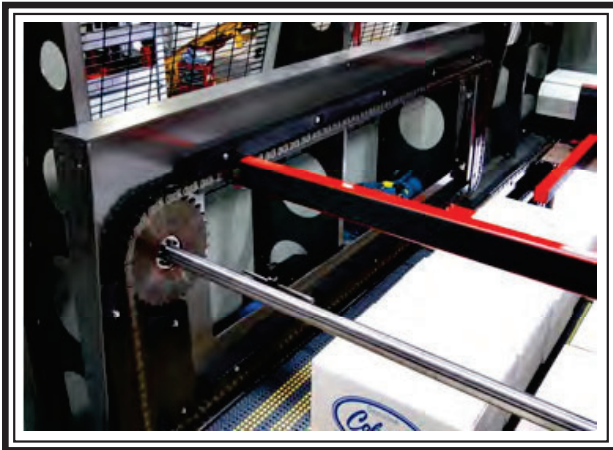
If hoist moves more than 1/16 of an inch in any direction rework the guide system.

It is very important to limit the play. Missing a switch can cause damage to the palletizer. The guides will need to be replaced or shimmed as they wear.

MAINTENANCE

HL6200 LAYER FORMING

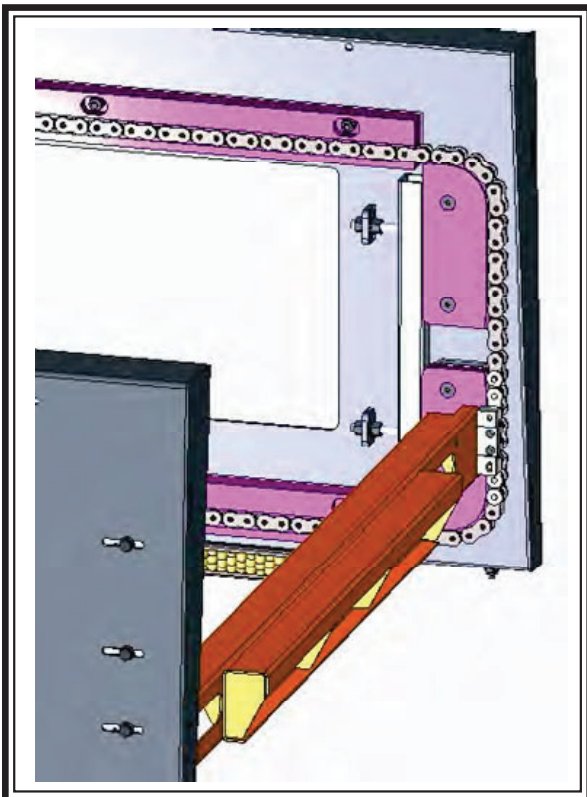
DAILY OPERATOR PM



LOCK OUT ALL POWER SOURCES

Check that the flight bar motion is smooth and positions the product properly.

The flight bar may be squared by loosening the B-LOC holding the gear and moving the chains independently until they are squared up. See B-LOC in General Maintenance



Check chain tension. The noise level is a common indicator of a loose chain.

The bar attached to UHMW guides at the end of the layer former is used to tension the chain.

To Tension:

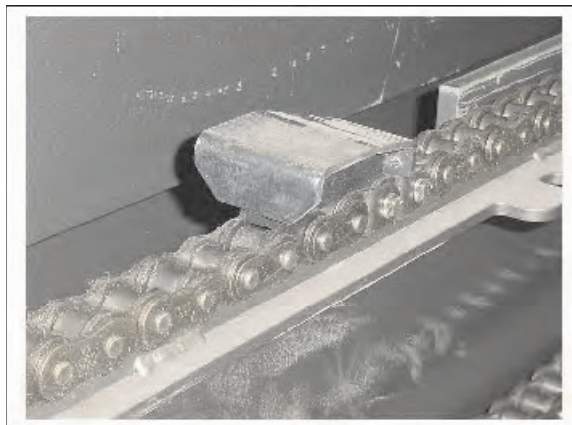
Loosen capscrews securing UHMW. Loosen jam nut. Tension top and bottom of each side the same amount. Re-tighten jam nut and capscrew.

702 PALLET DISPENSER

LOCK OUT MACHINE BEFORE PERFORMING ANY MAINTENANCE



The pallet dispenser provides a pallet, one at a time, to the palletizer. The 702 pallet dispenser separates pallets with the use of lugs on the dispenser chains. The lugs remove the bottom pallet from the stack of pallets in the hopper.



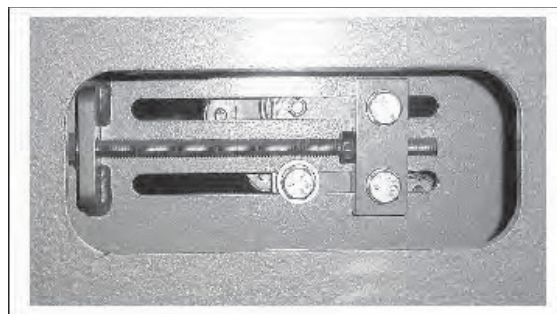
The lugs should be timed so that the lugs are in line across the pallet dispenser. Rotating the sprocket on the drive shaft forward or backward to meet the positioning requirement can change the lug position. The use of B-Loc Hubs is explained in the general maintenance section.

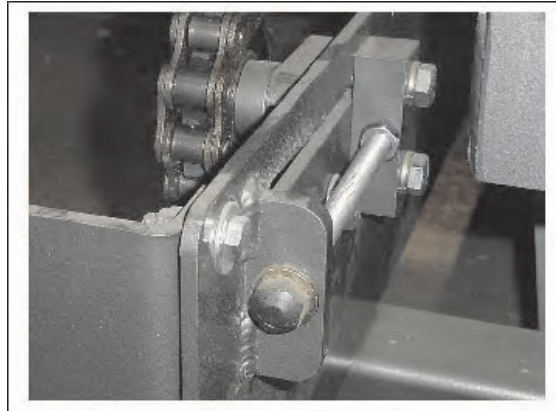
Check the drive chain every month checking for slack. If slack in the drive chain is found remove by:



1. Lockout machine
2. Loosen four capscrews under the gearbox-mounting channel.
3. Loosen jam nuts on setscrews.
4. Turn setscrews clockwise to tighten chain. Do not over tighten.
5. Tighten jam nuts on setscrews and capscrews under cross manner.
6. Secure from Lockout condition

The pallet dispenser conveyor chains may require tension from time to time to remove slack in the chain.





1. Lockout Machine.
2. Locate the take-up location.
3. Loosen the three capscrews holding the idler sprocket mounting plate.
4. Loosen jam nut on all thread.
5. Turn all thread clockwise to tighten the jam nut and capscrews.
6. After removing slack, tighten the jam nut and capscrews.
7. Secure from Lockout.

PREVENTIVE MAINTENANCE INSPECTION AND LUBRICATION SCHEDULE

The maintenance program described in this manual is based on a machine operated eight (8) hours a day, 5 days a week, with normal environmental conditions.

If your operating conditions are considerably different, discuss a maintenance program with the Columbia Service Engineer when your machine is installed or contact the Columbia Service Manager directly.

Before beginning maintenance LOCK OUT ALL POWER SOURCES!

FREQUENCY	DESCRIPTION
WEEKLY	1. GENERAL a) Keep area around the palletizer clean and orderly. b) Check that all safety circuits (light curtain, door switches, etc) are operational. 2. INFEED SECTION (Rear and Side) a) Inspect the rollers. Check for bent rollers, frozen bearings, or loose roll covers. b) Inspect the product guide rails for loose mounting brackets, and bent or damaged rails. c) Inspect the case turn device for loose bolts or loose mounting brackets. d) Check the belt tension. Adjust tension as needed by adjusting the belt take-up in the pusher section. e) Check individual tensioner pulleys for proper pressure against belt. f) Check belt return pulleys for alignment. Adjust as needed to keep belt running true g) Check for smooth turn grate operation on front and rear infeed machines if present.

FREQUENCY	DESCRIPTION
WEEKLY	3. ROW PUSHER SECTION a) Check stops and stop mounting brackets for loose bolts. Tighten as needed. b) Check UHMW flight bar chain guides for wear. c) Check flight bar chain for stretch. Adjust as required.

FREQUENCY	DESCRIPTION
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Check the following in addition to the weekly items:

MONTHLY	1. INFEED (Rear and Side) a) Inspect V-belt for wear. Tension belt as needed. b) Inspect pneumatic cylinders and air lines for leakage. c) Check overall frame work and components for loose fasteners. 2. ROW PUSHER SECTION a) Inspect belt pulleys for misalignment. Adjust as needed. b) Inspect stop assemblies for alignment and loose fasteners. 3. HOIST/LAYER STRIPPER a) Inspect the camrollers on the layer stripper for signs of wear. Replace as needed. All rollers should turn freely as layer stripper moves out and back. b) Inspect layer stripper chain tension and track for wear.
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- c) Inspect hoist guides for wear. Adjust or replace as needed.
- d) Level hoist by adjusting the lift chains on the eccentric idler mount.

FREQUENCY	DESCRIPTION
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MONTHLY

3.

- e) Remove the hoist drive guards and inspect drive sprockets, set screws and keys for tightness. Check for sprocket wear and replace as needed. Tension by adjusting motor with adjuster bolts on motor base.

4. MANUAL AND AUTO LUBE SYSTEMS

- a) Lubricate the bearings as required. All mounted bearings are lubed for life. Lube linear bearings every 4000 hours. **Do not over grease!**



In order to perform the above operations, some or all guards had to be removed. Replace all guarding back in its proper location before starting machine.



DO NOT OPERATE THIS MACHINE WITH THE GUARDS OR COVERS REMOVED!

‘LOCTITE’ INSTALLATION AND REPLACEMENT

DESCRIPTION – Recommended as a preventive maintenance tool. ‘Loctite’ Threadlock 290 Adhesive Sealant offers manufacturing the capability of locking specified items **after** final assembly. This is made possible by the inherent chemical characteristics that allow the product to follow the threads of a pre-assembled fastener through capillary action both vertically and horizontally. Through this action the product will then self-harden to a medium to high strength plastic bond when confined in a metal joint.

REMOVAL OF FASTENERS – Due to the large area of the machinery, exact location of each Loctite application is too complex and variable to list. Therefore, at time removal of a particular fastener is desired, test with minimum exerted manual pressure. If the fastener (such as set screws, nuts and bolts) does not begin to release, you may safely assume Loctite has been applied to this area. Removal can be accomplished by using an acetylene torch to heat the area to be separated to approximately 400° Fahrenheit.

**WARNING**

Whenever heat is required to separate assembly, perform this function away from all possible combustible products or confined areas where combustible fumes may be present. Wear protective goggles and gloves during heating and removal process.

REPLACEMENT – Upon removing the required assembly from the machine, before replacing with new parts, completely clean male and female threaded areas with a wire brush and cloth to remove any visible contaminants and/or oils from area to be secured.

- Apply threadlocker sealant to thread engagement area filling thread root. Assemble.
- For blind holes, put a few drops into the hole and onto the fastener. Assemble.
- For already assembled parts, clean any oil/grease or other contaminants from fastener/nut parting line area. Apply threadlocker 290 in the interface area and capillary action will carry the adhesive into the threads either horizontally or vertically. Wipe off excess. Allow approximately thirty (30) minutes or more set up time before usage.



SUGGESTED ELECTRICAL MAINTENANCE SCHEDULE CONTROL SYSTEM

The maintenance schedule is to be used along with your Columbia Parts and Instruction Manuals.

Whenever maintenance has been performed on the machine, check the eyes, prox. switches, etc., for adjustment or alignment in that area.

While the machine is running, watch for broken pallets, pieces of wood, etc., that may jam up against switch trips, and eyes - especially in the Pallet Dispenser. As the product enters the machine, watch for wet loads, broken or torn cases, etc.

Keep control panel clear of nuts, bolts, tools, etc. Keep prints up to date; keep a copy in the control panel.

Always keep Columbia Machine, Inc., informed of any changes being made to your equipment such as logic changes, wiring, etc.

Following are daily, weekly, monthly, and yearly maintenance schedule:

DAILY: Check all photocells for misalignment.

WEEKLY: Repair broken conduits, flex conduits, and damaged electrical cords. Check eye alignment, tighten brackets and check eye sensitivity and adjustment. Check for broken or loose switches.

MONTHLY: Check all fittings and areas of inter-connection of electrical devices.

YEARLY: Check all terminal strips for loose connections. Blow out cabinet with low pressure and clean, dry air.



Arc welding produces a wide spectrum of electrical noise. Arc welding on your Columbia equipment or attached machinery may cause portions of the controller memory to change.

Before doing arc welding, the following procedure should be follows:

- Turn the main power supply to the panel off.
- Remove the three power leads that are attached to the top of the processor. All three (the line, common, and ground) should be removed.
- Disconnect the input/output cable from the processor.
- Following welding, reconnect the input/output cable and the three power leads.

**NOTE**

The power leads must be attached as follows:

Blue - Line

White with a Blue stripe - Common

Green - Ground

**CAUTION**

Static charge that build up on your body may cause damage or memory change to the processor's memory. Make certain to discharge static electricity from your body before handling any memory cards or chips. Transport chips or memory cards in anti-static materials. This also applied to the U.V. PROM chips, if so equipped.

See examples on following pages.