

# INSTALLATION, OPERATION, and TROUBLESHOOTING

with REPLACEMENT PARTS LISTING for  
 MiniCoater Model Nos. **MC1001** replaces MC101,  
**MC1002** replaces MC103, **MC1003** replaces  
 MC104, **MC1004** replaces MC-105 & **MC1005**



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**The MiniCoater**  
 Miniature roller coater  
 with controlled dispensing  
 for precision lubricating.

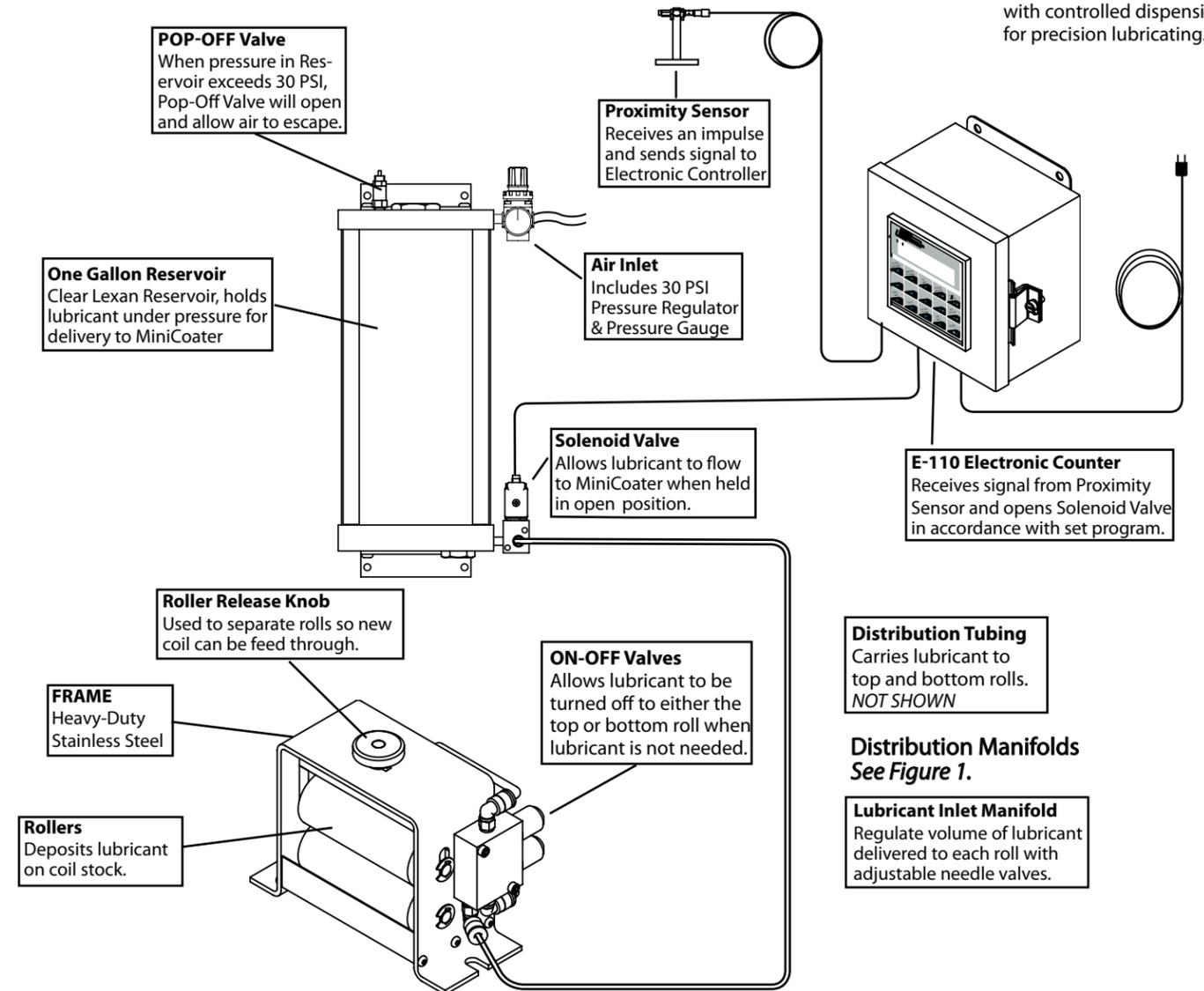
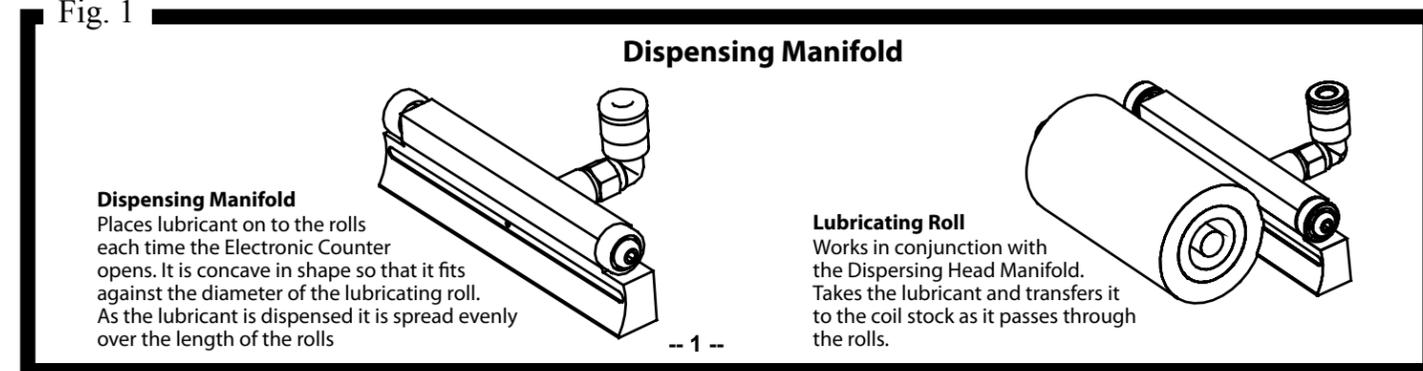


Fig. 1



## INSTALLATION INSTRUCTIONS

### A. Locating the MiniCoater.

The **MiniCoater** should be located so that the **Coil STOCK** will pass through the centers (both width and height) of its opening. The **MiniCoater** must be oriented so the **Coil STOCK** enters from the back side, the opposite side of the exposed **Rollers**.

The **Coil STOCK** should be on the same level as the top of the bottom **Roller**. Results are always best when the stock is centered in the width of the **MiniCoater** for an even coating.

To have a **MOUNTING SURFACE** on which the **MiniCoater** can be placed at the proper height may require some fabrication. This **SURFACE**, and any bracketing used, must give solid support. The **SURFACE** need not be one continuous flat, but may be two separate pads. This **SURFACE (SURFACES)** should be in one plane, and be as parallel to the **STOCK** to be lubricated as practical.

### B. Mounting the MiniCoater

The **MiniCoater** is mounted by having its feet bolted to the **MOUNTING SURFACE**. Use 1/4" bolts with heavy flat washers to do this. If the **SURFACE** is 1/4" or more thick, you may drill and tap for 1/4" thread and bolt into it. If this **SURFACE** is less than 1/4", drill 9/32" holes through it and use a lock washer and nut on the underside.

### C. Attaching an Over-Flow Tube

When first starting up a job the lubricant supply settings may be set too high and an over supply of lubricant may be sent to the **MiniCoater**. Attach the overflow tubing to the back side of a **COLLECTION RESERVOIR** and run it into any container to capture the overflow. Once the correct settings for the lubricant dispensing is correctly set there will should be no overflowing of lubricant.

### D. Locating the RESERVOIR UNIT

The **RESERVOIR UNIT** will be mounted on a wall or any vertical object. It can be mounted either higher or lower than the **MiniCoater**. When deciding on a location for this **UNIT**, consider the following:

1. The lubricant tank will require filling. Make sure its location will allow this to be done without hindrance and encumbrance.
2. **FLUID TUBING** will need to be routed to the **MiniCoater** and attached. The **RESERVOIR** comes with 6' of tubing. Longer **TUBING** is available from **LSP** if needed.
3. An **AIR SUPPLY** will need to be connected to the **RESERVOIR UNIT** (see para. **F.** below). Locate the **RESERVOIR** so this can be done without difficulty.

**NOTE:** The **RESERVOIR** is a pressure pot with a 20 PSI **PRESSURE RELIEF VALVE**. A **PRESSURE REGULATOR** and **GAUGE** is included with the **RESERVOIR**.

### E. Attaching the FLUID LINE

**CONNECT THE FLUID LINE** between the **RESERVOIR** and **MiniCoater**. If the **LINE** is too long it may be cut to the appropriate length; however, always leave enough slack to prevent sharp bends that might cause the **LINE** to kink. Using the front illustration as example, make the following connections:

1. Connect a 1/4" OD **FLUID LINE** at the **RESERVOIR UNIT OUTLET** on the underside of the vessel.
2. Connect the other end of the 1/4" OD **FLUID LINE** to the **LUBRICANT MANIFOLD** located on the side of the **MiniCoater**.

**NOTE:** All Fittings are supplied, push/pull type fittings. Gently press the tubing into the fittings until they bottom out.

### F. Attaching the AIR SUPPLY

Install the **AIR REGULATOR** and **PRESSURE GAUGE** to the **AIR SUPPLY PORT ON** the **RESERVOIR Unit**. **ALWAYS USE AN AIR REGULATOR WITH A 30 PSI MAXIMUM OUTPUT**. Connect an **AIR SUPPLY** of at least 30 PSI at the **AIR REGULATOR** in-port. It is advised that you make this connection with a quick-disconnect fitting to allow shutting down the Unit for refilling or should the **AIR** have to be shut down in an emergency.

### F. LUBE ROLLS

The **MiniCoater** is shipped with the **LUBE ROLLS** already installed. **LUBE ROLLS** can be changed by removing the **SNAP RINGS** and then removing the **LUBE ROLLS**.

### G. Installing the CONTROL UNIT

Various methods may be used to control the dispensing of the lubricant. If using an **LSP CONTROLLER**, see the **INSTRUCTIONS** supplied with it for installation. If using the **PLC (PROGRAMMABLE LOGIC CONTROL)** on your machine, see paragraph "**D**" under **OPERATING INSTRUCTIONS** for directions.

## OPERATING INSTRUCTIONS

### A. Inserting the STOCK

When, **STOCK** has to be fed through the **MiniCoater** and into the press It is to be done as follows:

1. The **ROLLER RELEASE KNOB** IS **SPRING** loaded in the down position.
2. Lift up and align cross-bar so that it slides through the slit in the **FRAME**.
3. Twist **KNOB** a quarter turn until **KNOB** can be released and the **CROSS-BAR** comes to rest on top of the **FRAME**.
4. The rolls are now open. Insert **STOCK** and turn the **ROLLER RELEASE KNOB** so that so **CROSS-BAR** slides back through the **FRAME** and the spring closes the top **ROLLER** on the **Stock**.

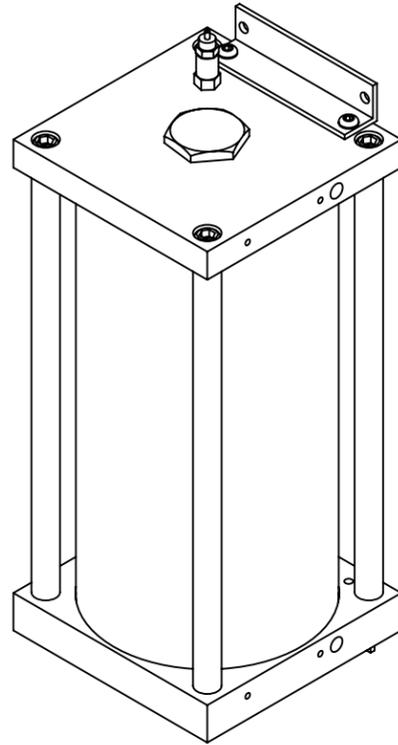
### B. Priming the Fluid System

At startup (or if the fluid tank is left to run dry) the **FLUID-LINE** will contain only air. Before beginning (continuing) operation, these **LINES** should be filled (refilled) with lubricant. This is done by having the **CONTROL UNIT** cycle until the system is filled and lubricant is being applied at the **LUBE ROLLS**.

## TROUBLESHOOTING INSTRUCTIONS

PROBLEMS	SOLUTIONS
I. No lubricant to any of the rolls.	A. Check to see if there is fluid in the reservoir. B. Check the Air Regulator Gauge to see if the air is on. C. Check the controller. 1. Hold hand on solenoid to feel actuation when controller receives a signal. If solenoid does not receive a signal. a. Solenoid may be bad b. Proximity switch may be misaligned or broken. c. Controller may be broken and not receiving or sending a signal.
II. The coil stock is coming out or the MiniCoater with dry stripes .	A. One of the manifolds is plugged . 1. Remove the tube from the manifold. 2. Remove the fitting from the manifold. 3. Blow air in the reverse direction that the lubricant flows. 4. Check and make sure that the hole is free and reassemble the lines.
III. Lubricant continues to flow in between cycles & in the rest mode.	A. Check the solenoid to see if it has to be replaced. B. Check the controller to see if it is broken and in the open position.
IV. Lubricant has become gummy in the MiniCoater.	A. Remove rolls, clean and purge the MiniCoater with water or solvent. B. Clean the rolls and reassemble the MiniCoater. <i>This is caused when changing from oils or water solubles to synthetics. To avoid this problem, purge the system prior to filling with lubricants that are incompatible.</i>
V. Not enough lubricant being dispersed onto the coil stock.	A. Is the controller set to stay open long enough to get a complete coating on each cycle of the feeder. B. Smooth rolls give the finest coating, A course roll will leave a much heavier coating.
VI. Too much lubricant being dispersed on the coil stock.	A. If large quantities of lubricant is being returned to reservoir, the open time on the controls is ope for too long a time. B, Try a smooth roll to reduce the amount of lubricant transferred to the coil stock.

# Reservoir



## C. Selecting the Area to be Lubricated

Each roll in a **MiniCoater** contains one or more **DISPERSION MANIFOLDS** to dispense and spread the lubricant over the roll. Each **DISPERSION MANIFOLD** can be set to either be **ON** or **OFF** or to be adjusted to deliver more or less lubricant than other **DISPENSER MANIFOLDS** in its system. Due to their small sizes the MC-101 and the MC-103 each have two **DISPERSION MANIFOLDS**, one for the top and one for the bottom. The MC-106 has four **DISPERSION MANIFOLDS**, two top and two bottom and the MC-109 has six **DISPERSION MANIFOLDS** three top and three bottom. By adjusting the **NEEDLE VALVES** on the **LUBRICANT MANIFOLD** lubricant, volume will be controlled to either the top or the bottom **DISPERSION MANIFOLD**.

## D. Using the CONTROL UNIT

The **CONTROL UNIT** governs dispensing the lubricant by controlling the **FLUID VALVE** on the **RESERVOIR Unit**. The lubricant in the **RESERVOIR UNIT** is kept under low pressure by shop air and is held in check by the **SOLENOID VALVE**. When activated (opened) by the **CONTROL UNIT**, the **FLUID VALVE** allows the lubricant to flow to the dispensing heads and wet the **LUBE ROLLS**. This is done as the **STOCK** is being fed out. As the feed-out drives the wetted **ROLLS**, the lubricant is deposited onto the **STOCK**. Any device that can be programmed to provide the proper functions may be used as the **CONTROL UNIT**. It might be a **UNIT** supplied by **LSP** or the controller (PLC) on the machine if one is provided.

The basic functions to be programmed are a Trigger-Point and an On-Time. The Trigger-Point being set to begin the On-Time (usually at the beginning of stock feed-out). On-Time being set for that amount of time the **FLUID VALVE** is to be open to dispense lubricant (usually for the duration of the feed-out).

To enhance performance or adapt to special situations, other functions may be desired of the **CONTROL UNIT**. *For example:* With very long feed-outs (or roll forming) applying the lubricant in a series of short pulses will allow more control of the application. With very short feed-outs applying a pulse of lubricant every third, fifth, or tenth stroke may be best. If you think your application might require some extended functions, call **LSP** or our representative for advice.

## E. Using the FLUID PRESSURE REGULATOR

The **FLUID PRESSURE REGULATOR** on the **RESERVOIR UNIT** sets the pressure at which the lube is supplied to the dispensing heads. Turning its **Knob** counter-clockwise will reduce the amount of lubricant dispensed; clockwise will increase the amount. This control is usually adjusted during operation until the desired amount of lubricant coating is attained.

## MAINTENANCE

## F. Replacing Worn FELT ROLLS

The **FELT ROLLERS** consist of a metal tube with bearings and a **FELT SLEEVE**. The metal tube and bearings will need to be replaced very infrequently whereas the **FELT SLEEVE** will see a periodic replacement due to wear. Replacing the **FELT SLEEVE** is an easy item to replace.

1. Remove the **FELT ROLLER** from the **MINICOATER** by undoing the **SNAP RING** at one end of the frame and pulling the axle out the other side allowing the **FELT ROLLER** to fall free.
2. Cut **FELT SLEEVE** off of the **ROLLER**.
3. Slide new **FELT SLEEVE** onto the **ROLLER**.
4. Soak in warm water until saturated then remove and allow to dry overnight.
5. Reassemble and **MINICOATER** is ready for use.