



7.0 Maintenance

INTRODUCTION

This section contains instructions for the maintenance of the Bliss Box Former as manufactured by W. E. Plemons Machinery Services, Inc.

Referring to Section 5.0 will aid in the understanding and function of the various components and systems of the Bliss Box Former.

7.1 Primary Lubrication

A lubrication program is also vital to the successful performance of the Bliss Box Former machine. The following lubrication check list outlines the critical requirements. Daily lubrication requires the use of 10 wt. oil or lighter. (See Table 7-1)

Table 7-1: Primary Lubrication

ITEM	INSPECTION	FREQUENCY	ACTION
Blank pick pawls	Check for dull needles.	Daily	Lubricate all moving linkages on blank pick pawls, and needles if necessary.
Mandrel con rod		Daily	Lubricate mandrel con rod on mandrel, and pivot and feed post.
Vari-speed control rod		Daily	Lubricate between knob and end plate. Lube all moving joints at pivot end.
Blank pick safety		Daily	Lube blank pick safety detent. All moving joints at both ends of safety.
Mandrel stop brake assembly.		Daily	Lube spring joint.
Micro switch cam		Daily	Lube roller and all pivot joints on switch.
Feed post actuating cam		Daily	Lube the cam through the oil reserve.
Mandrel guide rails		Daily	Lubricate between mandrel rails and fabric guides. NOTE: This is very important to keep lubricated. Heavy wear point if left dry.
Compression shaft and linkage		Daily	Lube both ends of the shaft at transmission plates. Lube arm, cam roller and connecting pins and pivots.
Bliss compression		Daily	Lube plate mounting spacers, compression actuating shaft and pivot parts.
Box end pressure		Daily	Lube spacers and spring but do not get oil on outside of shoe, it will transfer to the box.
Feed post cam track		Weekly	Oil with lubriplate 630-AA or equal.
Compression bearings		Weekly	Bearings are fixed with grease fittings, must be lubricated with proper grease gun.
Bliss end holder		Weekly	Lube shaft and roller
Roller chain drives	Excessive wear.	1 to 2 Months	With chain oil, lube every chain.

Bliss Box Former



7.2 Primary Maintenance

A continuous maintenance program is vital to the successful performance of the Bliss Box Former machine. The following maintenance check list outlines the critical requirements. (See Table 7-2)

Table 7-2: Primary Maintenance

ITEM	INSPECTION	FREQUENCY	ACTION
Thermostat	Check for proper setting.	Hourly	Reset or if necessary calibrate thermostat. (See Section 5.0)
Bolted joints	Check for tightness	Daily	Tighten all joints.
Glue Pots and Pumps	Check for residual glue waste	Daily	Use a scraper to remove adhesive.
Mandrel, Compression Bars, (top, bottom, and side) vertical blank guides.	Check for residual glue waste	Daily	Use a scraper to remove adhesive.
Machine	Check for cleanliness	Daily	Blow with compressed air or brush entire machine.
Mandrel	Check for loose bolts	Weekly	Tighten all loose bolts.
	Check mandrel alignment	Weekly	Align mandrel on support bars.
	Check mandrel guide adjustment	Weekly	Make sure there is proper clearance between mandrel guide rails and guides.
Vertical guide bars	Check alignment	Weekly	Adjust if necessary (See Figure 5-5).
Blank hoppers	Check for alignment	Weekly	Adjust if necessary (See Figure 5-11).
	Check gate clearance	Weekly	Adjust if necessary (See Figure 5-12).
Adhesive backup rollers or printing segments	Check for correct clearance	Weekly	Adjust if necessary (See Figure 5-16A and 5-16B).
Glue pump	Check drive wheel	Weekly	Replace if broken or bent.
	Check clearance	Weekly	Adjust if necessary (See Figure 5-15).
Box material	Check per specifications	Weekly	Replace material if necessary.
Glue pot screen	Check for damage and waste	Weekly	Remove and clean.
Wires	Check for loose connections and any damaged wire	Monthly	Tighten loose connections and remove all damaged wires.
Bolts and set screws	Check all moving parts and joints	Monthly	Tighten all loose bolts and set screws.
Glue pots	Check for charred adhesive in glue system	Monthly	Remove and clean if necessary.
Main gear	Check for gear grease	Six Months	Lubricate with gear grease.



7.3 Procedure for Cleaning Glue System

1. Heat adhesive to 350° F.
2. Remove drain plug, drain adhesive into scrap container.
3. Remove nozzles and plugs from pump.
4. Re-install drain plug.
5. Fill pot to 3/4 full with paraffin wax.
6. Turn adhesive pump drive wheel by hand (using scraper or screwdriver) until all adhesive is displaced by paraffin wax.
7. Let stand for approximately two (2) hours at 350° F.
8. Drain paraffin wax.
9. Add new adhesive.
10. When there is a good clean flow of adhesive from drain hole re-install drain plug.
11. Turn adhesive pump drive wheel by hand again, when there is a good clean, clear (no bubbles) flow of adhesive you are now ready to purge system of air.

7.4 Purging Adhesive Pump

1. With all nozzles and plugs removed from front of glue pump, screw needle valve in until it bottoms out. (See Figure 8-3, Section 8.0).
2. Start turning drive wheel by hand, when a good clean, clear (no bubbles) flow of adhesive comes from port farthest from drive wheel re-install the plug or jet.
3. Continue to pump and install the next successive plug or jet in order.
4. After each port is purged readjust the volume to produce a 3/32" wide glue bead.

7.5 Instructions for Changing Glue

1. Turn on machine and allow glue temperature to reach 325° F to 350° F. Caution must be taken to avoid being burned in all operations.
2. Pump the old glue completely out by running blanks through the machine, or drain the glue from the allen cap plug at the bottom of the adhesive applicator without running blanks through. If you decide to pump the units dry, also, remove the allen cap plug at the bottom of the adhesive applicator before you place the new glue into the glue pot.
3. Put the new type glue into glue pot (0023301 R/L). Open bottom drain plug to allow the new glue to drain the old glue out. Look for a color change in the glue and reinsert the drain plug. (Avoid mixing of the two glues. A chemical reaction can occur between certain types of glue).
4. Pump is ready to run. However, if the pump is excessive dripping from back pressure the adhesive applicator must be bled of trapped air inside the pump ports.

	WARNING	
WARNING: When performing any maintenance on the glue system, wear safety goggles, heat-resistant gloves and protective clothing to prevent injury and burns from hot material and parts.		

7.6 Adhesive Applicator Pump Thermostat Calibration

Turn on machine and allow adhesive to reach operating temperature (about 1/2 hour warm up time). Using a surface probe pyrometer, measure the temperature just above one of the glue jets (refer to Figure 7-1 for correct probe location). If the temperature measured with the pyrometer is the same as shown by the thermostat control knob, the thermostat is calibrated. If the temperatures are not the same, re-calibration can be accomplished by the following method.

1. Set the thermostat control knobs to the same temperature measured with the pyrometer.
2. Remove the thermostat control knobs (with the knobs removed the calibration adjusting screw will be visible by looking into the knob mounting stud).
3. Using a small screwdriver, turn the calibration adjusting screw until the heater indicating light goes off.
4. Turn the screw in the opposite direction until light comes on.
5. Then, turn the screw only until the light goes off.
6. Replace the knobs, set both thermostats at operating temperature and recheck in an hour.

Note: When calibrating the adhesive applicator pump thermostat, all thermostats should be calibrated.

	WARNING	
<p>WARNING: When performing any maintenance on the glue system, wear safety goggles, heat-resistant gloves and protective clothing to prevent injury and burn from hot material and parts.</p>		

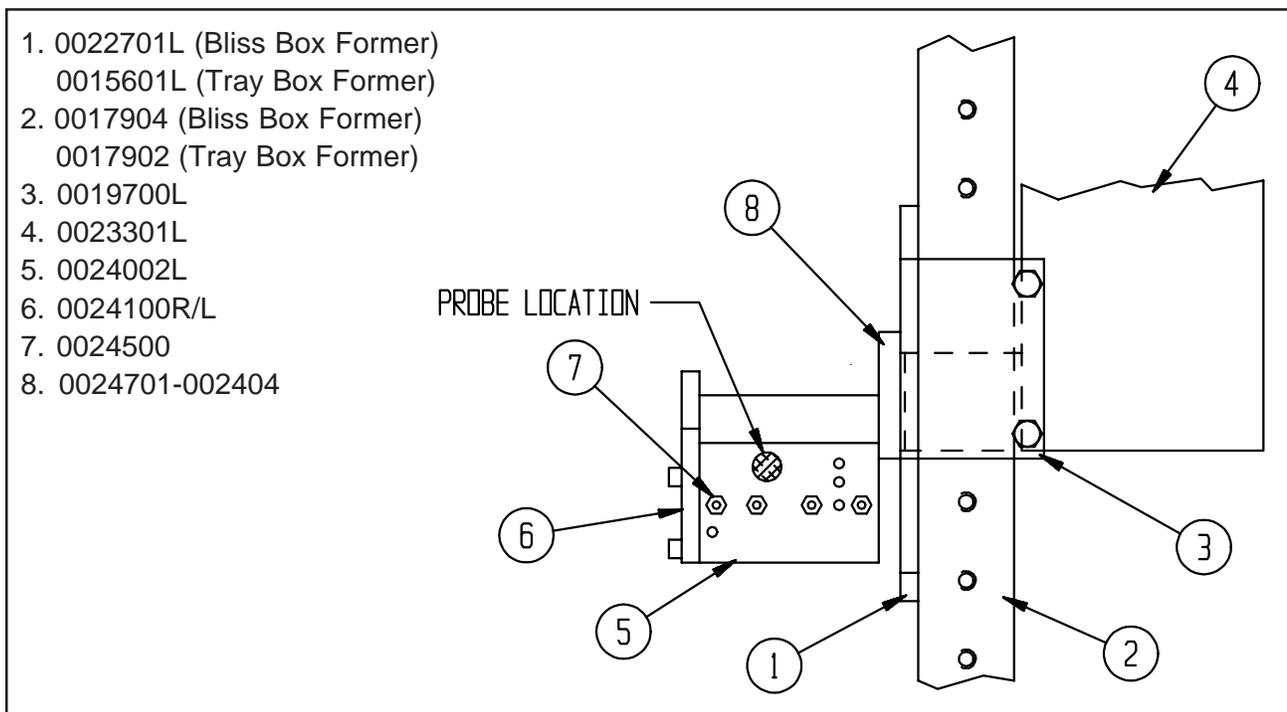


Figure 7-1: Adhesive Applicator Pump Thermostat Calibration



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- \$ 295.00 ea. Glue Pump (Standard)
- \$ 295.00 ea. Glue Pump (Mini)
- \$ 170.00 ea. Auxillary Applicator (Standard)
- \$ 170.00 ea. Auxillary Applicator (Mini)
- \$ 285.00 ea. Glue Pot (Standard)
- \$ 350.00 ea. Glue Pot (Large Capacity Plemons)
- \$ 450.00 ea. Glue Pot (Large Capacity SWF®)

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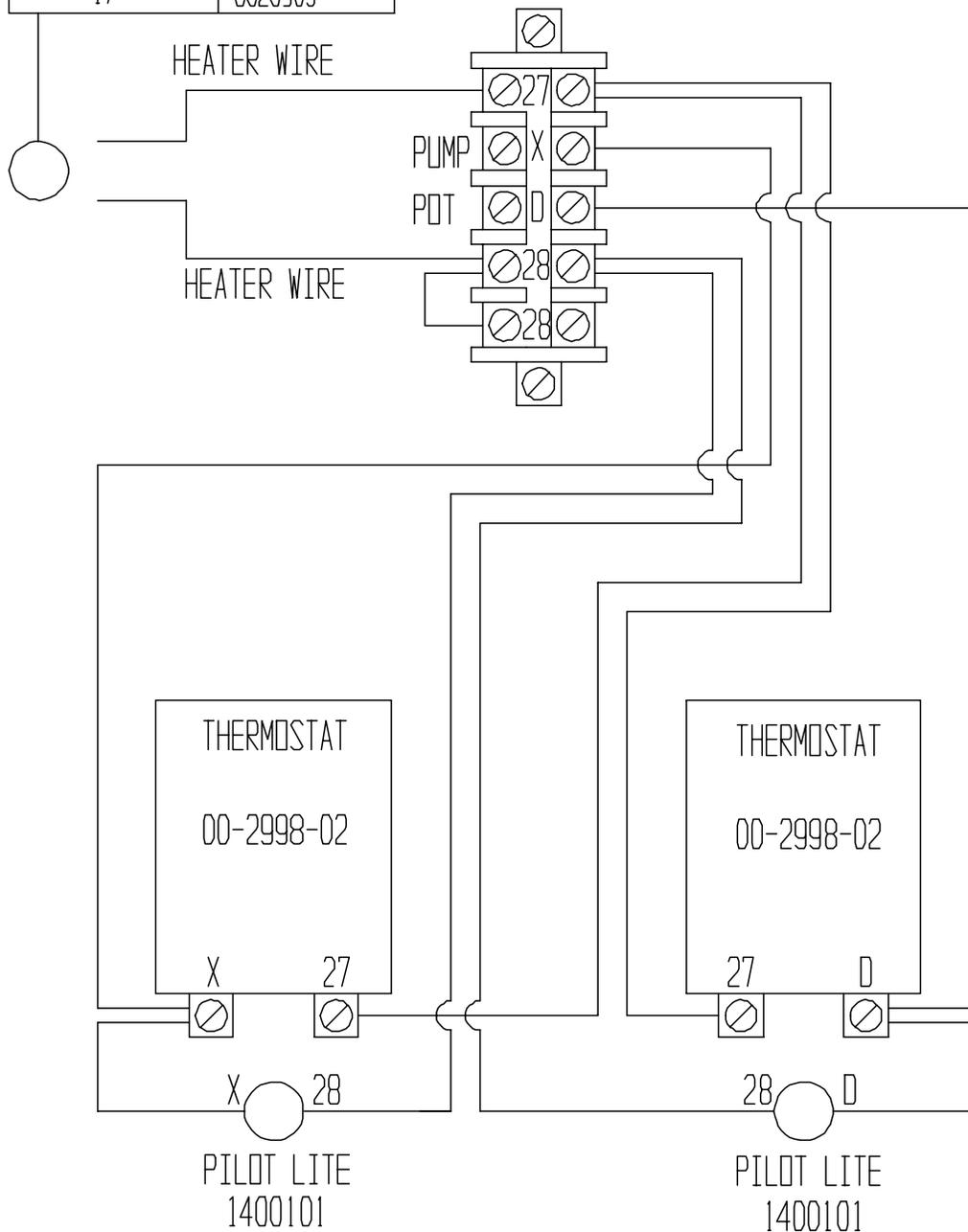
Bliss Box Former



HEATERS	
LENGTH	PART NUMBER
5 "	0020312
8 "	0020303
10 "	0020304
12 "	0020311
13 "	0020306
15 "	0020308
17 "	0020309

HEATER THERMOSTAT WIRE DIAGRAM

(LEFT SIDE)

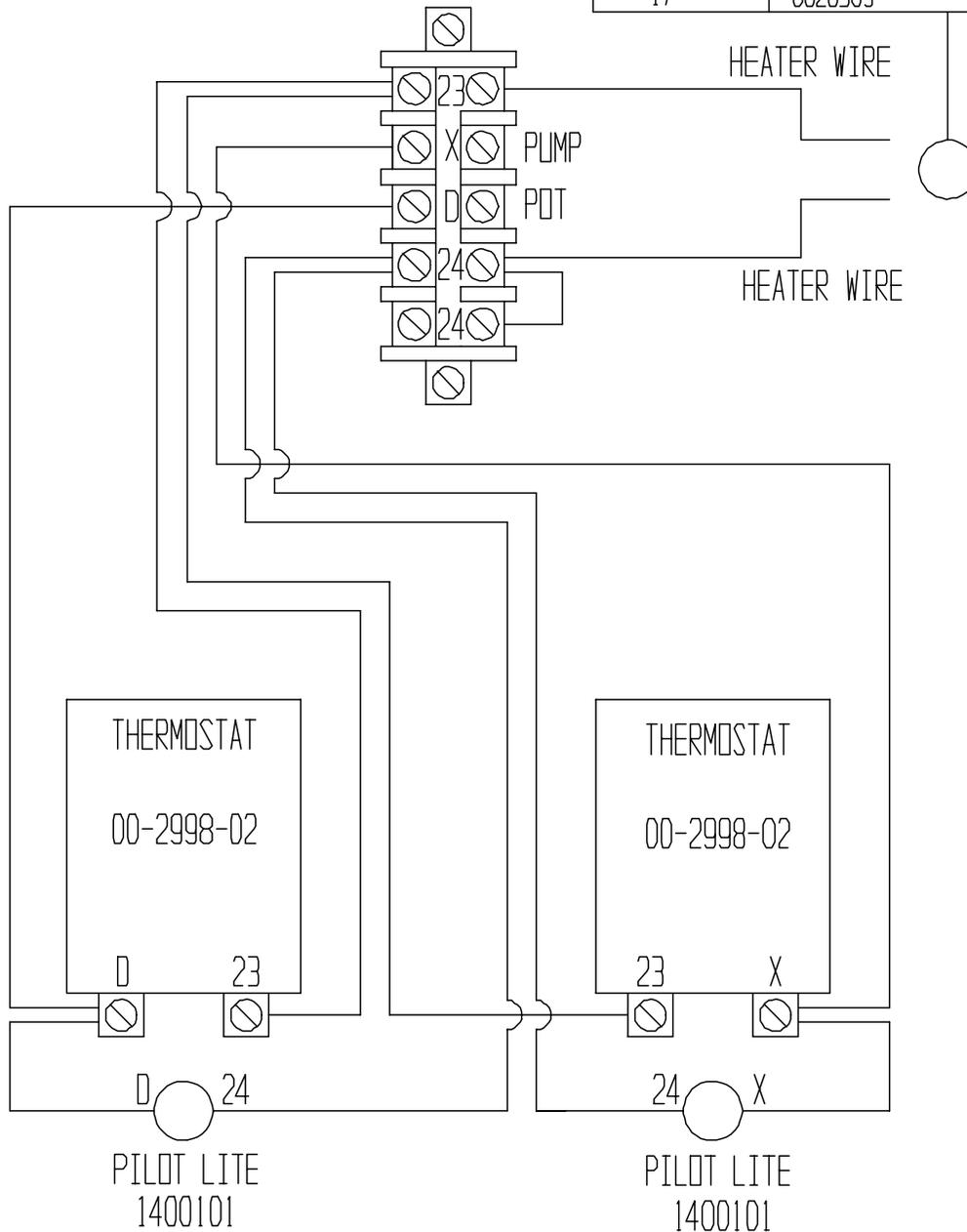


Maintenance

HEATER THERMOSTAT WIRE DIAGRAM

(RIGHT SIDE)

HEATERS	
LENGTH	PART NUMBER
5 "	0020312
8 "	0020303
10 "	0020304
12 "	0020311
13 "	0020306
15 "	0020308
17 "	0020309



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