MiTek®

SERVICE BULLETIN

Document ID:

SB301

Title:

Printer Ink Pump Retrofit

Affected machinery: *BLADE II*™ saw
Distribution: Customers upon order
Applies to: All machines with the first generation ink printer pump
Sensitivity: Approved for customer use

CAUTION:
MiTek recommends printing this document in high resolution using color ink. Many of the graphics may be unclear and may create an unsafe condition if this recommendation is not followed.

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Orig. Approved By	R. Tucker

Purpose and Scope

This service bulletin instructs how to replace the first generation ink printer pump used in earlier builds of the *BLADE II* saw with an updated *Matthews* ink pump that offers greater reliability.

Overview

Parts Included

The parts included in this kit are shown in Table 1. Please make sure all parts and supplies are present before starting the procedure.

Table 1: Parts in SB321KIT

Quantity	Description	Part #
1	Ink pump	168073
1	Pump mounting bracket	77273
1	1/4-20x3/4" SHCS	326157
4	1/4" flat washers	365632
2	10-32x3/8" SHCS	326092
2	#10 flat washers	365109
1	*Festo* 1/4 turn valve	434073
4	Cable ties	508700
1	Service bulletin document	SB301

If you have any questions, call MiTek Automation Support at 1-800-523-3380.

Supplies Needed

- 3/16" hex key
- 5/32" hex key
- Tubing cutter or utility knife
- Diagonal/wire cutters

Lockout/Tagout Instructions

Electrical Lockout/Tagout Procedure

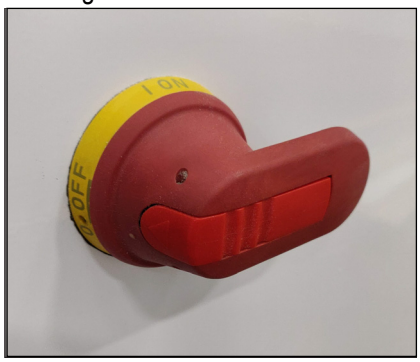
The lockout/tagout instructions for the electrical systems will be referenced as necessary in this document. Service Bulletin instructions start on page 5.

Working on a Machine Outside the Machine's Main Electrical Enclosure

	⚠ WARNING
	**ELECTROCUTION HAZARD.** **All electrical work must be performed by a qualified electrician.** **Verify that all power to the machine has been turned off and follow approved lockout/tagout safety procedures before performing any maintenance.** **If it is absolutely necessary to troubleshoot an energized machine, follow NFPA 70E for proper procedures and personal protective equipment.** **When the disconnect switch is off, there is still live power within the disconnect switch's enclosure. Always turn off the power at the building's power source to the equipment before opening this electrical enclosure.**

1. If applicable, close machine software and shut down the PC using the **Power** > **Shut down** method in Windows.
2. Engage an E-stop on the machine.
3. Turn the disconnect switch handle to the Off position. See Figure 1.
4. Attach a lock and tag that meet OSHA requirements for lockout/tagout to the electrical service entry panel.

Figure 1: Disconnect Switch



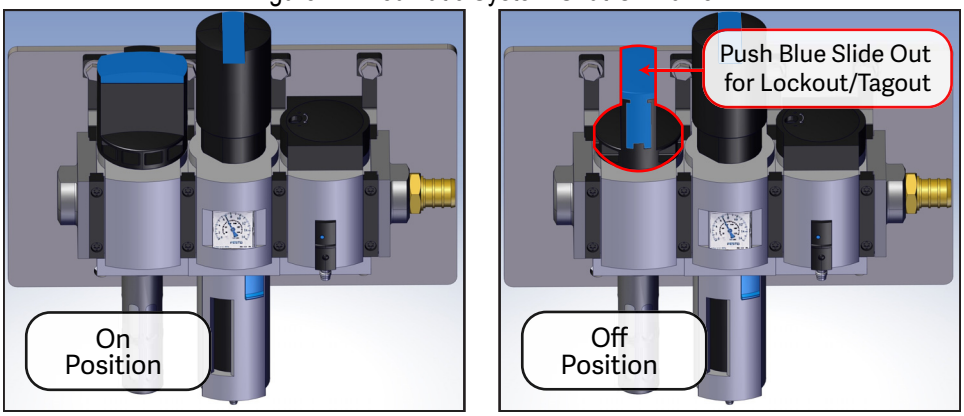
Pneumatic or Hydraulic System Lockout/Tagout Procedure

The lockout/tagout instructions for the pneumatic or hydraulic systems will be referenced as necessary in this service bulletin.

	⚠ WARNING
	**HIGH PRESSURE HAZARD.** **Bleed pneumatic lines before performing any maintenance on the system.** **Working on pressurized lines may cause injury.**

After lockout/tagout of the electrical power, turn off or close the system's air shut-off valve and attach a lock and tag. See Figure 2.

Figure 2: Pneumatic System Shut-Off Valve



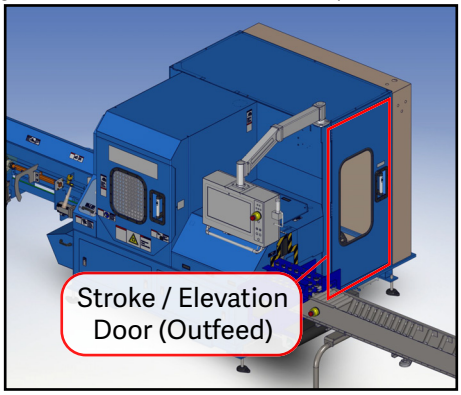
Procedure

Removing Existing Printer Ink Pump

	**⚠ WARNING** **MOVING PARTS CAN CRUSH AND CUT.** **Always verify that power to the machine has been turned off and follow approved lockout/tagout procedures.**

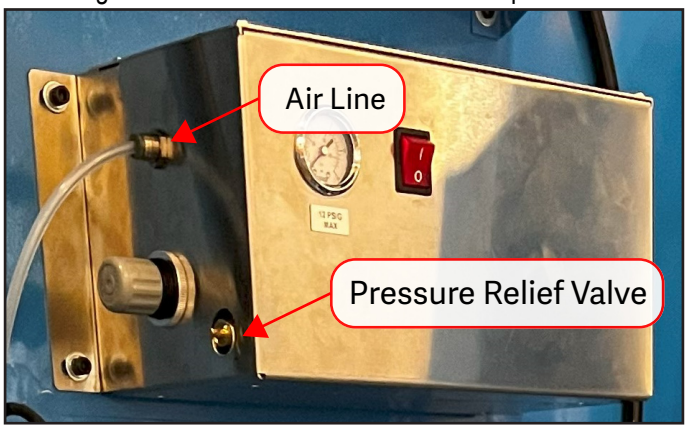
1. Open the stroke / elevation door on the outfeed end of the machine by pressing the open-door pushbutton and pulling the handle.

Figure 3: Stroke / Elevation Door (Outfeed End)



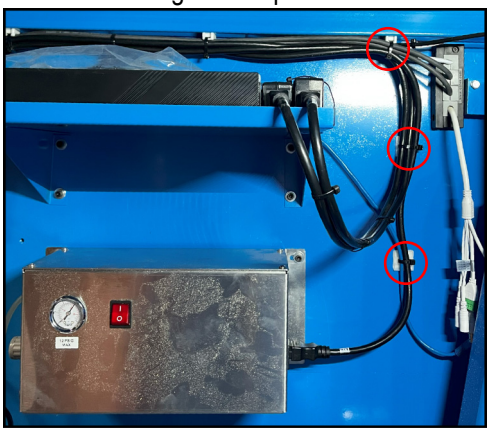
2. Lockout/tagout the electrical and pneumatic systems of the machine using the Lockout/Tagout Instructions on page 3.
3. With power locked out as previously described, locate the existing ink printer pump inside the stroke / elevation chamber and pull on the printer relief valve to release any remaining air pressure in the print system (Figure 4).
4. Disconnect the push-to-connect the pump air line (Figure 4).

Figure 4: Pressure Relief Valve and Pump Air Line



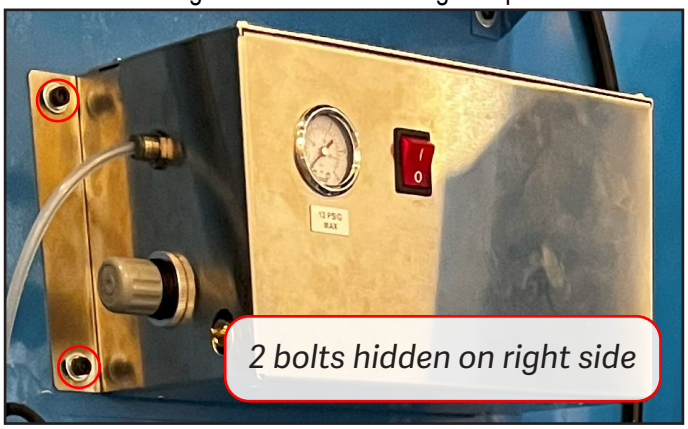
5. Unplug the power cable from the existing pump and use the wire cutters to cut zip ties shown in Figure 5 to release the cable. The power cable will be reused later.

Figure 5: Zip Ties



6. Use a 3/16" hex key to remove the 4 bolts securing the existing pump. Remove and set aside the old pump for disposal.

Figure 6: Bolts for Existing Pump

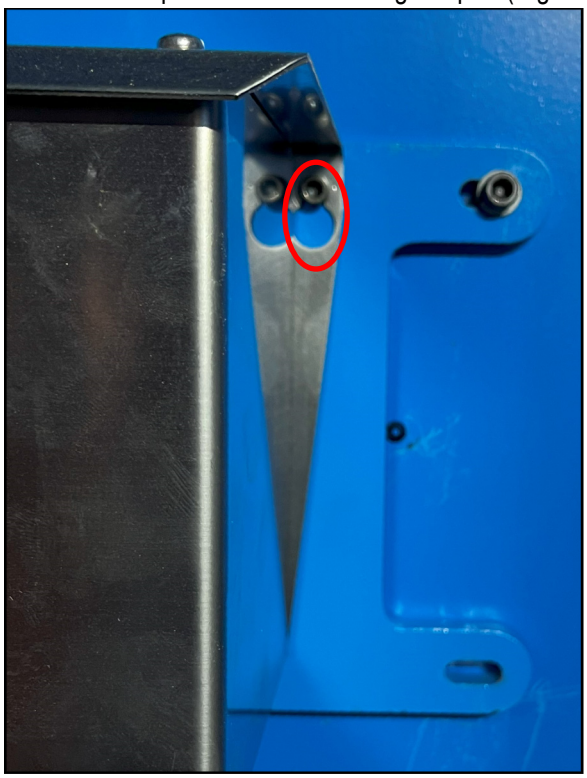


Installing New Printer Ink Pump

1. Use a a 5/32" hex key to attach the new ink pump to the mounting adapter using the supplied 10-32x3/8" screws and #10 washers on the left and

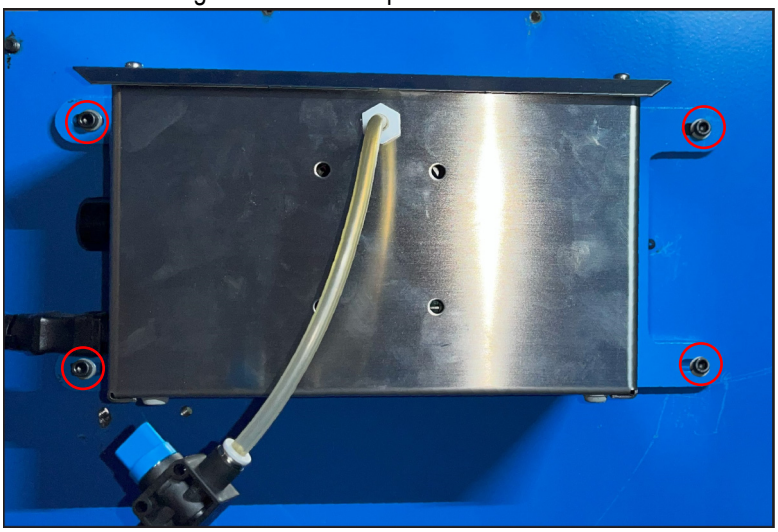
right side. Ensure that the pump is seated in the thin portion of the key-hole slot as shown in Figure 7.

Figure 7: New Pump Attached to Mounting Adapter (Right Side)



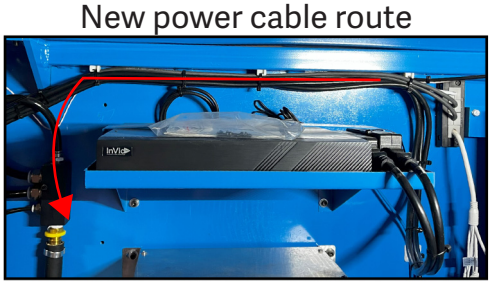
2. Utilizing the same holes as the previous pump, use a 3/16" hex key and the supplied 1/4-20x3/4" screws and 1/4" washers to mount the new pump as shown in Figure 8.

Figure 8: New Pump Attached to Frame



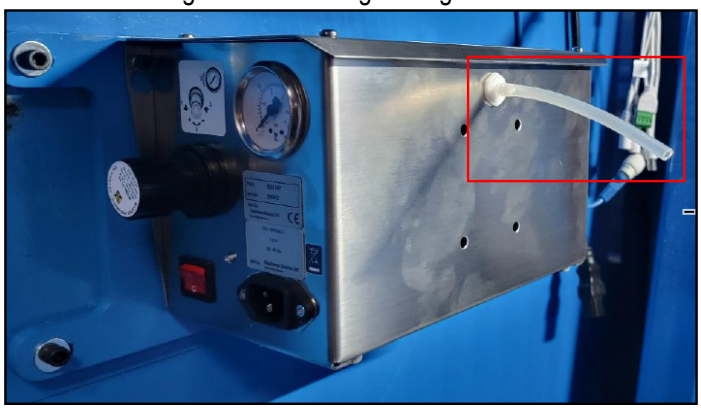
3. Re-route the power cable (unplugged earlier) along the path shown in Figure 9 and use the supplied zip ties to secure it. It will be connected later.

Figure 9: New Power Cable Route



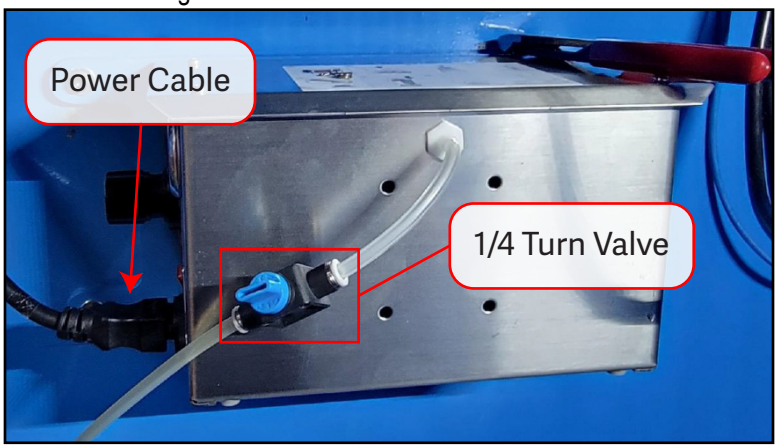
4. Using a tubing cutter or utility knife, cut the supplied air hose at a perpendicular angle approximately 6" from the end and attach the cut section to the barbed fitting on the air pump (Figure 10).

Figure 10: Installing Tubing Section



5. Install the 1/4 turn valve push-connect valve, ensuring the arrow on the valve points away from the pump, turn the valve in-line with the air hose to allow air to flow (Figure 11).
6. Attach the remaining airline to the fitting and plug in the power cable (Figure 11). Verify the pump power switch is in the on position.

Figure 11: 1/4 Turn Valve and Power Cable



7. Verify the caps on all ink and cleaner bottles are securely tightened to avoid potential leaks.
8. Close the stroke / elevation door.
9. Remove lockout/tagout devices and power on the machine.
10. Verify that the ink pump builds to 12 psi of air pressure. It may take up to a minute to build pressure. If the pressure is too high or low, follow instructions on the pump to adjust it.
    - If the pressure does not build, verify all bottle caps are securely tightened and check the pneumatic lines for any loose connections.

Releasing Pressure to Change Ink Bottles

The previous pump relied on a pressure release valve built into the pump to release pressure before replacing an ink or cleaner bottle.

In the new pump design, the 1/4 turn valve is used to release air pressure and should be used when attempting to replace a bottle. More detailed instructions can be found in the machine manual.

END OF SERVICE BULLETIN