

VLF Trendsetter

Factory Film Option Installation

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1. MACHINE REQUIREMENTS

VLF-TS Firmware V1.10 and higher is required to support the additional hardware. Roller actuation cylinders must be the newer 1.5" diameter style enable proper roller pressure control (ECO pending).

Note: This document references item numbers in assembly drawing 50-1483B.

2. DESCRIPTION OF FILM HANDLING KIT

The air knife system is comprised of a control valve and four air nozzles. The control valve is mounted on the engine side plate above the ten position manifold. The air nozzles are mounted on the underside of the horizontal panel above the imaging head guide ways. These four nozzles help peel the film off the drum as well as bridge the gap between the drum and the load table surface.

There are also air nozzles mounted to the leading edge backbone and a dual roller pressure control system. The nozzles mounted to the leading edge backbone help prevent the film from forming a bulge during unload onto the table. The air supply to these nozzles are controlled by a second position on the same manifold used to control the air knives. The dual roller pressure control switches to a lower pressure when loading film to prevent stretching of the media.

The solenoid valves are controlled by signals from the engine satellite electronics board.

3. INSTALLING THE AIR HAMMER HARDWARE

1. Remove any media from the drum and perform an *ale init* to get the leading edge backbone to actuate the leading edge clamps. Turn off power to the machine and remove the air supply.

2. Locate the vacuum generator air supply line and follow the airline to the inlet port (P) to its supply at the ten position manifold. Disconnect the ¼" to 5/16" hose adaptor from the supply tee. At the single position manifold, disconnect the ¼" tubing feeding the air knife nozzles. Remove the single position manifold and adaptor plate from the machine.

3. Remove the two screws for the vacuum generator and mounting bracket. Leave all hose and wire connections intact. Do not discard these fasteners as they will be required in step 4.

4. Mount the manifold adaptor plate (0010) onto the engine side plate using four M4x10 screws (0020). Re-mount the vacuum generator and mounting bracket onto the standoffs.

5. Mount the four position valve (0090) and manifold to the left of the vacuum generator bracket using two M4x16 screws (0080). This will be referred to as the Air Knife/Hammer valve/manifold. Ensure the manifold is positioned with the intake port (P) oriented towards the vacuum generator bracket.

6. Connect the 5/16" Y-fitting (0110) to the air supply tee at the ten position manifold. Re-connect the vacuum generator supply line to one leg of the Y-fitting (removed in step 2 above). Install a length of black 5/16 tubing from the remaining leg of the Y-fitting to the intake port of the Air Knife/Hammer manifold.

7. Mount the two air nozzles (0200) to the mounting brackets (0190) using four M5x12 screws (0210). Mount this assembly and the lead-in guide bracket (0180) to the leading edge backbone. Position the nozzles axially along the drum so they align with the large registration blocks.

8. Cut two lengths of black 5/16" hose to join the air hammer nozzles to the Y-fitting connected to the Air Knife/Hammer outlet port B. Allow enough tubing length to tie wrap the hoses to the Leading edge backbone air cylinder bracket.

9. Adjust the lead-in guide brackets to match the clamp gap. Adjust the nozzle brackets so they do not interfere with unloading but close enough to be effective. Ensure the operation of the leading edge backbone (*LEC ON/OFF*) does not strain the air hoses to the air hammer.

10. Tidy the installation and secure hoses with tie wraps as necessary

4. INSTALLING THE AIR KNIFE SYSTEM

The air knives are most easily installed on the underside of the drum panel (57-1510B on 5080 machines & 57-1559C on 5880 machines) with the panel removed from the machine.

1. Install hose adaptor fittings (0240) to the four air nozzles (0200).

2. On machines equipped with 5080 drums, fasten the outer two nozzles to the panel using M4x8 screws. The inner two nozzles are mounted away from the panel using the spacer arrangement shown and M4x16 screws. See drawing for details.

3. On machines equipped with 5880 drums, fasten all four nozzles to the panels using M4 nuts.

4. Install the elbow fittings (0250) to the outer nozzles. Install the tee fittings (0260) to the inner nozzles using two small 35mm lengths of ¼" tubing.

5. Connect the air fittings together as shown in the drawing. The main air line from the manifold is connected to a y-fitting (0270) centered between the nozzles. Each remaining leg of the y-fitting supplies the pair of left and right nozzles.

6. Connect the ¼" elbow adaptor (0250) from the air knife nozzles to the Air Knife/Hammer manifold outlet at port A.

5. INSTALLING THE DUAL ROLLER PRESSURE HARDWARE

1. Turn off power to the machine and remove the air supply.

2. If the machine is already equipped with the new roller cylinders (55-0649 Cyl, 1.5"x1.625", dbac, sg rd, fixed eye), goto step 4. Disconnect the air supply lines from the roller actuation cylinders. Remove the roller backbone from the engine. Remove the clevis pin from the cylinder mounts. Remove the air cylinders from the machine.

3. Install the adaptor fittings (0350) to the cylinder ports and transfer the speed controls from the old cylinders to the new cylinders. Install the new cylinders (55-0649) using the old clevis pin. Check the range of motion of the cylinder in the clevis mount. Identify any areas of interference and clearance the mount if required. Re-install the roller backbone onto the new cylinders. Reconnect the air lines to the new cylinders.

4. Mount the two position valve (0040) and manifold to the right of the vacuum generator bracket using two M4x16 screws (0030). This will be referred to as the Roller Pressure control manifold/valve. Ensure the manifold is mounted with the intake port (P) facing the vacuum generator bracket.

5. Disconnect the roller retract air line from the ten position manifold (it is connected to a pressure regulator mounted directly onto the manifold). Connect the outlet of a quick exhaust valve to this air line. Adjust the pressure regulator so it is wide open and tighten the locknut in this position. This pressure regulator is no longer required but adjusting it wide open to bypass is simpler than removing the regulator from the manifold.

6. Install a length of 5/16" red tubing from the pressure regulator in step 5 to the Roller Pressure Manifold intake port (P).

7. Connect a length of tubing from pressure regulator at the outlet port (B) to one leg of the Y-fitting connected to the quick exhaust (0140) inlet port.

8. Connect a length of tubing from the remaining pressure regulator at outlet port (A) to the remaining leg of the Y-fitting. Splice in a check valve (0170) in this tube length. Ensure air flow is permitted from the manifold to the quick exhaust.

9. Locate the roller cylinder extend air line (black) under the engine hose panel (gold color panel). Disconnect the air line at the branch tee (approx. at the centerline of the drum) and insert a quick exhaust valve at this point. The quick exhaust valve outlet port should be connected to the tee. The remaining port (inlet) should be connected to the cylinder extend air line.

10. The Roller Pressure Manifold port A regulator is for film. The port B regulator is for plate. Adjust the regulators as follows:

Roller Pressure for Film:	15 psi
Roller Pressure for Plate:	50 psi

11. Adjust the roller cylinder speed controls as required. The roller backbone should actuate evenly.

12. Tidy the installation and secure hoses with tie wraps as necessary.

6. WIRING TO CONTROL THE AIR VALVES

Connect the electrical plug for the Air Knife control into port A of the solenoid valve (0090). Connect the plug for the Air Hammer in to outlet port B of the same manifold. Connect the roller pressure plug to the single position solenoid valve.

The following connections from the engine satellite electronics board to the solenoid valves are provided in the control wiring harness but are provided here for reference purposes.

J33	pin 5	Air Knife	+24V
	pin 6		gnd
J33	pin 7	Air Hammer:	+24V
	pin 8		gnd
J34	pin 1	Roller Pressure Select	+24V
	pin 2		gnd

Install strain reliefs on the IDC connectors.

7. TESTING THE INSTALLED COMPONENTS

7.1 Air Knife Control

Type the following: *act aknife on*

Result: Air knives receive air and red LED on air knife solenoid valve port A is illuminated.

Type the following: *act aknife off*

Result: Air supply to air knives turned off.

7.2 Air Hammer Control

Type the following: *act ahammer on*

Result: Air Hammer receives air and red LED on Air Hammer solenoid valve port B is illuminated.

Type the following: *act ahammer off*

Result: Air supply to air hammers turned off

7.3 Roller Pressure Control

Type the following:
rlr off
act rpfilm off
rlr on

Result: Roller pressure solenoid valve is not actuated (LED not illuminated). Valve is in it default state and air flow will flow through outlet port B. Roller is retracted onto drum surface at pressure setting for plate media. Ensure operation is smooth, even, and complete.

Type the following:
rlr off
act rpfilm on
rlr on

Result: Roller pressure solenoid activated. Roller is retracted onto drum surface at pressure setting for film media. Ensure operation is smooth, even, and complete.