Pressure Relief Valve

Installation of PRV– Field Service Reps

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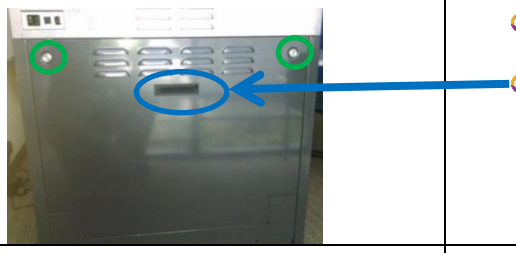
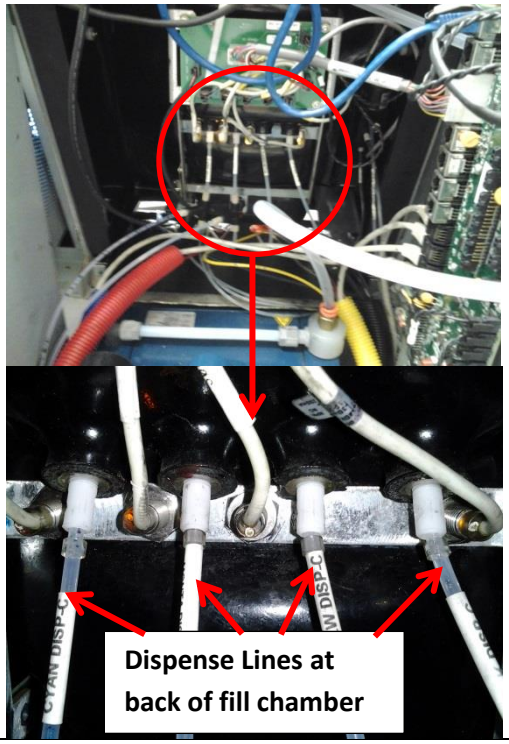
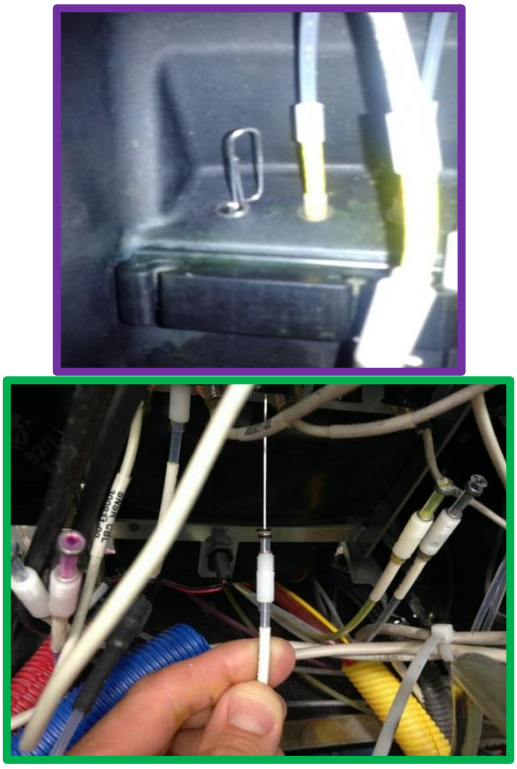
Objective: Pressure Relief Valves or PRV for short, are being installed on the ink dispense lines. This modification should extend the life of the rotary valves and infusion pumps. The purpose of the PRV is to protect the distribution valves from over pressure, a condition that damages the distribution valves

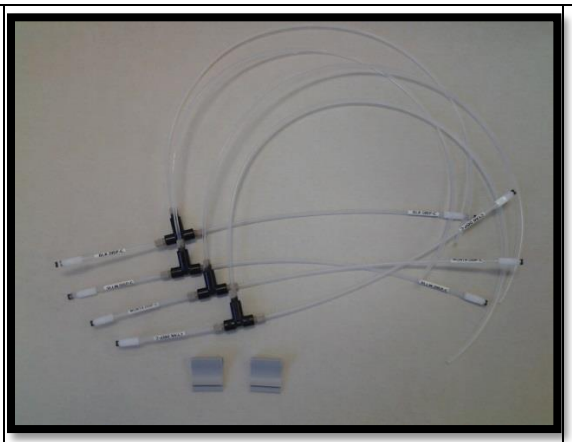
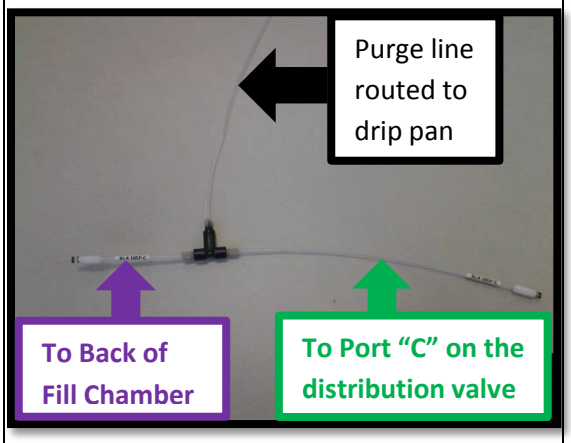
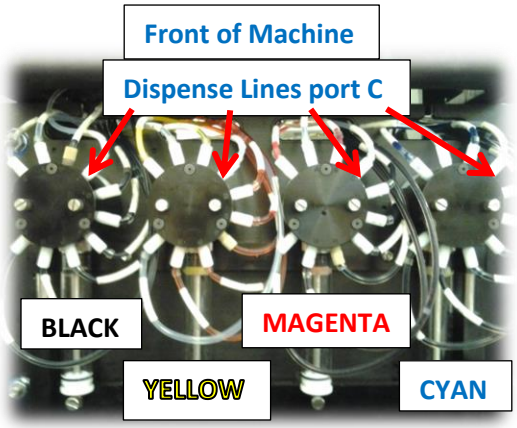
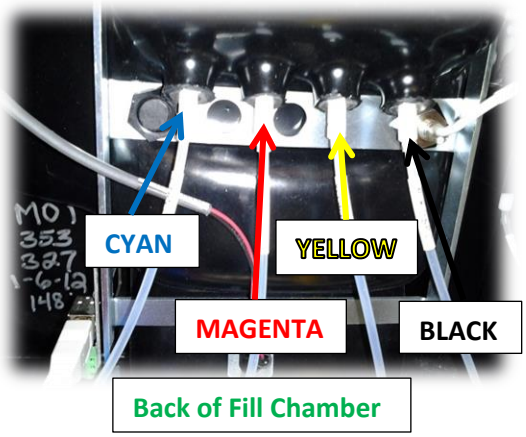
Kit Contents

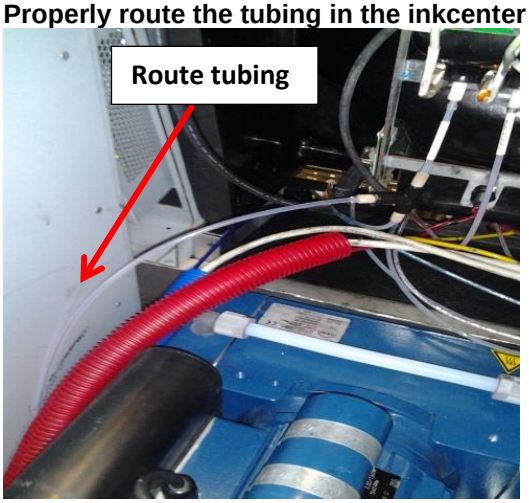
- 4 pre-assembled ink dispense line with PRV attached (1 each for Black, Yellow, Magenta and Cyan)
- 4 clips with self-adhesive backing

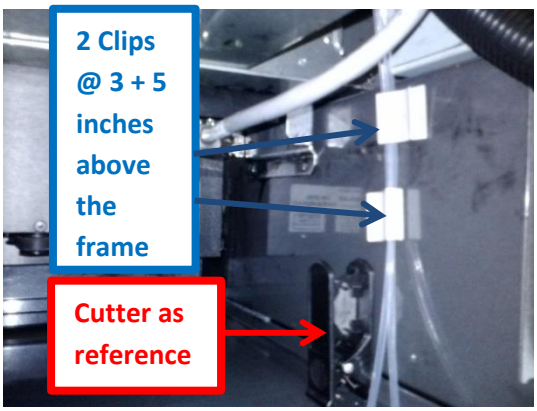
The Original Dispense lines may be disposed of. No need to send them back to RIS

STEP	*DISCUSSION*	*ACTION – DO THIS*
1	**Remove the Upper Hood** 	The upper hood is secured to the machine with seven (7) fasteners seven (7) fasteners. 3 across the top and 2 on each side. Using a 3/16" Allen tool or Phillips Screwdriver, remove the seven fasteners securing the upper hood to the machine. Two fasteners are located on each side of the machine and three fasteners are located across the top of the machine. Carefully slide the hood back and up to remove.
2	**Remove lower back cover** 	Using a 3/16" Allen tool or Phillips Screwdriver Remove the two screws Grab handle, tilt the top of the back panel away from machine, then lift up and out to remove cover
3	**Remove the work surface**  	Clear any loose items from the top of the work surface. Remove the tester cover by pulling toward you and set it aside. Raise the vacuum chamber door by pulling forward and up on the handle until it locks into the open (top) position. Open the left upper drawer (labeled REFILL ADAPTERS) to gain access to the underside of the work surface and remove the thumb screw fastener. Open the right upper drawer (labeled TEST ADAPTERS) to gain access to the underside of the work surface and remove the thumb screw fasteners Grasp the sides of the work surface and pull towards you to slide it off the machine

4	**Perform an automated Chamber Leak Test**	• Log in as a technician • Navigate to Tech Pane tab • Select the test button on lower right • Select the Chamber leak test • Note the last pressure reading and the decay rate
5	**Identify the 4 dispense lines at the back of the machine** 	• At the back of the fill chamber are the 4 dispense lines • You will install the kit on one dispense line at a time to avoid mixing up the tubing.
6		• First, check to see if there is a black washer in the back of the chamber. By taking a paper clip or injector tip, gently poke the back of the chamber. If it feels hard like steel, then there probably isn't a washer present, if it feels soft and rubbery, then there is a washer and you need to gently remove it. • To install a new washer, perform the following steps. • Remove the injector from the fill chamber • Straighten out one of the legs of a paper clip and insert into back of chamber where injector screws in • On the back of the chamber, remove the dispense line • Take the new black washer and place it on top of the PRV tube (short one) that goes to the back of the chamber • Slide it up the paper clip and secure the tubing connector. • Remove paper clip and compete remaining steps for PRV installation

7	 	• There is one dispense line for reach color (Black, Yellow, Magenta and Cyan) • The shortest section of the dispense line connects to the back of the fill chamber • The other end connects to Port C on the respective valve • The "free" end without a connector is the purge line. This end is routed to the drip pan under the vacuum pump the secured to the side wall with 2 clips on each side wall
8	 	• Remove one (AND ONLY ONE AT A TIME) of the dispense lines from the back of the fill chamber and from port "C" on the distribution valve • Install the new dispense line with attached PRV (pressure relief valve). • Make sure the lines do not get crossed or mixed up. • Port C on the valve should have a flat black washer in place.

9	**Properly route the tubing in the inkcenter** 	• The free end of the tubing should be routed in between the vacuum pump and the frame of the ink center • 2 section of tubing to the left and 2 to the right
10	**Perform an automated Chamber Leak Test**	• Log in as a technician • Navigate to Tech Pane tab • Select the test button on lower right • Select the Chamber leak test • Note the last pressure reading and the decay rate. • If the pressure is less than what was observed in step 4 or the leak test fails, double check you tubing connections and repeat test until issue is resolved
11	**Repeat procedure for next dispense line**	• Repeat steps 7 through 10 for the remaining dispense lines • Please do only one line at a time to avoid mixing them up

12	**Secure the tubing to side frame**
	 
	 
		• Two lines (C+M) should be routed to the left and the other 2 (Y+K) should be routed to the right (as viewed from back of machine)
		• When all the PRV's are installed and the tubing is properly routed, clean and dry the area the clips will attach to and the bottom of the drip pan.
		• Place the clips about 3 inches up from the pan (use the cutter as a reference), ***then a second clip 2 inches above that facing the opposite way***
		• Trim the end of the tubing so it is approximately 1/2 inch above the pan under the infusion and vacuum pump.
		• Test the machine by running cartridges with the back cover off for a visual inspection of the dispense lines while the fill process is running.
		• The purpose of the PRV lines is to protect the distribution valves from over pressure, a conditions that damage the valves
		• The new tubing from the PRV should stay clear with no ink if the machine is operating right. If ink runs out either one of the four new lines it is an indication that there is an over pressure in the system and the dispense line is clogged or partially obstructed. Perform the following steps to resolve issue.
		  ○ Check all four injectors for any clogs or damage to the needle tip. Run water though the injectors as per training instruction to detect proper flow.
		  ○ Check the distribution port for damaged black washers obstructing the flow.
		  ○ If running an Epson cartridge, ensure the injector is properly inserted into the rubber septum.
		  ○ Repeat the cartridge refill, if more ink comes out of the PRV tube contact RIS technical assistance.

Finished product