CHAPTER 9 CONSUMABLE REPLENISHMENTS

INTRODUCTION This chapter describes the general replenishment processes needed for machine husbandry. It details the procedures needed to perform the following tasks:

- Solder paste replenishment
- Paper and solvent replenishment - Blue USC
- Cleaning cassette and solvent replenishment - Vortex USC
- Filter cassette replenishment - Vortex USC
- Fitment of squeegees
- ProFlow - paste cassette change
- ProFlow - paste retention system replacement
- ProFlow - transfer head recharging

Regulations The safety and environmental aspects of machine operation are described. However, it should be noted that local or national regulations may vary for countries outside the UK or EEC. Machine operatives should be conversant with all regulations relating to local conditions.

Competence Level These procedures can only be performed by personnel who have been trained to a minimum of DEK operator level.

PASTE LOADING

Two options are provided for loading paste onto the screen, **Manual Load** and **Auto Dispense**. Manual load allows the operator to load paste by hand onto the stencil. Auto dispense loads paste automatically onto the stencil in the correct area, from the paste cartridge located in the paste dispenser on the print carriage. Auto dispense can be programmed into a product file to take place automatically during a print run or either option can be selected, directly from the MMI, to take place at the operator's discretion.

The print direction option allows the user to select the direction of the next print stroke after paste loading. The option is available prior to pressing **Run** in all machine modes, ie Auto/Single/Step.

WARNING
SOLDER PASTE AND SOLVENTS. WHEN USING OR HANDLING ANY SOLDER PASTE OR SOLVENT FORMULATION THE MANUFACTURERS' RECOMMEND SAFETY PRECAUTIONS MUST BE STRICTLY ADHERED TO.

WARNING
PROTECTIVE CLOTHING. APPROVED PROTECTIVE CLOTHING SHOULD BE WORN BY SOLDER PASTE AND SOLVENT HANDLERS AT ALL TIMES TO ELIMINATE FUME INHALATION, EYE CONTACT, SKIN CONTACT AND INGESTION.

Manual Loading

To load paste prior to print run:

1. Press **Paste Load** (F3).

Run	Head	**Paste Load**	Clean screen	Adjust	Setup	Monitor	Maint.

2. Press **Manual Load** (F2). The message **'Open cover and load paste'** is displayed.

Auto Dispense	**Manual Load**		Load Cart.		Print Directn		Exit

3. Open the front printhead cover.
4. Load the solder paste onto the screen.

5. Close the front printhead cover.
6. Press the **System** button.

7. Press **Continue** (F1).

Continue							

8. Press **Exit** (F8).

Auto Dispense	Manual Load		Load Cart.		Print Directn		**Exit**

To Load Paste During a Print Run

1. Press **Paste Load** (F3).

End Run	Stop Cycle	**Paste Load**	Clean Screen	Adjust	Knead Paste		

2. Press **Manual Load** (F2). The message **'Open cover and load paste'** is displayed.

Auto Dispense	**Manual Load**				Print Directn		Exit

3. Open the front printhead cover.
4. Load paste onto screen.

5. Close the front printhead cover.
6. Press the **System** button.
7. Press **Continue** (F1).

Continue							

8. Press **Exit** (F8).

Auto Dispense	Manual Load				Print Directn		**Exit**

Paste Removal

During continuous printing operations paste residue build up may occur with the same screen in use and with the squeegee option fitted. This build up can affect the print quality of the print process, ie paste in apertures, paste 'tramlining' on the screen and residue on the squeegees.

Before loading paste the operator should ensure that any residue is cleaned off the screen and squeegees.

To clean the screen effectively, it is recommended that the operator removes the screen from the machine during this operation (see Operator Manual - Product Change over).

WARNING
RECOMMENDED SOLVENTS. ANY SOLVENTS USED MUST COMPLY WITH LOCAL ENVIRONMENTAL GUIDELINES. DEK RECOMMEND USING SOLVENTS THAT ARE ENVIRONMENTALLLY FRIENDLY, IE CFC FREE AND WATER BASED. SOLVENTS USED MUST HAVE FAST EVAPORATION RATES AND FLASHPOINT SPECIFICATIONS GREATER THAN 39ºC.

WARNING
SOLDER PASTE AND SOLVENTS. WHEN USING OR HANDLING ANY SOLDER PASTE OR SOLVENT FORMULATION THE MANUFACTURERS' RECOMMEND SAFETY PRECAUTIONS MUST BE STRICTLY ADHERED TO.

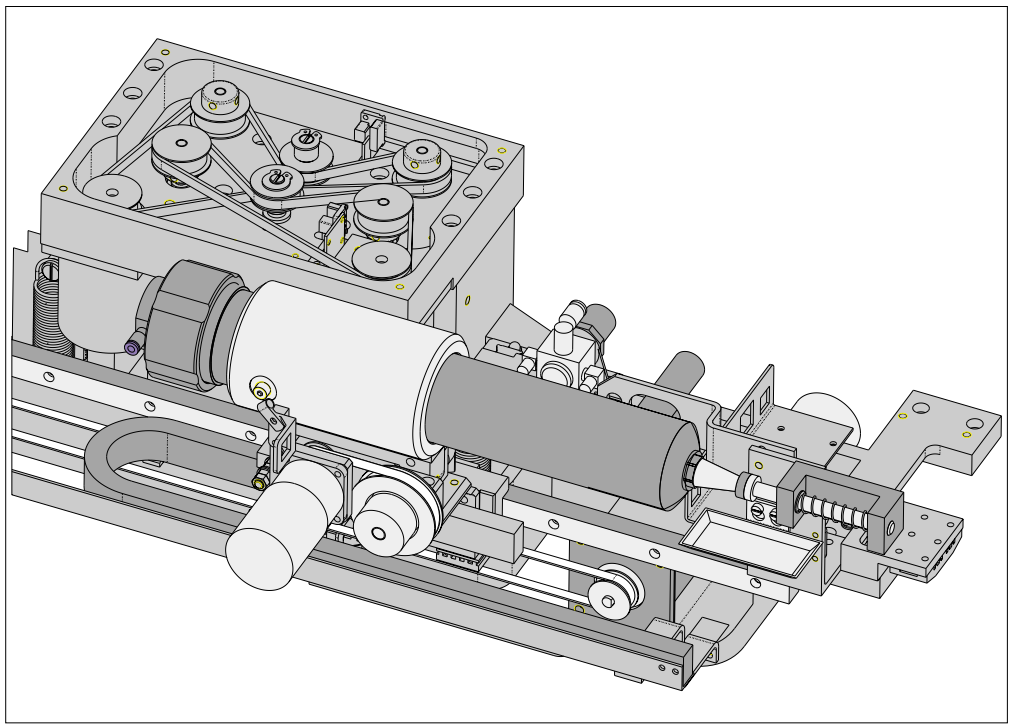
WARNING
PROTECTIVE CLOTHING. APPROVED PROTECTIVE CLOTHING SHOULD BE WORN BY SOLDER PASTE AND SOLVENT HANDLERS AT ALL TIMES TO ELIMINATE FUME INHALATION, EYE CONTACT, SKIN CONTACT AND INGESTION.

Remove paste from the screen and squeegees with a spatula and place in a suitable container. Smear deposits are removed using a suitable cleaning cloth dampened with a suitable solvent.

NOTE
Waste paste and contaminated cleaning cloths are to be disposed of in accordance with local authority regulations.

Auto Dispense

An alternative to manual loading of solder paste to the screen is given with the provision of an automatic paste dispenser. This is mounted to the rear of the print carriage.



The paste dispenser uses either a 1 Kg or 500g cartridge. The 500g cartridge requires the fitting of a sleeve which is an option. This enables any loading of paste to be carried out without the need for the operator to handle the paste.

A slug inside the cartridge, travels down the cartridge as the paste is used. A proximity sensor fitted to the side of the dispenser detects the metal content of the paste. When the cartridge is empty the sensor initiates a **'Print Medium Low. Please Replenish'** warning window to the operator.

Programming into a Product File

The paste dispense parameters can be setup when editing a product file for a new product, although it may be more convenient to set these after the product has been run for a while and paste requirements have been determined.

The parameters to be edited that affect the operation of the paste dispenser are:

Paste Dispense Rate:

This determines the frequency of the cycling of the paste dispenser. The setting is gauged by running the product and noting the number of prints before paste replenishment is required. This can be set to any number between 0 to 100 in increments of 1.

Paste Dispense Speed:

This determines the speed at which the paste dispenser travels across the screen and hence the amount of paste which is dispensed. This parameter needs to be set in conjunction with the Paste Dispense Rate. This can be set to any number between 10mm/s and 100mm/s in increments of 1mm/s.

To Enter Paste Dispense Parameters From the Status Page

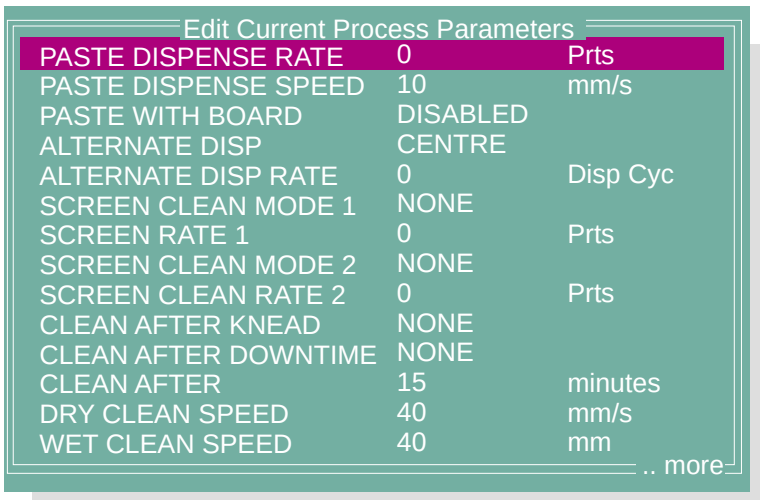
1. Press **Setup** (F6).

Run	Head	Paste Load	Clean Screen	Adjust	**Setup**	Monitor	Maint.

2. Press **Edit Data** (F3).

Mode	Load Data	**Edit Data**	Setup Squeegee	Change Screen	Change Tooling	Change Language	Exit

The following window is displayed:



3. Using the **Next** and **Previous** keys (F4 - F5) select the Paste Dispense Rate.

	Save		**Next**	**Previous**	Incr.	Decr.	Exit

4. Using the **Incr.** and **Decr.** keys (F6 -F7) set the required rate.

	Save		Next	Previous	**Incr.**	**Decr.**	Exit

5. Using the **Next** key (F4) select the Paste Dispense Speed.

	Save		**Next**	Previous	Incr.	Decr.	Exit

6. Using the **Incr.** and **Decr.** keys (F6 - F7) set the required speed.

	Save		Next	Previous	**Incr.**	**Decr.**	Exit

7. Press **Exit** (F8).

	Save		Next	Previous	Incr.	Decr.	**Exit**

8. Press **Exit** (F8).

Mode	Load Data	Edit Data	Setup Squeegee	Change Screen	Change Tooling	Change Language	**Exit**

Dispensing Paste at Random Intervals

The operator can cycle the paste dispenser at random intervals and before a print run in addition to any preprogrammed cycles.

To load paste prior to a print run:

1. Press **Paste Load** (F3).

Run	Head	**Paste Load**	Clean Screen	Adjust	Setup	Monitor	Maint.

2. Press **Auto Dispense** (F1).

Auto Dispense	Manual Load		Load Cart.		Print Directn		Exit

3. If the paste dispenser has sufficient paste the dispenser carries out an automatic dispense, go to Step 13. If the paste dispenser is low on paste a warning window is displayed. The warning window varies, depending on the setting of the consumable action option in set preferences. If the set preference is set to warn, continue with Step 4. If the set preference is set to pause or suspend go to Step 8.
4. If the set preference is set to warn, the tricoloured beacon shows amber/green and the following window is displayed:

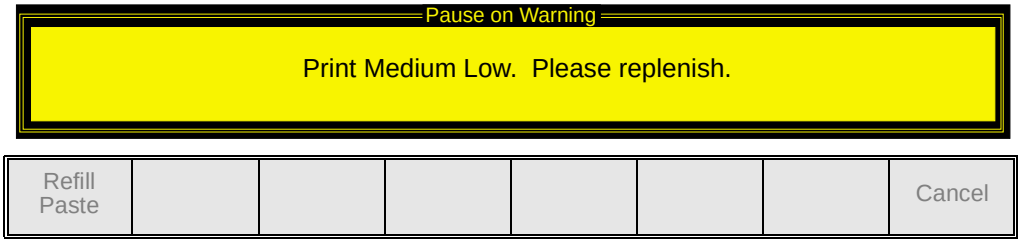
5. Select **Confirm** (F1).

Confirm							

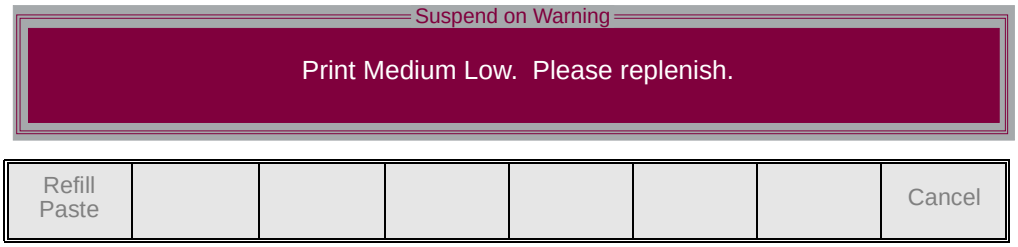
6. To replace the paste cartridge carry out the Fitting a New Paste Cartridge procedure, later in this section.
7. Repeat Steps 1, 2 and 13.

8. If the set preference is set to pause, see a. If the set preference is set set to suspend, see b.

   a. The tricoloured beacon shows red and the following window and menu bar is displayed:



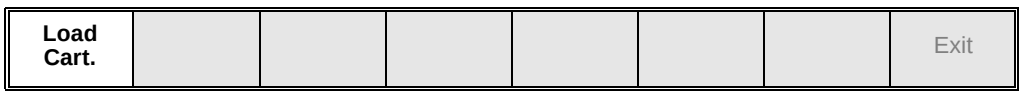
   b. The tricoloured beacon shows red and the following window and menu bar is displayed:



9. Select **Refill Paste** (F1). The message **'Select Load Cart to load the cartridge or exit to abort.'** is displayed.

NOTE
If either the under screen cleaner paper or solvent are low or the Vortex cleaning cassette has expired and are reported first, the refill paste option is not displayed. In this case select ***Cancel*** *until* ***Refill Paste*** *is displayed in the menu bar.*

10. Select **Load Cart.** (F1). The print carriage drives to the front of the machine and the dispenser rises to the vertical position. A message is displayed on the screen **'Open Cover and Replace Paste Cartridge'**.



11. To replace the paste cartridge carry out Steps 3-10 of Fitting a New Paste Cartridge procedure, later in this section.
12. Repeat Steps 1, 2 and 13.
13. After the dispense routine has been completed, press **Exit** (F8).

To Load Paste During a Print Run

1. Press **Paste Load** (F3).

End Run	Stop Cycle	**Paste Load**	Clean Screen	Adjust	Knead Paste		

2. Press **Auto Dispense** (F1).

Auto Dispense	Manual Load		Load Cart.		Print Directn		Exit

3. If the paste dispenser has sufficient paste the dispenser carries out an automatic dispense, go to Step 22. If the paste dispenser is low on paste a warning window is displayed. The warning window varies, depending on the setting of the consumable action option in set preferences. If the set preference is set to warn, continue with Step 4. If the set preference is set to pause go to Step 10. If the set preference is set to suspend go to Step 16.
4. If the set preference is set to warn, the tricoloured beacon shows amber/green and the following window is displayed:

5. Select **Confirm** (F1).

Confirm							

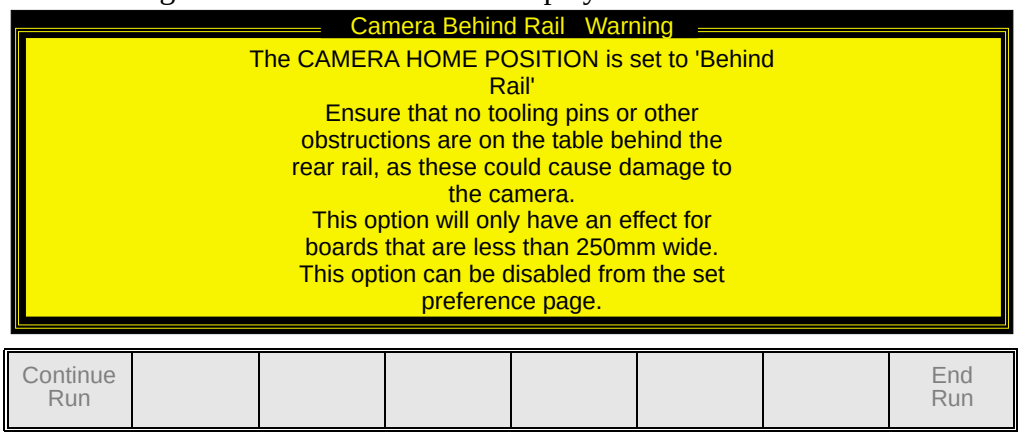
6. Select **End Run** (F1).

End Run	Stop Cycle	Paste Load	Clean Screen	Adjust	Knead Paste		

7. To replace the paste cartridge carry out Fitting a New Paste Cartridge procedure, later in this section.
8. Select **Run** (F1).

Run	Head	Paste Load	Clean Screen	Adjust	Setup	Monitor	Maint.

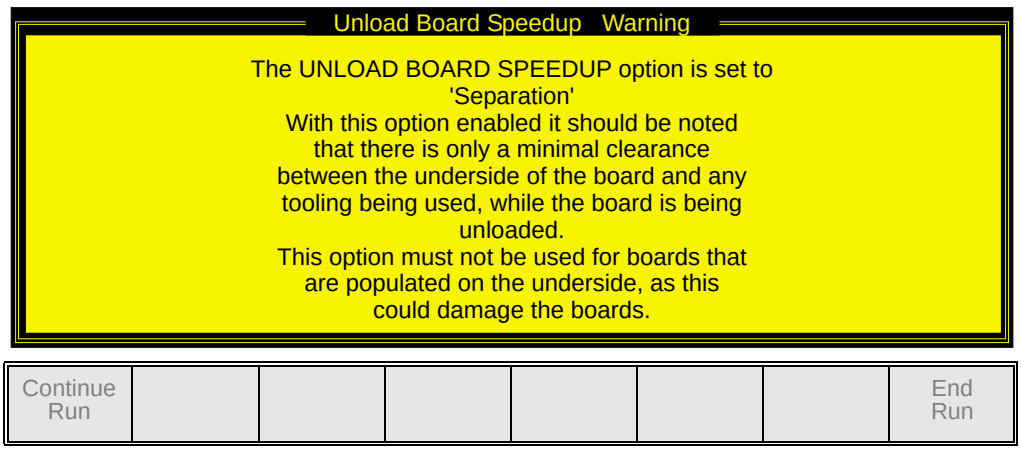
If the Camera Idle Position in Set Preferences is set to Behind Rail, the following window and menu bar is displayed:



Selecting **Continue Run** clears the warning window and the print cycle continues.

Selecting **End Run** clears the warning window, the print cycle is aborted and control is returned to the ready page.

If the Unload Board Start in Set Preferences is set to Separation, the following window and menu bar is displayed:



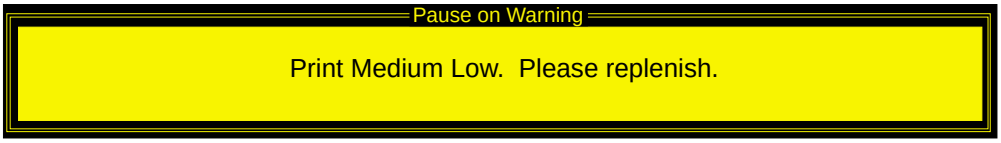
Selecting **Continue Run** clears the warning window and the print cycle continues.

Selecting **End Run** clears the warning window, the print cycle is aborted and control is returned to the ready page.

NOTE
If Camera Idle Position is set to Behind Rail and Unload Board Start is set to Separation, the warning windows appear one after the other in the order shown above.

9. Repeat Steps 1, 2 and 22.

10. If the set preference is set to pause, the tricoloured beacon shows red and the following window is displayed:



11. Select **Refill Paste** (F1). The message **'Select Load Cart to load the cartridge or exit to abort.'** is displayed.

Refill Paste							Defer

NOTE
*Select **Defer** to continue printing without replacing the paste cartridge.*

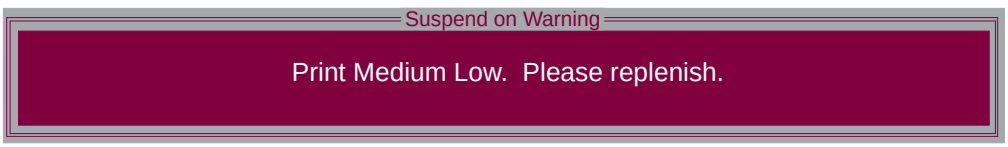
12. Select **Load Cart.** (F1). The message **'Open the cover and load the new paste cartridge then close Cover, press System Button and press Continue'** is displayed.

Load Cart.							Exit

13. Carry out Steps 3-9 of Fitting a New Paste Cartridge procedure, later in this section.
14. Select **Continue** (F1).

Continue	Open Cover						

15. Go to Step 21.
16. If the set preference is set to suspend, the tricoloured beacon shows red and the following window is displayed:



17. Select **Refill Paste** (F1). The message **'Select Load Cart to load the cartridge or exit to abort.'** is displayed.

Refill Paste							End Run

NOTE
*Select **End Run** to terminate the print run without replacing the paste cartridge.*

18. Select **Load Cart.** (F1). The message **'Open the cover and load the new paste cartridge then close Cover, press System Button and press Continue'** is displayed.

Load Cart.							Exit

19. Carry out Steps 3-9 of Fitting a New Paste Cartridge procedure, later in this section.
20. Select **Continue** (F1).

Continue	Open Cover						

21. Select **Auto Dispense** (F1).

Auto Dispense	Manual Load		Load Cart.		Print Directn		Exit

22. After the dispense routine has been completed, press **Exit** (F8).

Auto Dispense	Manual Load		Load Cart.		Print Directn		**Exit**

Fitting a New Paste Cartridge

It is necessary at intervals to fit a new paste cartridge into the paste dispenser. If there is no cartridge in the dispenser or the cartridge is empty, the warning window **'Print Medium Low. Please Replenish.'** is displayed.

If the consumable action option in set preferences is set to suspend, the paste dispenser is checked to ensure availability of paste, before allowing a print run to start. If paste isn't available the warning window **'Print Medium Low. Please Replenish.'** is displayed.

WARNING
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WARNING
PROTECTIVE CLOTHING. APPROVED PROTECTIVE CLOTHING SHOULD BE WORN BY SOLDER PASTE AND SOLVENT HANDLERS AT ALL TIMES TO ELIMINATE FUME INHALATION, EYE CONTACT, SKIN CONTACT AND INGESTION.

To replace the paste cartridge carry out the following:

1. Press **Paste Load** (F3).

Run	Head	**Paste Load**	Clean Screen	Adjust	Setup	Monitor	Maint.

2. Press **Load Cart.** (F4). The print carriage drives to the front of the machine and the dispenser rises to the vertical position. A message is displayed on the screen **'Open cover and replace Paste Cartridge'**.

Auto Dispense	Manual Load		**Load Cart.**		Print Directn		Exit

3. Open the front printhead cover.
4. Remove the empty cartridge by unscrewing the cap at the rear of the paste dispense tube to allow it to be withdrawn.

5. Unscrew the nozzle from the old cartridge and insert it into the new cartridge.

6. Fit the new cartridge into the dispenser.

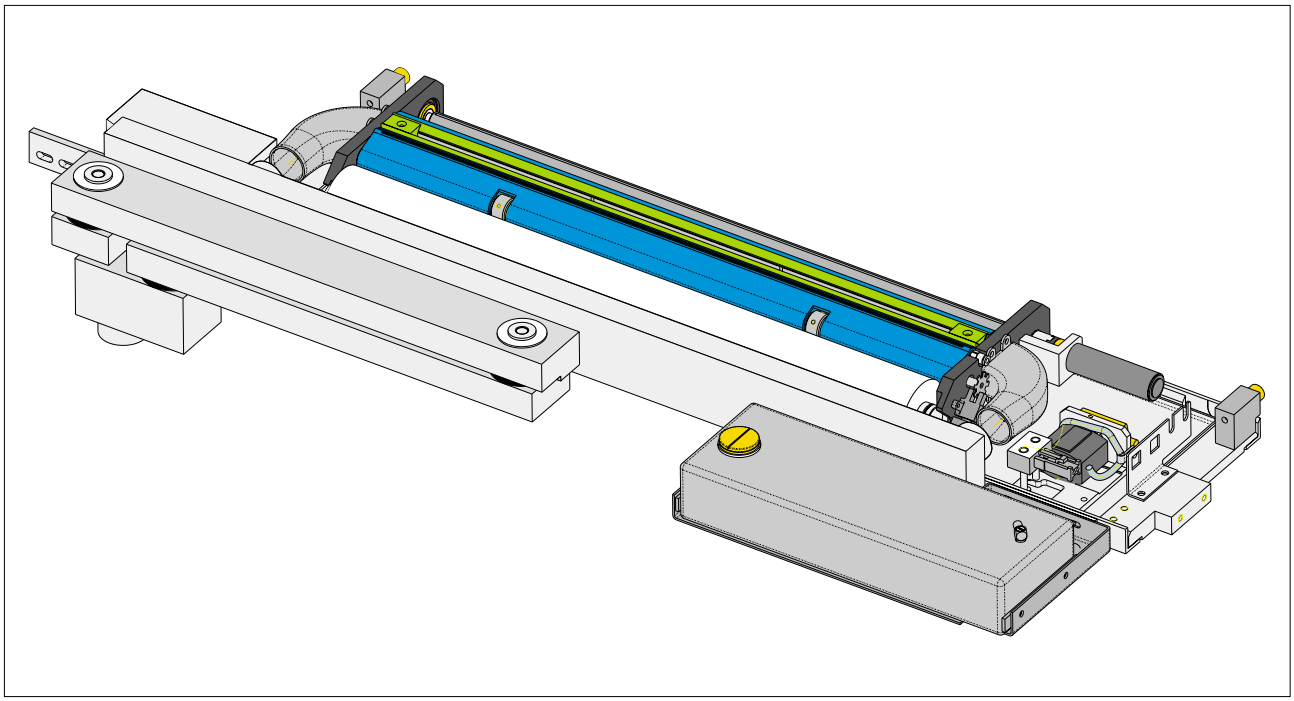
7. Screw the end cap onto the dispenser finger tight. Ensure the pneumatic fitting on the cap is facing towards the rear of the machine.

8. Close the front printhead cover.
9. Press the **System** button.
10. Press **Exit** (F8).

Auto Dispense	Manual Load		Load Cart.		Print Directn		**Exit**

BLUE UNDERSCREEN CLEANER

Provision is made on the printer for automatic underscreen cleaning. This is carried out using a lint free paper roll which can be dry or wetted with an appropriate solvent. A combination of wet and dry wipes can be programmed.



The cleaning options can be programmed into a particular product file so that they take place at pre-programmed intervals or they can be selected, directly from the MMI, to take place at the operators discretion.

Programming Operation

The screen clean parameters can be setup when editing a product file, while setting up a new product. It may be more convenient to set these after the product has been setup and printed and screen cleaning requirements have been decided upon.

The parameters to be edited that affect the operation of the underscreen cleaner are:

Clean Screen Rate:

This parameter sets the number of print cycles between the cycling of the underscreen cleaner. This can be set at any number between 0 to 200 in increments of 1.

Clean Screen Modes:

These parameters determine the modes of operation for the screen cleaner. Each mode can have a cleaning sequence with up to six sweeps, each of which can be set to VAC, DRY, WET or NONE.

Sweeps set with NONE option cause no action to be taken during the sequence. For example, the settings:

DRY, NONE, NONE, DRY, NONE, WET and

DRY, DRY, WET, NONE, NONE, NONE

Both carry out two consecutive operations, directly followed by one WET cleaning operation.

The default setting is NONE for all six steps.

Solvent Advice

The following solvents MUST NOT be used in the underscreen cleaner. However, this list is not complete and does not mean that any solvent not mentioned is compatible, with DEK machines.

- Rosstech 106FE
- Rosstech 162 ND
- Acetone

DEK are continuously evaluating alternative solvents. If you require a particular solvent to be used, but are unsure of its suitability for DEK machines, please contact the DEK Customer Support Group.

NOTE
Rosstech 147FD is used within DEK manufacturing division and has been found to be compatible with DEK underscreen cleaner units.

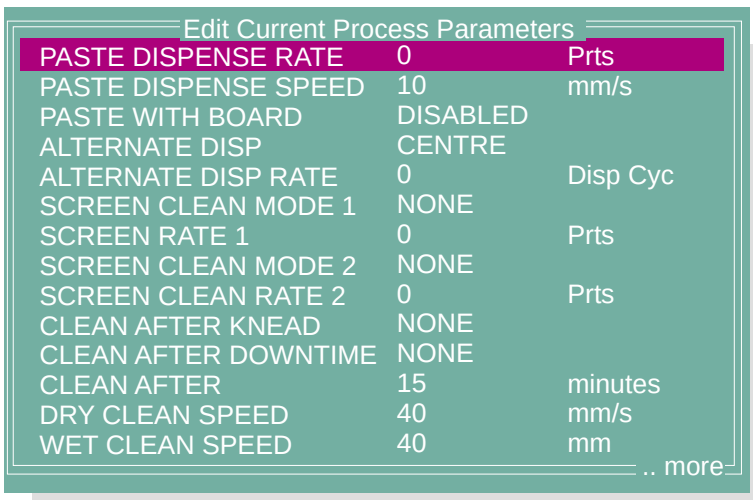
1. Press **Setup** (F6).

Run	Head	Paste Load	Clean Screen	Adjust	**Setup**	Monitor	Maint.

2. Press **Edit Data** (F3).

Mode	Load Data	**Edit Data**	Setup Squeegee	Change Screen	Change Tooling	Change Language	Exit

The following window is displayed:



3. Using the **Next** and **Previous** keys (F4 - F5) highlight the Screen Clean Rate.

	Save		**Next**	**Previous**	Incr.	Decr.	Exit

4. Using the **Incr.** and **Decr.** keys (F6 -F7) set the Screen Clean Rate. This can be set at any number between 0 and 200 in increments of 1.

	Save		Next	Previous	**Incr.**	**Decr.**	Exit

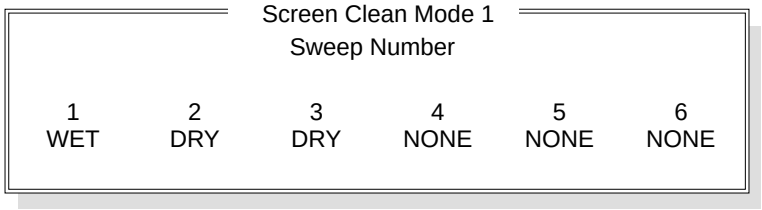
5. Use the **Previous** key (F5) to highlight the Screen Clean Mode. This parameter determines the mode of operation of the screen cleaner.

	Save		Next	**Previous**	Incr.	Decr.	Exit

6. Press the **Incr.** or **Decr.** keys (F6 - F7) to enter the Screen Clean Mode.

	Save		Next	Previous	**Incr.**	**Decr.**	Exit

The Screen Clean Mode window is opened:



7. Use the **Left** and **Right** keys (F2 - F3) to highlight the next sweep number to be changed.

	Left	**Right**			Incr.	Decr.	Exit

8. Use the **Incr.** and **Decr.** keys (F6 - F7) to select the operation required for the highlighted sweep. The four options are: VAC, DRY, WET and NONE.

	Left	Right			**Incr.**	**Decr.**	Exit

9. If the six stage sequence is setup as required, go to the next step, otherwise return to Step 7.
10. Press **Exit** (F8).

	Left	Right			Incr.	Decr.	**Exit**

11. Press **Exit** (F8).

Mode	Load Data	Edit Data	Setup Squeegee	Change Screen	Change Tooling	Change Language	**Exit**

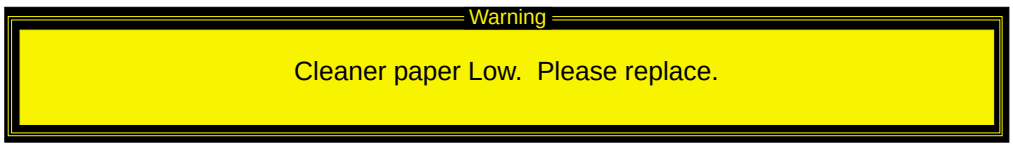
Paper and Solvent Replenishment

Paper and solvent replenishment can take place with the cleaner unit in the printer. When paper or solvent needs replenishment a warning window is automatically displayed on the monitor. The warning window varies, depending on the setting of the consumable action option in set preferences. The message in the warning window depends on whether the solvent or paper or both require replenishment. The procedure varies, depending on whether the replenishment is prior to a print run or during a print run.

Replenishment Prior to a Print Run:

If the set preference is set to warn, continue with Step 1. If the set preference is set to pause or suspend go to Step 4.

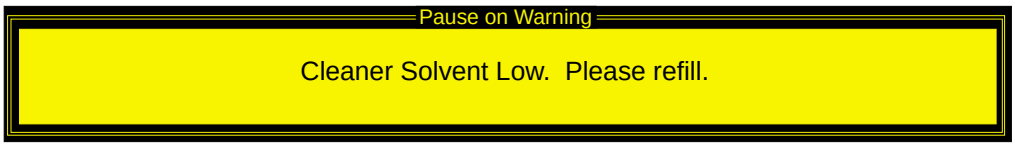
1. If the set preference is set to warn, the tricoloured beacon shows amber/green and the following window is displayed:



2. Select **Confirm** (F1).

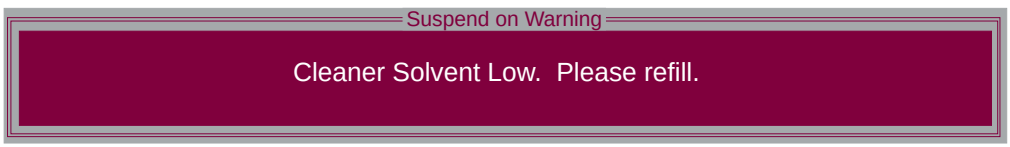
Confirm							

3. Go to Step 17.
4. If the set preference is set to pause, the tricoloured beacon shows red and the following window and menu bar is displayed:



							Cancel

If the set preference is set to suspend, the tricoloured beacon shows red and the following window and menu bar is displayed:



							Cancel

5. Select **Cancel** (F8).

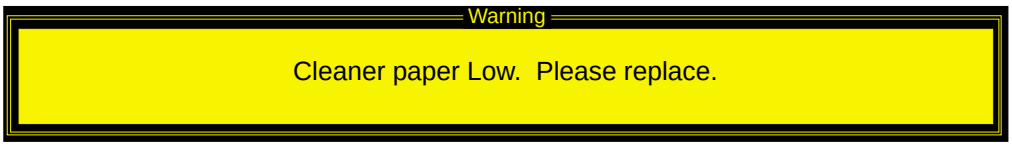
							Cancel

6. Go to Step 17.

   Replenishment During a Print Run:

   If the set preference is set to warn, continue with Step 7. If the set preference is set to pause go to Step 11. If the set preference is set to suspend go to Step 15.

7. If the set preference is set to warn, the tricoloured beacon shows amber/green and the following window is displayed:



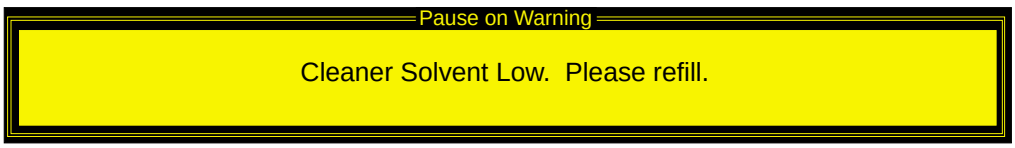
8. Select **Confirm** (F1).

Confirm							

9. Select **End Run** (F1).

End Run	Stop Cycle	Paste Load	Clean Screen	Adjust	Knead Paste		

10. Go to Step 17.
11. If the set preference is set to pause, the tricoloured beacon shows red and the following window is displayed:



12. Select **Defer** (F8). The print run continues.

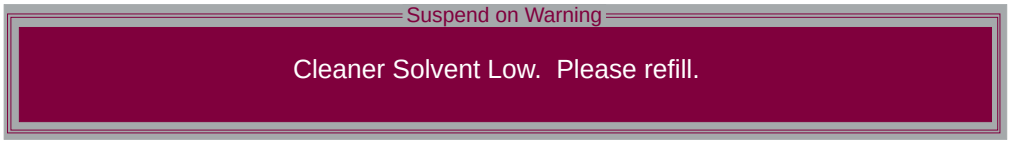
							Defer

13. Select **End Run** (F1).

End Run	Stop Cycle	Paste Load	Clean Screen	Adjust	Knead Paste		

14. Go to Step 17.

15. If the set preference is set to suspend, the tricoloured beacon shows red and the following window is displayed:



16. Select **End Run** (F8).

							End Run

17. Press **Head** (F2). The message **'Raise Head using 2-button Control'** is displayed.

Run	**Head**	Paste Load	Clean Screen	Adjust	Setup	Monitor	Maint.

18. Raise the printhead using two button control.
19. Fit the head prop.
20. Press **Confirm** (F1).

Confirm	Lower Head						

Solvent Replenishment

WARNING
RECOMMENDED SOLVENTS. ANY SOLVENTS USED MUST COMPLY WITH LOCAL ENVIRONMENTAL GUIDELINES. DEK RECOMMEND USING SOLVENTS THAT ARE ENVIRONMENTALLLY FRIENDLY, IE CFC FREE AND WATER BASED. SOLVENTS USED MUST HAVE FAST EVAPORATION RATES AND FLASHPOINT SPECIFICATIONS GREATER THAN 39ºC.

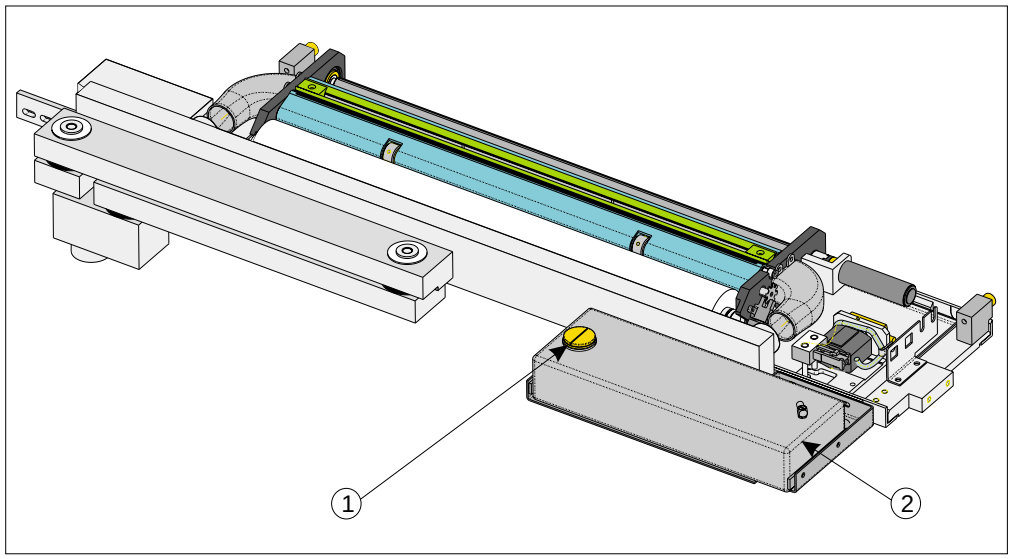
WARNING
SOLDER PASTE AND SOLVENTS. WHEN USING OR HANDLING ANY SOLDER PASTE OR SOLVENT FORMULATION THE MANUFACTURERS' RECOMMEND SAFETY PRECAUTIONS MUST BE STRICTLY ADHERED TO.

WARNING
PROTECTIVE CLOTHING. APPROVED PROTECTIVE CLOTHING SHOULD BE WORN BY SOLDER PASTE AND SOLVENT HANDLERS AT ALL TIMES TO ELIMINATE FUME INHALATION, EYE CONTACT, SKIN CONTACT AND INGESTION.

WARNING
SOLVENT SOLUTION. DO NOT MIX SOLVENT SOLUTIONS. FLUSH THE SOLVENT TANK THOROUGHLY WHEN CHANGING TO A DIFFERENT SOLVENT SOLUTION.

WARNING
SOLVENT SPRAY. THE UNDERSCREEN CLEANER SPRAYS A FINE JET OF SOLVENT SOLUTION ON TO THE CLEANER. APPROVED PROTECTIVE CLOTHING SHOULD BE WORN.

1. Remove the solvent tank cap (1) from the solvent tank (2).



2. Using a suitable container refill the tank and replace the cap.
3. Press **Prime Solvent** (F6). The message **'Press the two button control buttons to prime solvent.'** is displayed.

	Lower Head	Board Clamps		Prime Paper	**Prime Solvent**		Exit

4. Prime the solvent using the two button control.
5. Press **Lower Head** (F2).

	Lower Head	Board Clamps		Prime Paper	Prime Solvent		Exit

6. Remove the head prop.
7. Select **Confirm** (F1).

Confirm							Cancel

8. Lower the printhead using two button control.
9. Close the printhead cover.
10. Press the **System** button.

Paper Replenishment

WARNING
PROTECTIVE CLOTHING. APPROVED PROTECTIVE CLOTHING SHOULD BE WORN BY SOLDER PASTE AND SOLVENT HANDLERS AT ALL TIMES TO ELIMINATE FUME INHALATION, EYE CONTACT, SKIN CONTACT AND INGESTION.

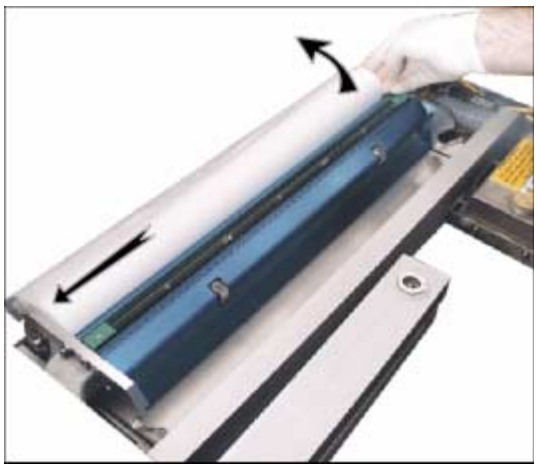
WARNING
FLAMMABLE. THE USED PAPER ROLL CONTAINS RESIDUES OF UNDERSCREEN CLEANER FLUID AND SOLDER PASTE. OBSERVE MANUFACTURERS' RECOMMENDED DISPOSAL INSTRUCTIONS.

NOTE
When using 300 or 400mm wide paper rolls, ensure the correct paper roll spacers are used.

1. Lift the empty roll from the front of the cleaner.

2. Remove the paper spindles from both ends of the empty paper roll.

3. Remove the take up roll from the rear of the unit by easing the roll to the left against spring pressure, until the right hand end is clear of the motor drive spindle in the right hand end plate. Lift the take up roll clear of the unit.



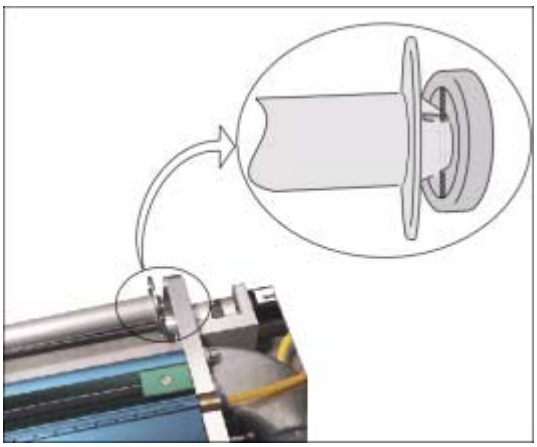
4. Rotate the left hand flange a quarter turn to the right to unlock the paper roll rod from the paper roll shaft.

5. Rotate the paper roll end flange a quarter turn to the left and right, whilst gently pulling the rod clear of the paper roll.

6. Slide the contaminated cleaner paper from the paper roll shaft. Dispose of the contaminated cleaner paper in accordance with manufacturers' recommended disposal instructions.

7. Fit the left hand shaft end into the cleaner left hand end plate.

8. Locate the right hand end of the paper roll shaft into the motor drive spindle ensuring that the shaft is correctly seated.



9. Rotate the paper roll shaft until the groove is at 45° to the horizontal, facing towards the top rear printhead cover of the machine.

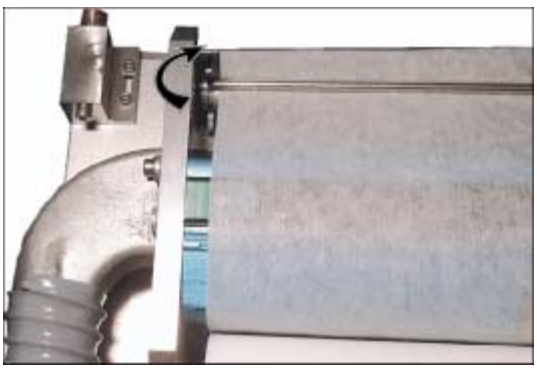
10. Refit the paper spindles to both ends of the new paper roll. Ensure both faces of the new paper roll are flush.

11. Install the new clean paper roll at the front of the unit, ensure the paper is routed from underneath the roll towards the rear of the unit.

12. Feed the cleaner paper across the body assembly, ensuring the cleaner paper is aligned parallel to the unit end plate.

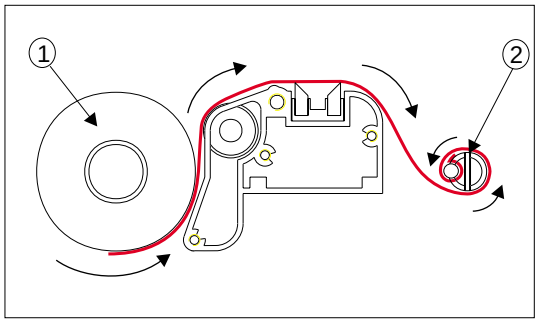
13. Insert the paper roll rod into the right hand flange of the shaft. Lay the rod along the shafts groove trapping the cleaner paper between the shaft and rod.

14. Rotate the end of the flange of the rod towards the rear of the machine to lock the rod onto the shaft.



15. Rotate the take up roll one complete revolutions against the motor clutch to tension the cleaner paper across the cleaner squeegee assembly.

16. Ensure the cleaner paper has been routed correctly, from underneath the paper roll (1) rearwards across the squeegee assembly and threaded between paper rod and shaft (2).



17. Press **Prime Paper** (F5). The message **'Press the two control buttons to feed paper'** is displayed.

	Lower Head	Board Clamps		**Prime Paper**	Prime Solvent		Exit

18. Press **Lower Head** (F2).

	Lower Head	Board Clamps		Prime Paper	Prime Solvent		Exit

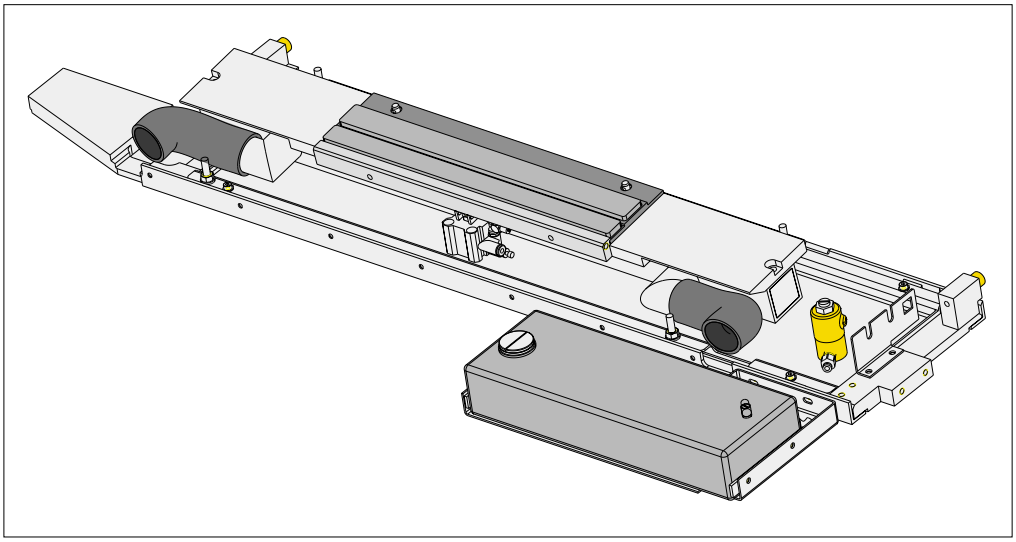
19. Remove the head prop.
20. Select **Confirm** (F1).

Confirm							Cancel

21. Lower the printhead using two button control.
22. Close the printhead cover.
23. Press the **System** button.

VORTEX UNDERSCREEN CLEANER

Provision is made on the printer for automatic underscreen cleaning. This is carried out using a cleaning cassette which contains a wet and a dry cell. The wet cell is impregnated with an appropriate solvent. A cleaning cycle consists of a single return stroke incorporating a wet and dry wipe with or without vacuum.



The cleaning options can be programmed into a particular product file so that they take place at preprogrammed intervals or they can be selected, directly from the MMI, to take place at the operators discretion.

Programming Operation

The screen clean parameters can be setup when editing a product file, while setting up a new product. It may be more convenient to set these after the product has been setup and printed and screen cleaning requirements have been decided upon.

The parameters to be edited that affect the operation of the underscreen cleaner are listed below with a definition of each as an aid to setup:

Front Start Offset

The distance, in from the front edge of the board, at which the cleaner is to finish. While a Vortex USC is in use the minimum value is extended from 0 to -60mm.

Minimum	Maximum	Increment	Default
-60mm	60mm	1mm	30mm

Rear Start Offset

The distance, in from the rear edge of the board, at which the cleaner is to start. While a Vortex USC is in use the minimum value is extended from 0 to -60mm.

Minimum	Maximum	Increment	Default
-60mm	60mm	1mm	30mm

Vortex Cassette Life

This parameter sets the number of cleaning strokes that are applied before a cleaning cassette is replaced.

Minimum	Maximum	Increment	Default
0	200	1	20

Vortex Clean Rate

This parameter sets the frequency (in print cycles) at which screen cleaning occurs.

Minimum	Maximum	Increment	Default
0	200	1	0

Vortex Solvent Rate

This parameter sets the frequency (in cleaning cycles) at which solvent is dispensed.

Minimum	Maximum	Increment	Default
1	10	1	1

Vortex Vacuum Start

The distance, in from the front edge of the board, where vacuum is applied.

Minimum	Maximum	Increment	Default
Vacuum Stop	Board Width	1mm	0mm

Vortex Vacuum Stop

The distance, in from the front edge of the board, where vacuum application is stopped.

Minimum	Maximum	Increment	Default
-100mm	Vacuum Stop	1mm	0mm

Vortex Vacuum Rate

This parameter sets the frequency (in cleaning cycles) at which vacuum is applied.

Minimum	Maximum	Increment	Default
1	10	1	1

Vortex Vacuum Period

This parameter sets the period for which vacuum is applied.

Minimum	Maximum	Increment	Default
1 sec	10 secs	1 sec	5 secs

Dry Clean Speed

This parameter sets the speed of the screen clean return stroke.

Minimum	Maximum	Increment	Default
10mm/sec	120mm/sec	1mm/sec	30mm/sec

Solvent Advice

The following solvents MUST NOT be used in the underscreen cleaner. However, this list is not complete and does not mean that any solvent not mentioned is compatible, with DEK machines.

- Rosstech 106 FE
- Rosstech 162 ND
- Acetone

DEK are continuously evaluating alternative solvents. If you wish to use a particular type of solvent, but are unsure of its suitability for DEK machines, please contact the DEK Customer Support Group.

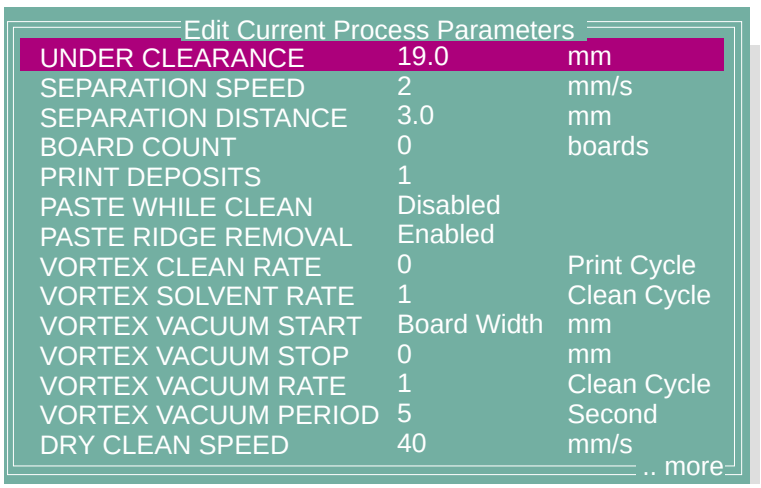
1. Press **Setup** (F6).

Run	Head	Paste Load	Clean Screen	Adjust	**Setup**	Monitor	Maint.

2. Press **Edit Data** (F3).

Mode	Load Data	**Edit Data**	Setup Squeegee	Change Screen	Change Tooling	Change Language	Exit

The following window is displayed:



3. Use the **Next** and **Previous** keys (F4 - F5) to highlight the required parameter.

	Save		**Next**	**Previous**	Incr.	Decr.	Exit

4. Use the **Incr.** and **Decr.** keys (F6 -F7) to set the required value of the selected parameter.

	Save		Next	Previous	**Incr.**	**Decr.**	Exit

5. Repeat Steps 3 and 4 for all remaining parameters.

6. Press **Save** (F2) on completion of parameter setup.

	Save		Next	Previous	Incr.	Decr.	Exit

7. Press **Exit** (F8).

	Save		Next	Previous	Incr.	Decr.	**Exit**

8. Press **Exit** (F8).

Mode	Load Data	Edit Data	Setup Squeegee	Change Screen	Change Tooling	Change Language	**Exit**

Cleaning Cassette and Solvent Replenishment

The cleaning cassette and solvent replenishment can take place with the cleaner unit in the printer. When the cleaning cassette or solvent needs replenishment a warning window is automatically displayed on the monitor. The warning window varies, depending on the setting of the consumable action option in set preferences. The message in the warning window depends on whether the cleaning cassette or solvent or both require replenishment. The procedure varies, depending on whether the replenishment is prior to a print run or during a print run.

Replenishment Prior to a Print Run:

If the set preference is set to warn, continue with Step 1. If the set preference is set to pause or suspend go to Step 4.

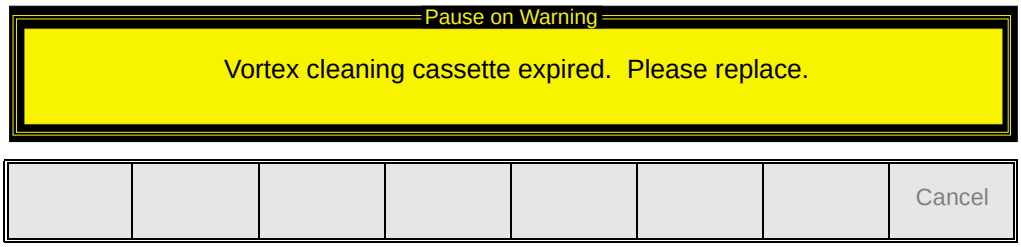
1. If the set preference is set to warn, the tricoloured beacon shows amber/green and the following window is displayed:

2. Select **Confirm** (F1).

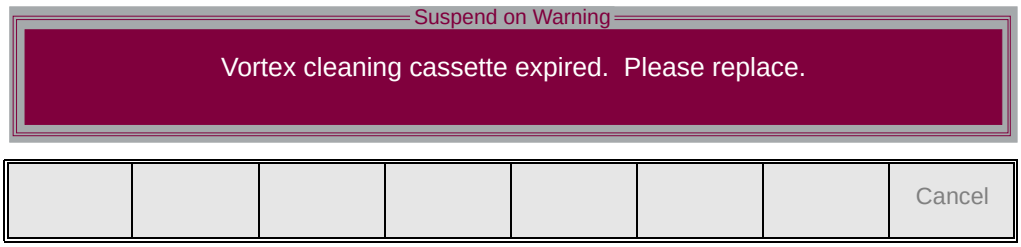
Confirm							

3. Go to Step 17.

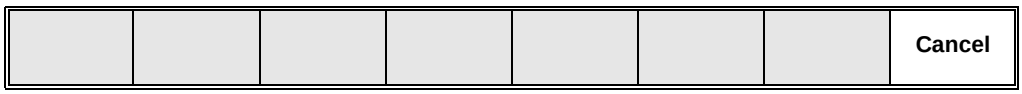
4. If the set preference is set to pause, the tricoloured beacon shows red and the following window and menu bar is displayed:



If the set preference is set to suspend, the tricoloured beacon shows red and the following window and menu bar is displayed:



5. Select **Cancel** (F8).



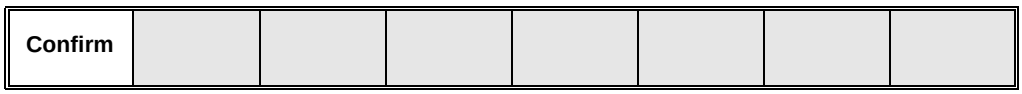
6. Go to Step 17.

Replenishment During a Print Run:

If the set preference is set to warn, continue with Step 7. If the set preference is set to pause go to Step 11. If the set preference is set to suspend go to Step 15.

7. If the set preference is set to warn, the tricoloured beacon shows amber/green and the following window is displayed:

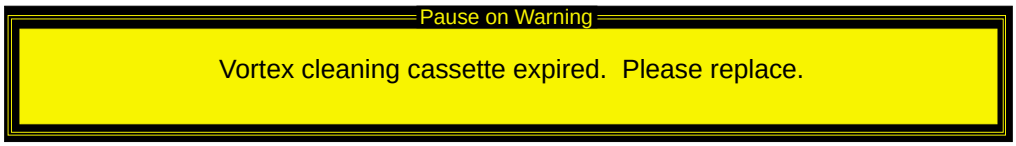
8. Select **Confirm** (F1).



9. Select **End Run** (F1).

10. Go to Step 17.

11. If the set preference is set to pause, the tricoloured beacon shows red and the following window is displayed:



12. Select **Defer** (F8). The print run continues.

							Defer

13. Select **End Run** (F1).

End Run	Stop Cycle	Paste Load	Clean Screen	Adjust	Knead Paste		

14. Go to Step 17.
15. If the set preference is set to suspend, the tricoloured beacon shows red and the following window is displayed:

16. Select **End Run** (F8).

							End Run

17. Press **Head** (F2). The message **'Raise Head using 2-button Control'** is displayed.

Run	**Head**	Paste Load	Clean Screen	Adjust	Setup	Monitor	Maint.

18. Raise the printhead using two button control.
19. Fit the head prop.
20. Select **Confirm** (F1).

Confirm							

Solvent Replenishment

WARNING
RECOMMENDED SOLVENTS. ANY SOLVENTS USED MUST COMPLY WITH LOCAL ENVIRONMENTAL GUIDELINES. DEK RECOMMEND USING SOLVENTS THAT ARE ENVIRONMENTALLLY FRIENDLY, IE CFC FREE AND WATER BASED. SOLVENTS USED MUST HAVE FAST EVAPORATION RATES AND FLASHPOINT SPECIFICATIONS GREATER THAN 39ºC.

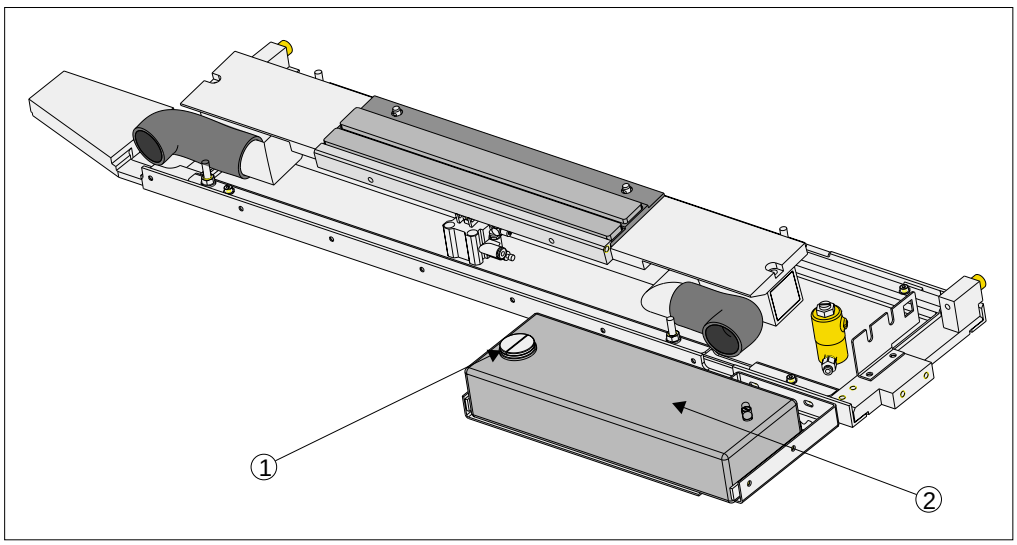
WARNING
SOLDER PASTE AND SOLVENTS. WHEN USING OR HANDLING ANY SOLDER PASTE OR SOLVENT FORMULATION THE MANUFACTURERS' RECOMMEND SAFETY PRECAUTIONS MUST BE STRICTLY ADHERED TO.

WARNING
PROTECTIVE CLOTHING. APPROVED PROTECTIVE CLOTHING SHOULD BE WORN BY SOLDER PASTE AND SOLVENT HANDLERS AT ALL TIMES TO ELIMINATE FUME INHALATION, EYE CONTACT, SKIN CONTACT AND INGESTION.

WARNING
SOLVENT SOLUTION. DO NOT MIX SOLVENT SOLUTIONS. FLUSH THE SOLVENT TANK THOROUGHLY WHEN CHANGING TO A DIFFERENT SOLVENT SOLUTION.

WARNING
SOLVENT SPRAY. THE UNDERSCREEN CLEANER SPRAYS A FINE JET OF SOLVENT SOLUTION ON TO THE CLEANER. APPROVED PROTECTIVE CLOTHING SHOULD BE WORN.

1. Remove the solvent tank cap (1) from the solvent tank (2).



2. Using a suitable container refill the tank and replace the cap.
3. Press **Prime Solvent** (F6). The message **'Press the two button control buttons to prime solvent.'** is displayed.

	Lower Head	Board Clamps			**Prime Solvent**		Exit

4. Prime the solvent using the two button control.
5. Press **Lower Head** (F2).

	Lower Head	Board Clamps		Prime Paper	Prime Solvent		Exit

6. Remove the head prop.
7. Select **Confirm** (F1).

Confirm							Cancel

8. Lower the printhead using two button control.
9. Close the front printhead cover.
10. Press the **System** button.

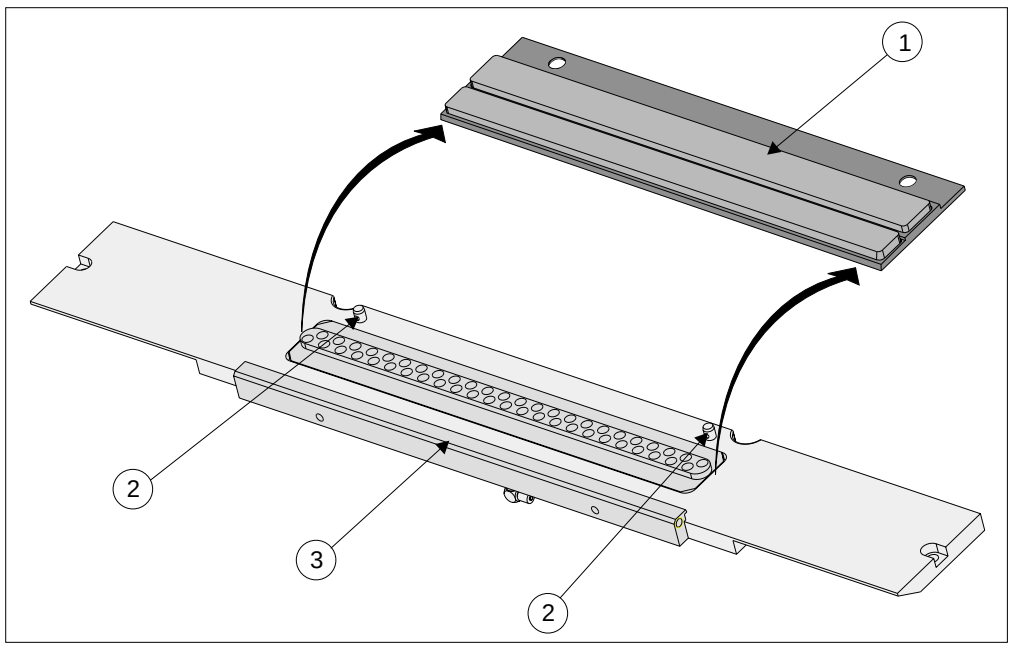
Cleaning Cassette Replenishment

WARNING
PROTECTIVE CLOTHING. APPROVED PROTECTIVE CLOTHING SHOULD BE WORN BY SOLDER PASTE AND SOLVENT HANDLERS AT ALL TIMES TO ELIMINATE FUME INHALATION, EYE CONTACT, SKIN CONTACT AND INGESTION.

WARNING
FLAMMABLE. THE USED VORTEX CLEANING CASSETTE AND VORTEX FILTER CASSETTE CONTAIN RESIDUES OF UNDERSCREEN CLEANER FLUID AND SOLDER PASTE. OBSERVE MANUFACTURERS' RECOMMENDED DISPOSAL INSTRUCTIONS.

NOTE
The cleaning cassettes come in different sizes, ensure the correct size is replaced.

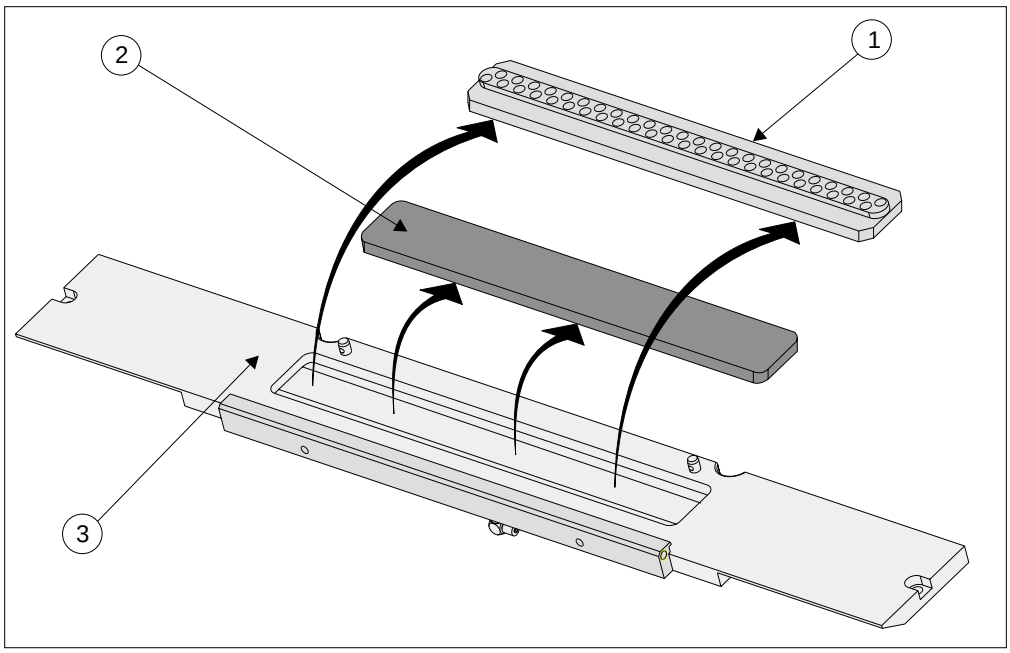
1. Carefully lift the cleaning cassette (1) clear of the two pip pins (2) and slide out from beneath the solvent bar (3).



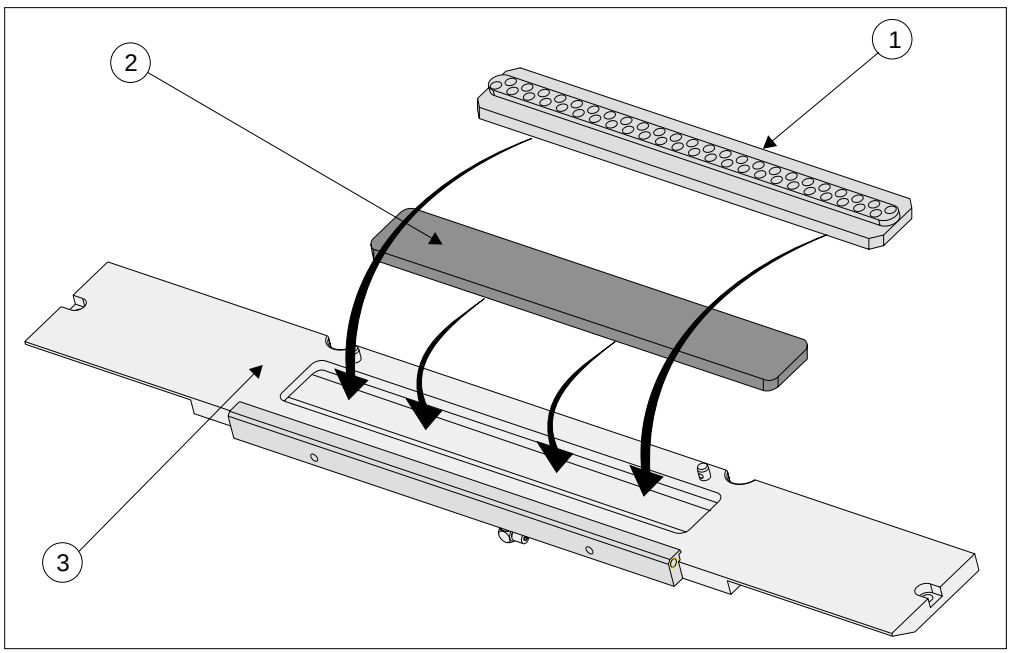
2. Dispose of the used cleaning cassette in accordance with local authority guidelines.
3. If the filter cassette is to be replaced continue with Step 4. If the filter cassette is not being replaced go to Step 7.

   NOTE
   The filter cassettes are available in varying sizes, ensure the correct size is replaced.

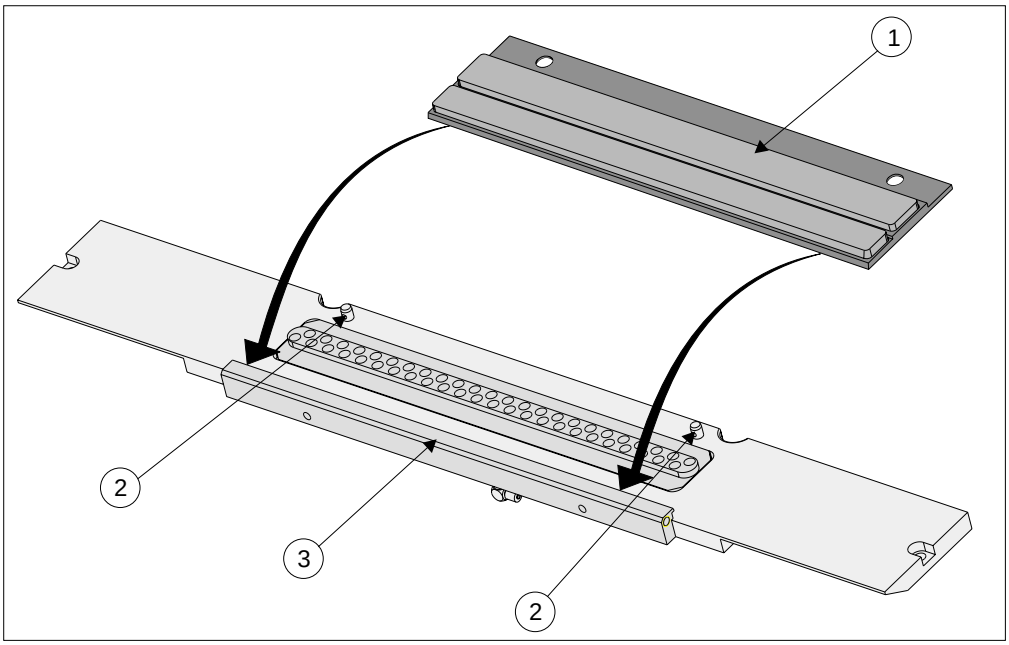
4. Remove the vacuum grid (1) from the mounting tray (3). Remove the filter cassette (2) from the mounting tray (3).



5. Dispose of the used filter cassette in accordance with local authority guidelines.
6. Fit the new filter cassette (2) into the mounting tray (3). Fit the vacuum grid (1) into the mounting tray (3).



7. Fit the edge of the new cleaning cassette (1) beneath the solvent bar (3) and snap into place on the two pip pins (2).



8. Press **Prime Solvent** (F6) key. The message **'Press the two button control buttons to prime solvent.'** is displayed.

	Lower Head	Board Clamps			**Prime Solvent**		Exit

9. Prime the solvent using the two button control.
10. Remove the head prop.
11. Select **Confirm** (F1).

Confirm							

12. Lower the printhead using two button control.
13. Close the front printhead cover.
14. Press the **System** button.

SQUEEGEES

Fitting the Squeegees

From the status page:

1. Press **Setup** (F6).

Run	Head	Paste Load	Clean Screen	Adjust	**Setup**	Monitor	Maint.

2. Press **Setup Squeegee** (F4).

Mode	Load Data	Edit Data	**Setup Squeegee**	Change Screen	Change Tooling	Change Language	Exit

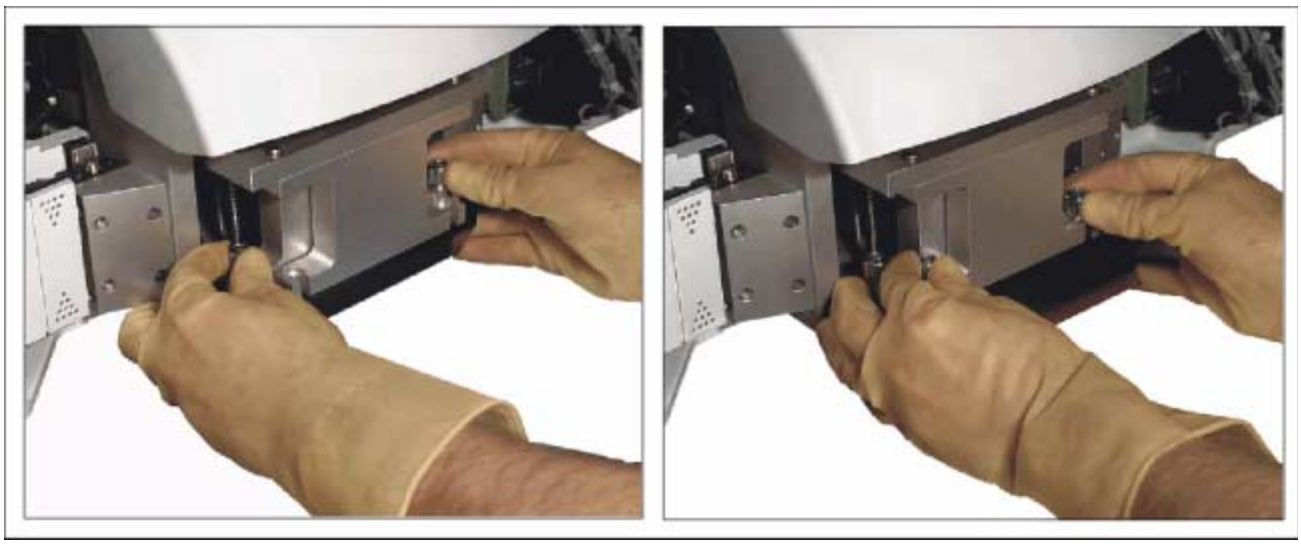
3. Press **Change Squeegee** (F1). The message **'Open cover and change squeegees'** is displayed.

Change Squeegee	Calibrat Heights						Exit

4. Open the front printhead cover.

   The front and rear squeegees must be fitted in the correct positions. Each squeegee has a key-way machined into it to ensure that it cannot be incorrectly fitted.

5. Fit the rear squeegee onto the rear squeegee mount tightening the thumbscrews until they are finger tight.
6. Fit the front squeegee onto the front squeegee mount again ensuring that the thumbscrews are only finger tight.



7. Close the front printhead cover.
8. Press the **System** button.
9. Press **Continue** (F1).

Continue							

10. Press **Calibrat Heights** (F2). The message **'Remove Screen Before Commencing Pressure Calibration!'** is displayed.

Change Squeegee	**Calibrat Heights**						Exit

11. Press **Exit** (F8).

Change Squeegee	Calibrat Heights						**Exit**

12. Press **Change Screen** (F5). The message **'Remove Screen'** is displayed.

Mode	Load Data	Edit Data	Setup Squeegee	**Change Screen**	Change Tooling	Change Language	Exit

13. Open the front printhead cover.
14. Remove the screen.
15. Close the front printhead cover.
16. Press the **System** button.
17. Press **Setup Squeegee** (F4).

Mode	Load Data	Edit Data	**Setup Squeegee**	Change Screen	Change Tooling	Change Language	Exit

18. Press **Calibrat Heights** (F2). The message **'Ensure that the Correct Squeegees are fitted '**is displayed.

Change Squeegee	**Calibrat Heights**						Exit

19. Press **Continue** (F1). The message **'Calibrating Pressure Heights - DO NOT Open Covers!'** is displayed.

Continue	Restore Defaults						Exit

20. Press **Exit** (F8).

Change Squeegee	Calibrat Heights						**Exit**

21. Press **Exit** (F8).

Mode	Load Data	Edit Data	Setup Squeegee	Change Screen	Change Tooling	Change Language	**Exit**

PROFLOW

Introduction

This Section details the various procedures for the replenishment of the ProFlow unit. A separate 'Best Working Practices' guide is also available, detailing common procedures for the replenishment, housekeeping and maintenance of ProFlow transfer heads (DEK Part No.171280). It is recommended that the Best Working Practices guide is used in conjunction with any of the following replenishment procedures.

NOTE
ProFlow Best Working Practices Manuals can be ordered online at http://www.dek.com or email spares@dek.com quoting DEK Part No.171280.

ProFlow Cassette Change

It is necessary at intervals to fit a new ProFlow cassette into the ProFlow transfer head. If the cassette is empty at the end of a print stroke, the warning window **'Print Medium Low. Please Replenish.'** is displayed.

WARNING
SOLDER PASTE AND SOLVENTS. WHEN USING OR HANDLING ANY SOLDER PASTE OR SOLVENT FORMULATION THE MANUFACTURERS' RECOMMEND SAFETY PRECAUTIONS MUST BE STRICTLY ADHERED TO.

WARNING
PROTECTIVE CLOTHING. APPROVED PROTECTIVE CLOTHING SHOULD BE WORN BY SOLDER PASTE AND SOLVENT HANDLERS AT ALL TIMES TO ELIMINATE FUME INHALATION, EYE CONTACT, SKIN CONTACT AND INGESTION.

NOTE
When using a ProFlow transfer head for the first time or if the transfer head conditioning chamber has been cleaned, ie free from solder paste. The conditioning chamber must be primed first with the print medium. Two ProFlow cassettes are required, the first ProFlow cassette is used to prime the conditioning chamber. The second ProFlow cassette is fitted ready for machine operation.

The ProFlow cassette can be fitted or changed prior to and during a print run.

Prior to a Print Run

The ProFlow cassette can be fitted or changed prior to selecting **Run**.

1. If ProFlow is in the home position continue from Step 2. If ProFlow is in the contact position go to Step 19.
2. Select **Setup** (F6).

Run	Head	Knead Paste	Clean Screen	Adjust	**Setup**	Monitor	Maint.

3. Select **Setup ProFlow** (F4).

Mode	Load Data	Edit Data	**Setup ProFlow**	Change Screen	Change Tooling	Change Language	Exit

4. Select **Load Cassette** (F4). The message **'Has the ProFlow unit's base cover been removed?'** is displayed.

Change ProFlow			**Load Cassette**		Prime ProFlow		Exit

5. If the ProFlow unit's base cover is still fitted continue with Step 6. If the ProFlow unit's base cover has been removed go to Step 12.
6. Select **Remove Cover** (F8). The message **'Open the printer cover and remove the ProFlow unit's base cover'** is displayed.

Yes							**Remove Cover**

7. Open the front printhead cover.
8. Remove the ProFlow unit's base cover.
9. Close the front printhead cover.
10. Press the **System** button.
11. Select **Exit** (F8).

							Exit

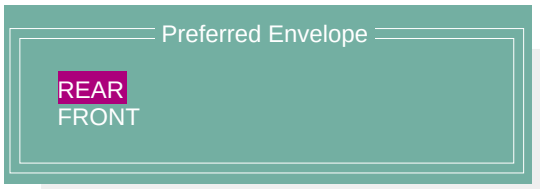
12. Select **Yes** (F1). The message **'The ProFlow unit will be placed in the REAR envelope'** is displayed.

Yes							Remove Cover

13. If the ProFlow unit is required to be placed in another envelope continue with Step 14. If the ProFlow unit is required to be placed in the machine preferred envelope go to Step 18.
14. Select, **Select Another** (F8).

Proceed							**Select Another**

The following window is displayed:



15. Use the **Next** or **Previous** keys (F4 or F5) to highlight **Front**.

Use			**Next**	**Previous**			Exit

16. Select **Use** (F1).

Use			Next	Previous			Exit

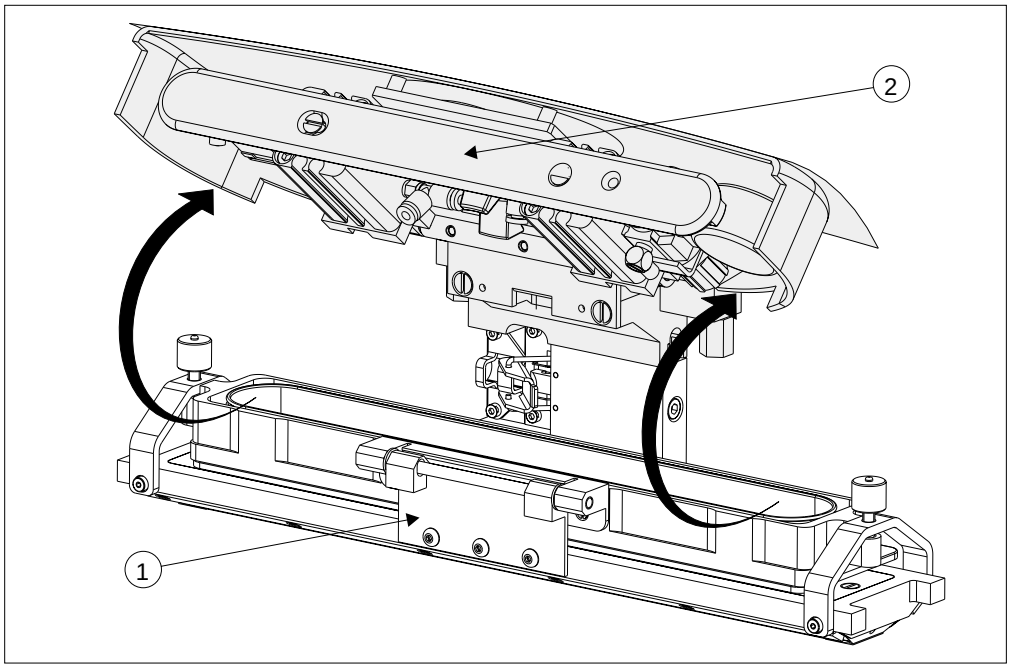
17. Select **Exit** (F8).

Use			Next	Previous			**Exit**

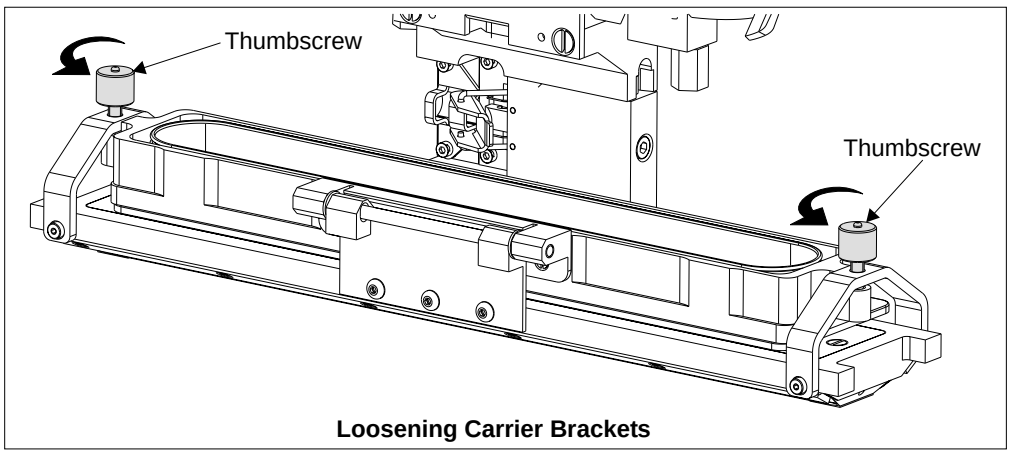
18. Select **Proceed** (F1). The ProFlow unit is placed in contact with the stencil.

Proceed							Select Another

19. Open the front printhead cover.
20. To gain access to the transfer head (1), release the latch on the front of the pressure mechanism (2) and raise the mechanism forward and upwards to engage the spring locking device.

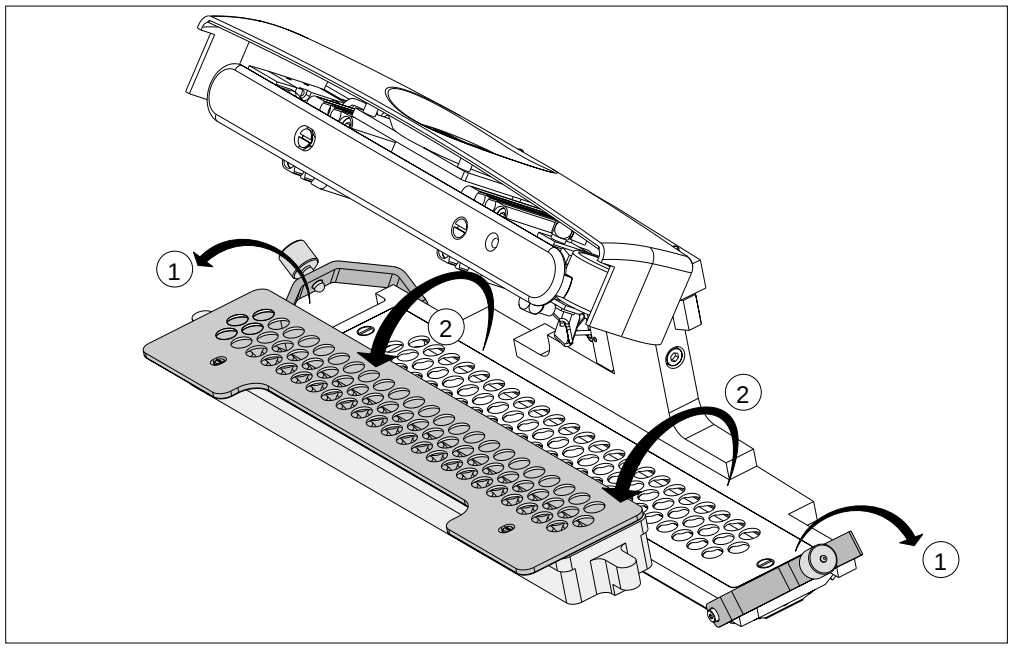


21. To release the carrier from the transfer head, unscrew the thumbscrews at each end of the carrier to loosen the clamp brackets.

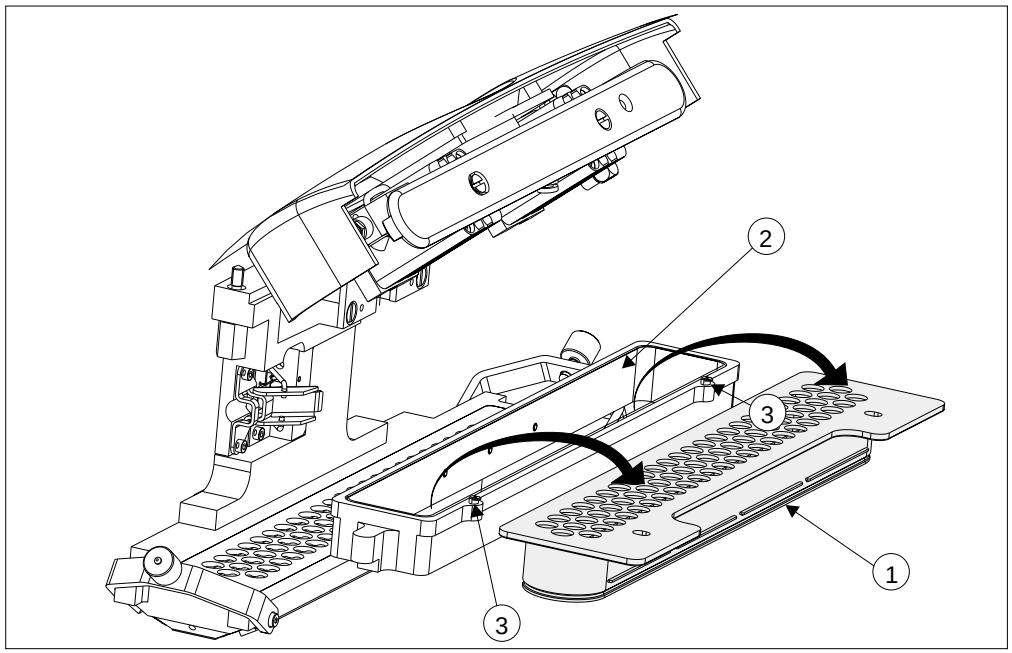


Loosening Carrier Brackets

22. Hinge the clamp brackets (1) outwards. Hinge the carrier and cassette (2) towards the front of the machine exposing the top of the cassette.

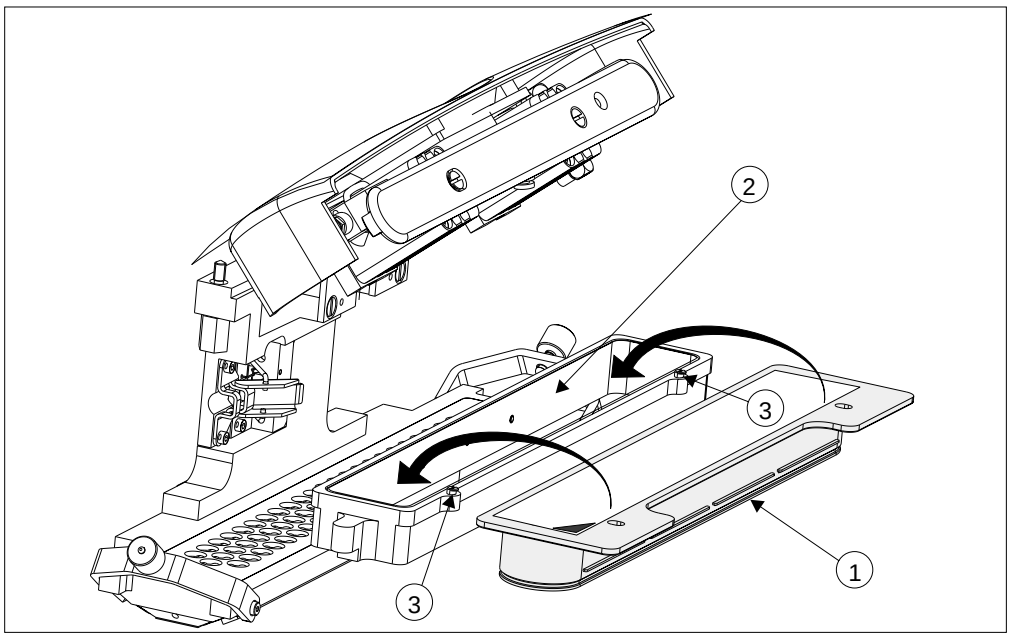


23. Carefully remove the empty cassette (1) from the carrier (2) by lifting the cassette clear of the retaining pins (3) sited at each end of the carrier unit.

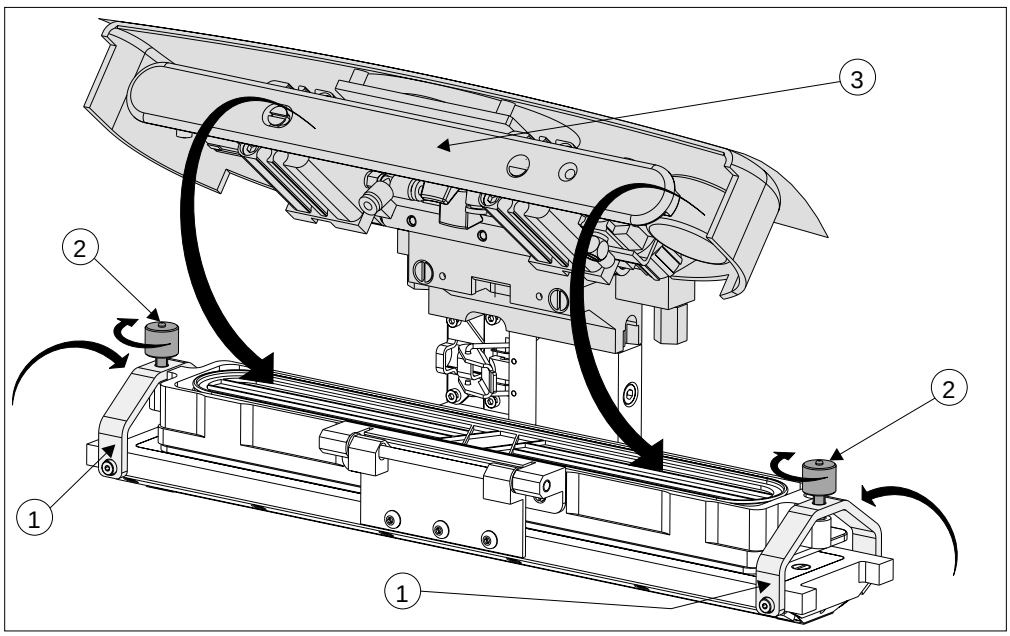


24. Dispose of the empty cassette in accordance with local authority guidelines.

25. Remove the snap fit lid from a new cassette. Fit a new cassette (1) into the carrier recess (2) and secure into place with the retaining pins (3).



26. Remove the sealing foil from the top of the new cassette.
27. Hinge the clamp brackets (1) inwards to position the cassette onto the transfer head, secure in place by tightening the thumbscrews (2).
28. Lower the pressure mechanism (3) in place until the latch engages.



29. Close the front printhead cover.
30. Press the **System** button.
31. Select **Setup ProFlow** (F4).

Mode	Load Data	Edit Data	**Setup ProFlow**	Change Screen	Change Tooling	Change Language	Exit

32. Press **Prime ProFlow** (F6). If it is possible to carry out the prime ProFlow function the message **'Performing knead off-image.'** is displayed. If it is not possible the function is deferred until it is, ie at the start of a print stroke with a board loaded.

Change ProFlow			Load Cassette		**Prime ProFlow**		Exit

NOTE
If stencil protection is set to On in the current board file, Prime ProFlow is not possible, priming can be carried out by kneading over-image.

33. Press **Exit** (F8).

Change ProFlow			Load Cassette		Prime ProFlow		**Exit**

34. Press **Exit** (F8).

Mode	Load Data	Edit Data	Setup Squeegee	Change Screen	Change Tooling	Change Language	**Exit**

During a Print Run

When the ProFlow cassette needs replenishment a warning window is automatically displayed on the monitor. The warning window varies, depending on the setting of the consumable action option in set preference.

If the set preference is set to warn, continue with Step 1. If the set preference is set to pause go to Step 6. If the set preference is set to suspend go to Step 11.

1. If the set preference is set to warn, the tricoloured beacon shows amber/green and the following window is displayed:

2. Select **Confirm** (F1).

Confirm							

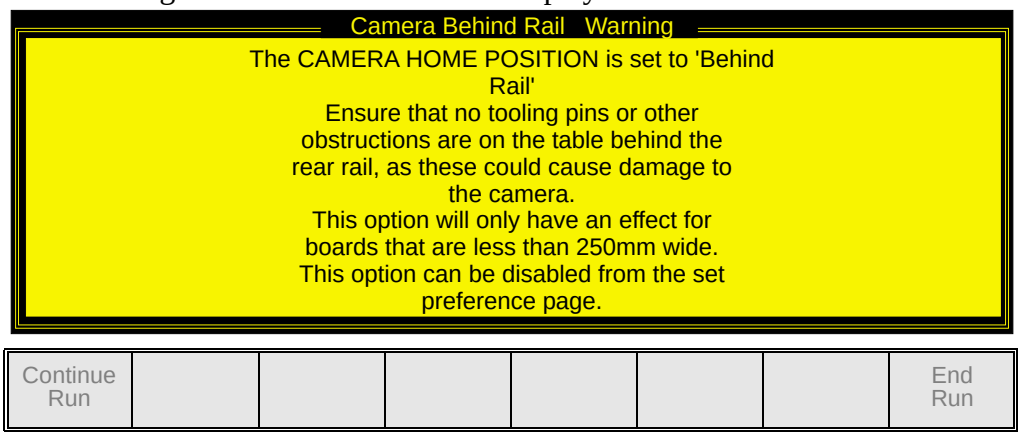
3. Select **End Run** (F1).

End Run	Stop Cycle	Paste Load	Clean Screen	Adjust	Knead Paste		

4. Carry out Steps 19-33 of Prior to a Print Run procedure, earlier in this section.
5. Select **Run** (F1).

Run	Head	Paste Load	Clean Screen	Adjust	Setup	Monitor	Maint.

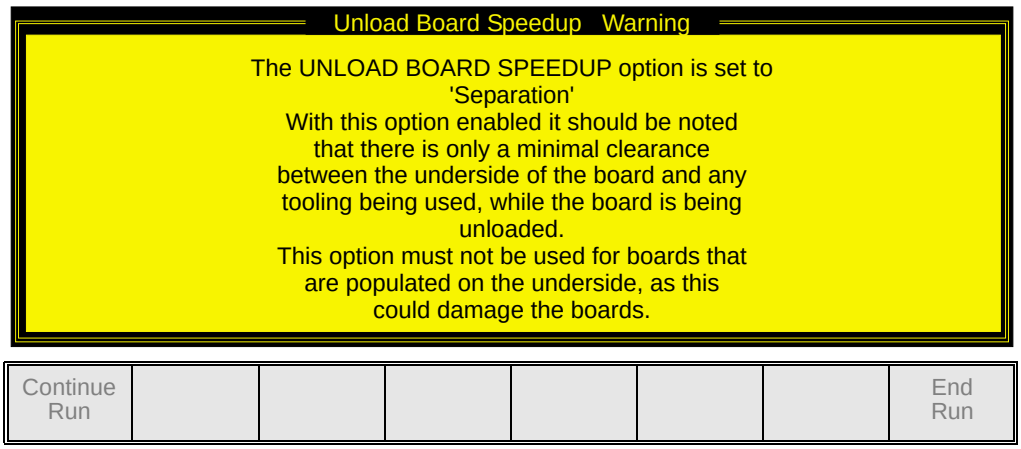
If the Camera Idle Position in Set Preferences is set to Behind Rail, the following window and menu bar is displayed:



Selecting **Continue Run** clears the warning window and the print cycle continues.

Selecting **End Run** clears the warning window, the print cycle is aborted and control is returned to the ready page.

If the Unload Board Start in Set Preferences is set to Separation, the following window and menu bar is displayed:



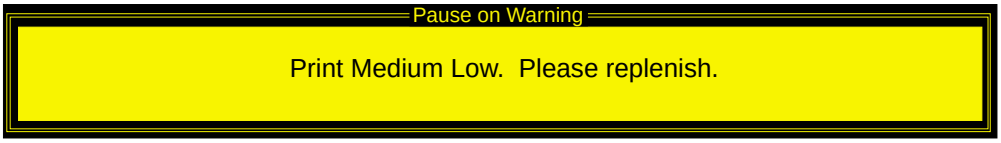
Selecting **Continue Run** clears the warning window and the print cycle continues.

Selecting **End Run** clears the warning window, the print cycle is aborted and control is returned to the ready page.

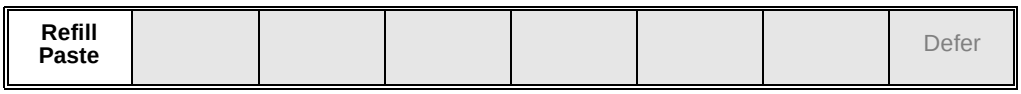
NOTE
If Camera Idle Position is set to Behind Rail and Unload Board Start is set to Separation, the warning windows appear one after the other in the order shown above.

The print run resumes.

6. If the set preference is set to pause, the tricoloured beacon shows red and the following window is displayed:

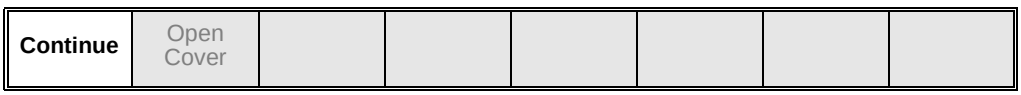


7. Select **Refill Paste** (F1). The message **'Open the cover and change the ProFlow cassette.'** is displayed.

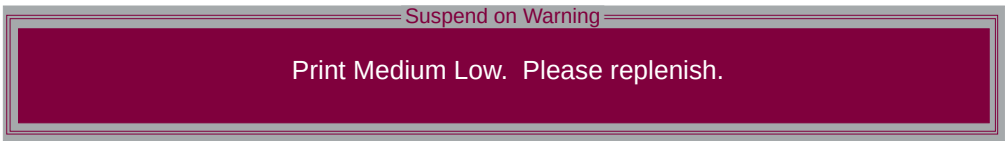


8. Select **Open Cover** (F2).

9. Carry out Steps 19-33 of Prior to a Print Run procedure, earlier in this section.
10. Select **Continue** (F1). The print run resumes.



11. If the set preference is set to suspend, the tricoloured beacon shows red and the following window is displayed:



12. Select **Refill Paste** (F1). The message **'Open the cover and change the ProFlow cassette.'** is displayed.

13. Select **Open Cover** ((F2).

14. Carry out Steps 19-33 of Prior to a Print Run procedure, earlier in this section.
15. Select **Continue** (F1). The print run resumes.

Retention System Replacement

Due to wear over prolonged periods, it is necessary to replace the wiper foils and skis. An obvious indication of blade deterioration is print medium left deposited on the screen after a print cycle, an example of this indication is shown in the figure below.

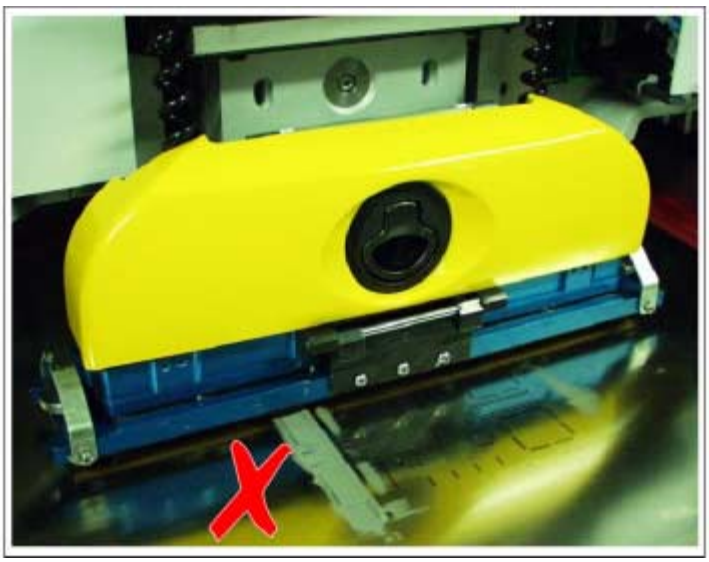


Figure 9-1 Example Of Proflow Wiper Wear

Replace the wipers and skis as follows:

WARNING
SOLDER PASTE AND SOLVENTS. WHEN USING OR HANDLING ANY SOLDER PASTE OR SOLVENT FORMULATION THE MANUFACTURERS' RECOMMEND SAFETY PRECAUTIONS MUST BE STRICTLY ADHERED TO.

WARNING
PROTECTIVE CLOTHING. APPROVED PROTECTIVE CLOTHING SHOULD BE WORN BY SOLDER PASTE AND SOLVENT HANDLERS AT ALL TIMES TO ELIMINATE FUME INHALATION, EYE CONTACT, SKIN CONTACT AND INGESTION.

1. Press **Setup** (F6).

Run	Head	Paste Load	Clean Screen	Adjust	**Setup**	Monitor	Maint.

2. Press **Setup ProFlow** (F4).

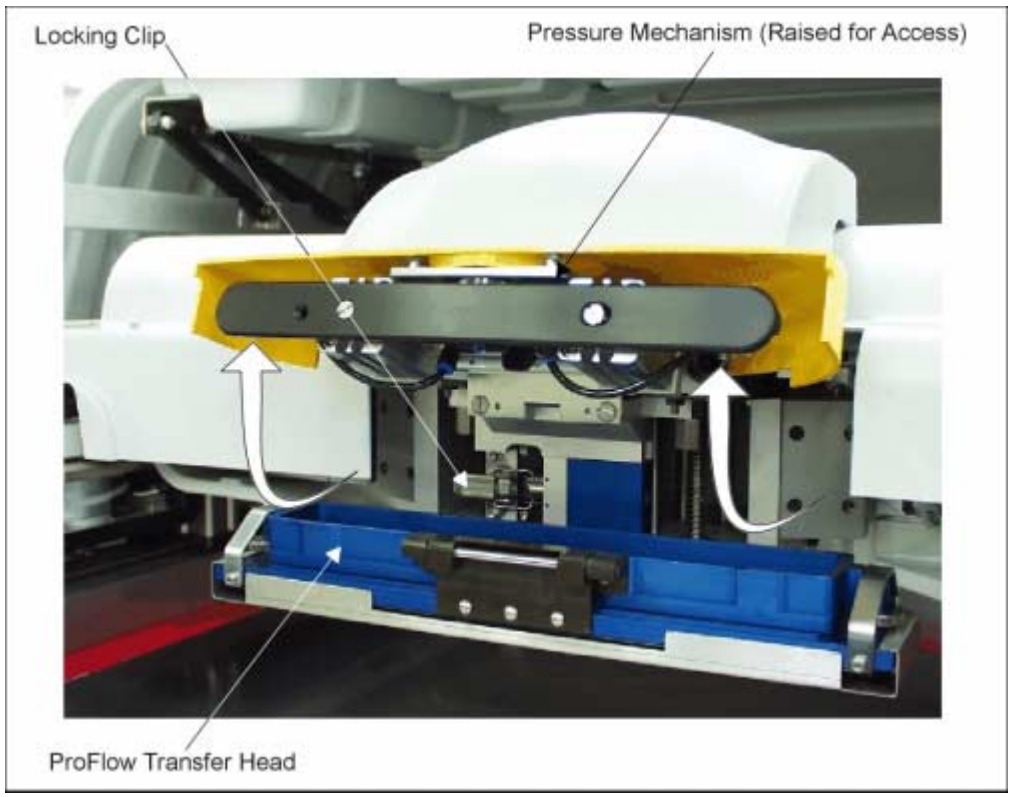
Mode	Load Data	Edit Data	**Setup ProFlow**	Change Screen	Change Tooling	Change Language	Exit

3. Press **Change ProFlow** (F1). The message **'Replace ProFlow Cover then Close Cover and Press Continue'** is displayed.

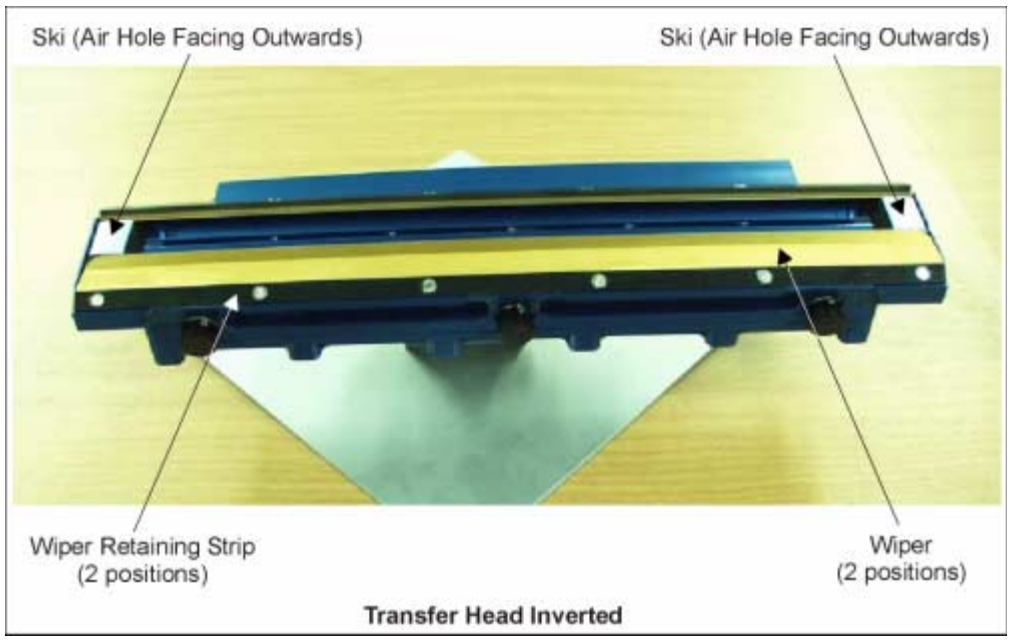
Change ProFlow			Load Cassette		Prime ProFlow		Exit

4. Open the front printhead cover.
5. Fit the cover to the underside of the ProFlow transfer head unit.

6. Release the latch on the front of the pressure mechanism and raise the mechanism forwards and upwards to engage the spring locking device.
7. Open the locking clip securing the transfer head to the pressure mechanism and carefully slide the transfer head out and away from the pressure mechanism.



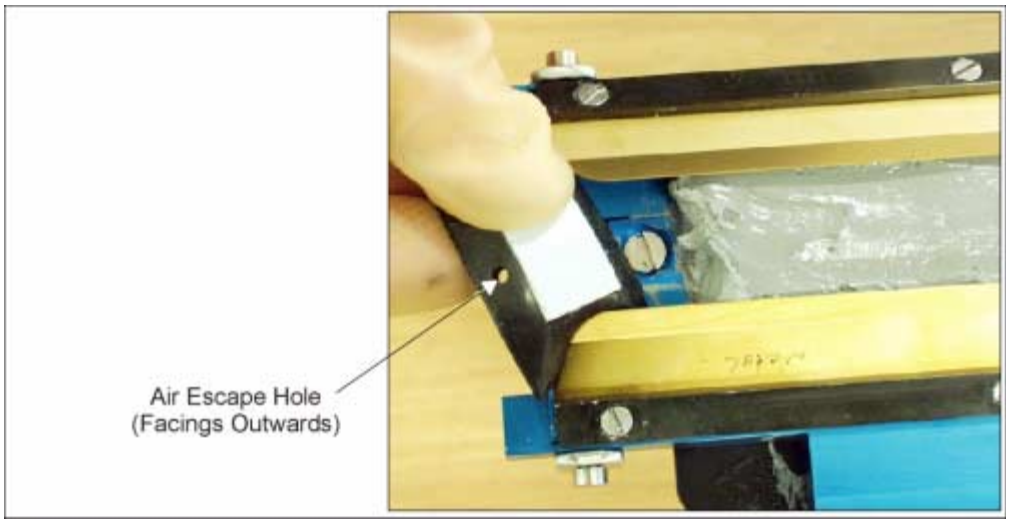
8. Invert the ProFlow transfer head and place onto the maintenance stand (provided with the equipment).
9. Remove the cover from the ProFlow transfer head unit.



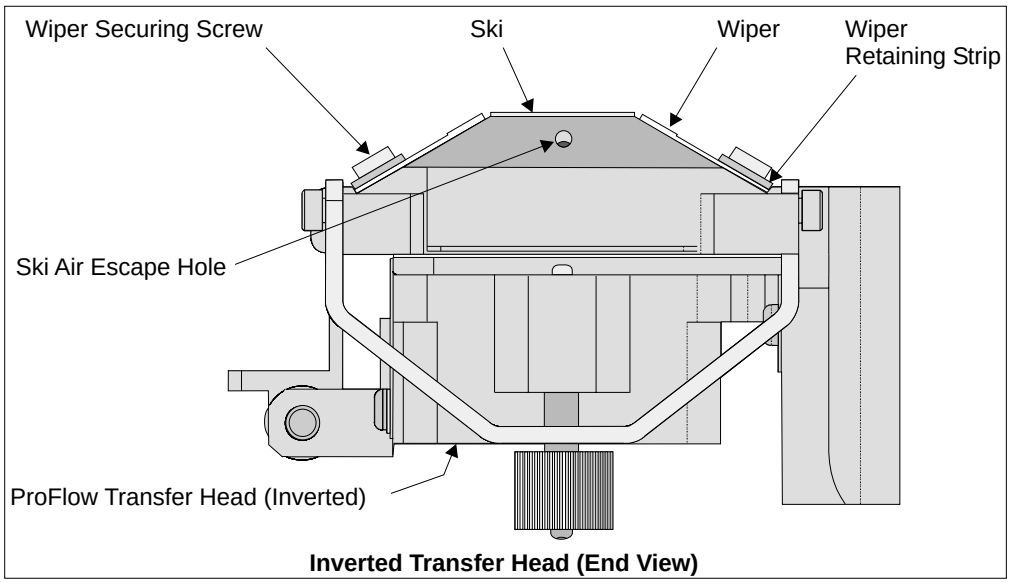
10. Carefully remove the wipers by loosening the six screws securing each wiper retaining strip. Dispose of damaged wipers in accordance with local authority guide lines.
11. Carefully remove both skis. Dispose of damaged skis in accordance with local authority guide lines.
12. Prior to fitting replacement items ensure the area around the wipers and skis is free from print medium.
13. Fit replacement wipers into position ensuring both wipers are fully home against the wiper securing screws.

    NOTE
    If fitting stepped etched wipers, ensure that the stepped edge of each wiper is facing outwards (wiper example in figure below refers).

14. Fully tighten the wiper retaining strip screws.
15. Slide each ski between the wipers until they are flush with the ends of the wipers, (ensure the air escape hole on each ski faces outwards of the unit, figure below refers.)



16. Fit the cover.



Inverted Transfer Head (End View)

17. Check that the locking clip on the pressure mechanism is in the unlocked position. Locate and fit the ProFlow transfer head unit to the pressure mechanism by means of the two locating dowels. Slide the unit onto the pressure mechanism. Once the unit is slid fully home, it is secured by closing the locking clip.

18. Lower the pressure mechanism using the flush pull latch ensuring the mechanism latch is engaged and is secured into place.
19. Close the front printhead cover.
20. Press the **System** button.
21. Press **Continue** (F1).

Continue							

22. Press **Exit** (F8).

Change ProFlow			Load Cassette		Prime ProFlow		**Exit**

23. Press **Exit** (F8).

Mode	Load Data	Edit Data	Setup ProFlow	Change Screen	Change Tooling	Change Language	**Exit**

Rechargeable Transfer Heads

It is necessary at intervals to replenish the rechargeable transfer head. If there is no print medium in the transfer head at the end of a print stroke, the warning window **'Print Medium Low. Please Replenish.'** is displayed.

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WARNING
PROTECTIVE CLOTHING. APPROVED PROTECTIVE CLOTHING SHOULD BE WORN BY SOLDER PASTE AND SOLVENT HANDLERS AT ALL TIMES TO ELIMINATE FUME INHALATION, EYE CONTACT, SKIN CONTACT AND INGESTION.

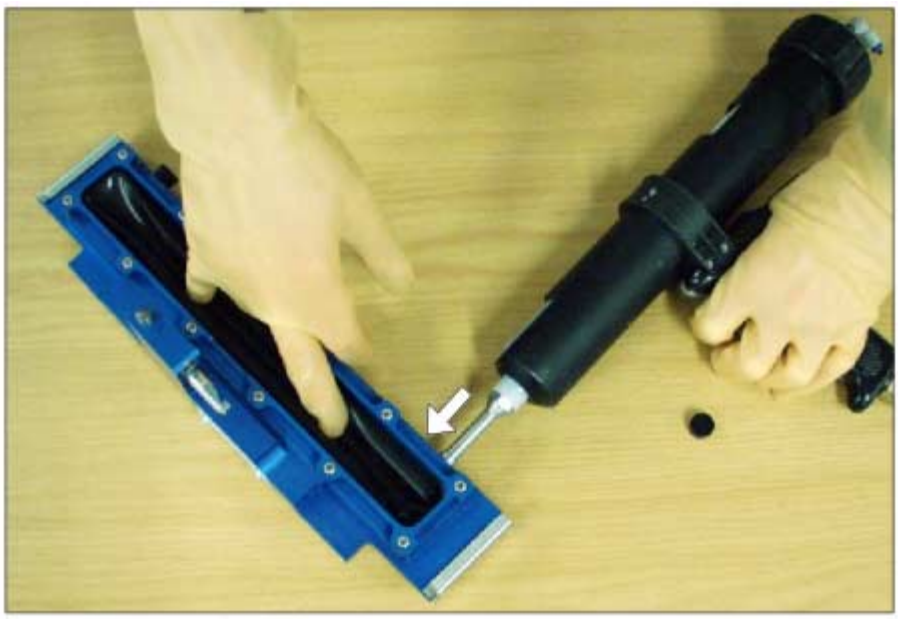
Initial Fill

If an empty/new rechargeable transfer head is to be used prior to printing. The transfer head unit is to be initially charged in accordance with the following:

1. Ensure the empty transfer head is fitted with a base cover.
2. Using the recharging gun (mastic or pneumatic gun). Load a standard cartridge and fit the long recharging nozzle to the cartridge.

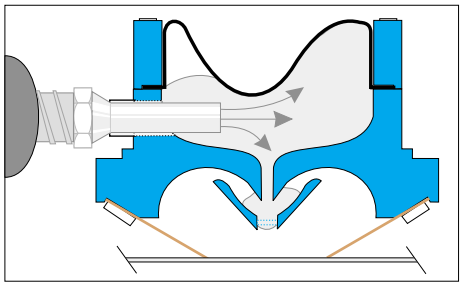
   NOTE
   To prevent air bubbles, ensure that the long nozzle is charged with paste prior to carrying out the next Step.

3. Starting at one end of the unit, remove the filling hole bayonet cap and insert the recharging nozzle into the unit, (figure below refers).

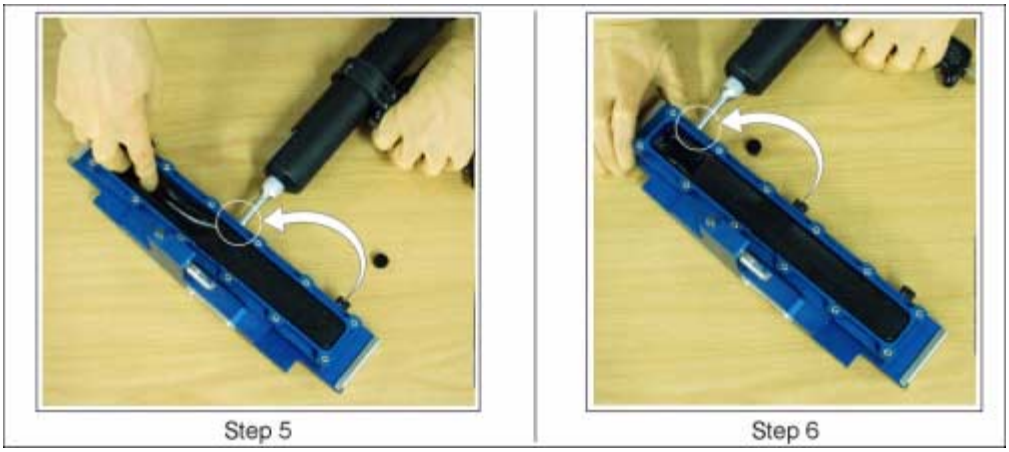


4. Start filling the cavity, at the same time push the diaphragm down with fingers (Step 3 Figure refers), to feel the paste filling the void. Whilst the paste is filling, gently knead the diaphragm to evenly distribute the paste and also prevent ballooning. Fill approximately one third the length of the unit. On completion remove the nozzle and refit the bayonet cap.

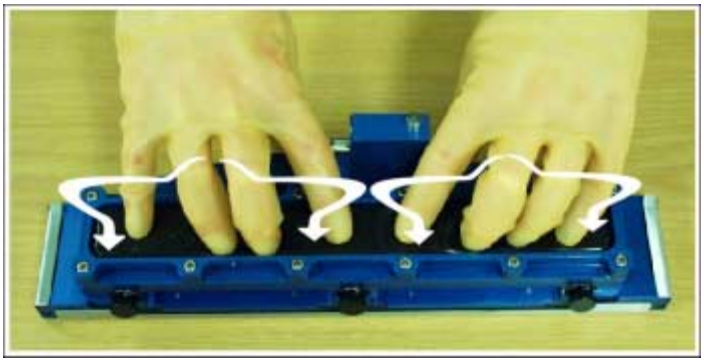
NOTE
Prior to completion, slowly retract the nozzle from the filling hole to avoid creation of air bubbles within the paste fill.

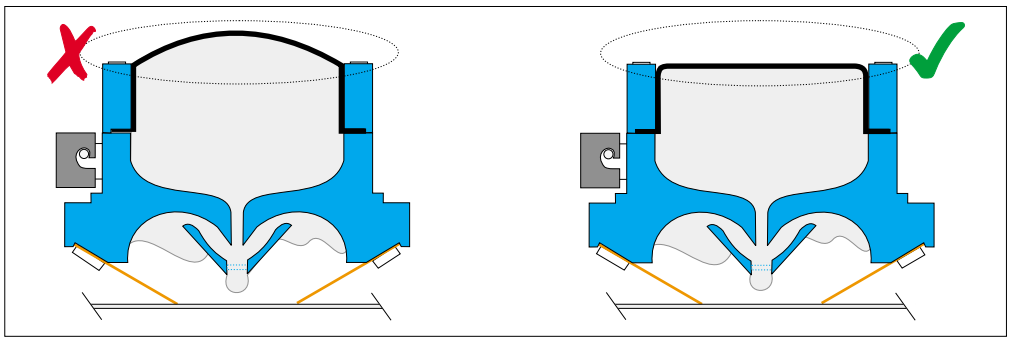


5. Move the recharging unit to the centre filling port, and repeat Step 4.
6. Move the recharging unit to the last filling port and repeat Step 4 until the void is full.

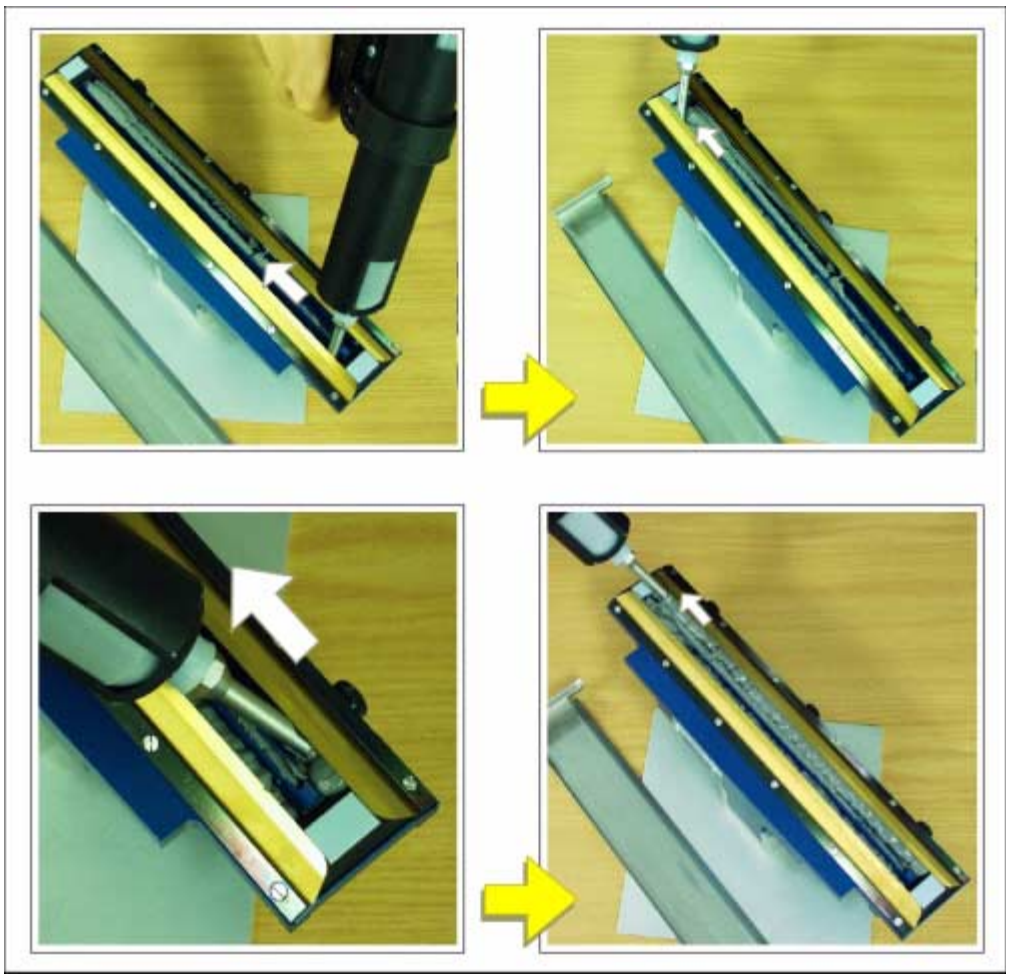


7. Knead the transfer head diaphragm so that the paste is dispersed evenly along it's length. The top of the diaphragm must be flat (not ballooned upwards). Figures below refers.





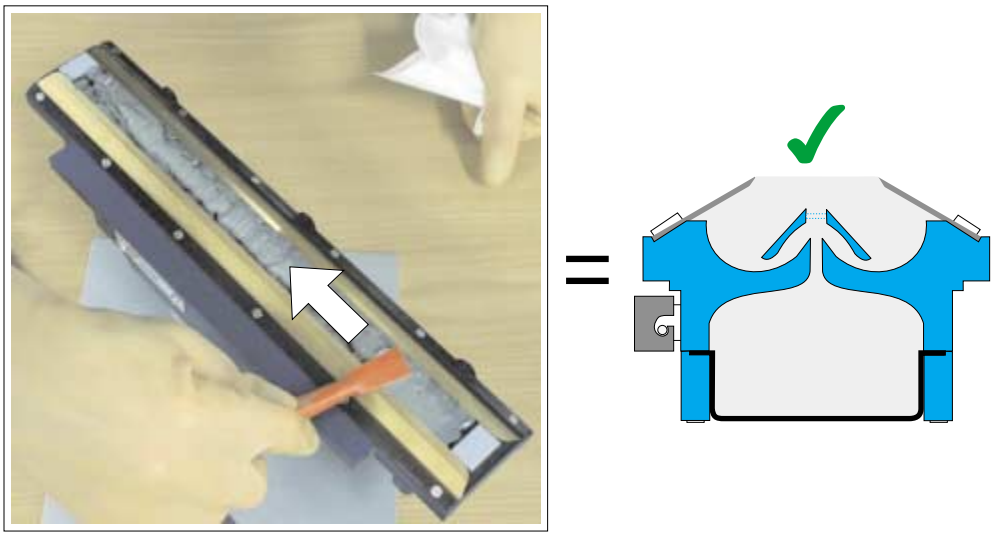
8. Fit the transfer head unit to the maintenance stand and remove the base cover.
9. Using the recharging unit with long nozzle, fill the length of each side of the unit, behind the wiper units, (Figure below refers).



10. Apply the paste along the length of the centre, between the wipers, filling paste level with the wiper blade edges, (Figure below refers).

11. Using a spatula, smooth and level the paste to the height of the blades.

    NOTE
    Pack any excess paste on the spatula between the blades.



12. If necessary clean the wiper blades and skis so that they are not contaminated with paste.

    NOTE
    For effective cleaning, DEK recommend the use of IPA impregnated wipes (Part No.141150).

13. Fit cover to the unit.
14. Fit the transfer head unit to the ProFlow pressure mechanism on the machine. (Refer to ProFlow Chapter in the Technical Reference Manual for detailed information on unit removal/fitting.)

The transfer head can be replenished prior to and during a print run.

Prior to a Print Run

The transfer head can be replenished prior to selecting **Run**.

1. If the ProFlow unit is in the home position continue with Step 2. If the ProFlow unit is in the contact position go to Step 20.
2. Select **Setup** (F6).

Run	Head	Paste Load	Clean Screen	Adjust	**Setup**	Monitor	Maint.

3. Select **Setup ProFlow** (F4).

Mode	Load Data	Edit Data	**Setup ProFlow**	Change Screen	Change Tooling	Change Language	Exit

4. Select **Load Cassette** (F4). The message **'Has the ProFlow unit's base cover been removed?'** is displayed.

Change ProFlow			**Load Cassette**				Exit

5. If the ProFlow unit's base cover is still fitted continue with Step 6. If the ProFlow unit's base cover has been removed go to Step 12.
6. Select **Remove Cover** (F8). The message **'Open the printer cover and remove the ProFlow unit's base cover'** is displayed.

Yes							**Remove Cover**

7. Open the front printhead cover.
8. Remove the ProFlow unit's base cover.
9. Close the front printhead cover.
10. Press the **System** button.
11. Select **Exit** (F8),

							Exit

12. Select **Yes** (F1). The message **'The ProFlow unit will be placed in the REAR envelope'** is displayed.

Yes							Remove Cover

13. If the ProFlow unit is required to be placed in another envelope continue with Step 14. If the ProFlow unit is required to be placed in the machine preferred envelope go to Step 18.
14. Select, **Select Another** (F8).

Proceed							**Select Another**

The following window is displayed:

15. Use the **Next** or **Previous** keys (F4 or F5) to highlight **Front**.

Use			**Next**	**Previous**			Exit

16. Select **Use** (F1).

Use			Next	Previous			Exit

17. Select **Exit** (F8).

Use			Next	Previous			**Exit**

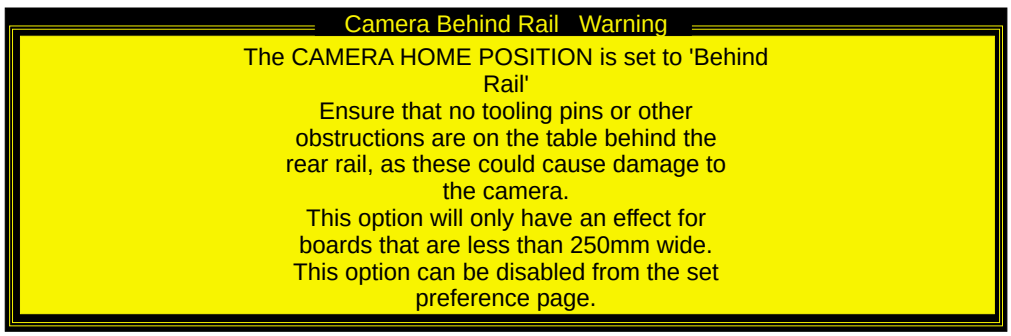
18. Select **Proceed** (F1). The ProFlow unit is placed in contact with the screen.

Proceed							Select Another

19. Go to Step 23.
20. If the ProFlow unit is in front of the image continue with Step 21. If the ProFlow unit is at the rear of the image go to Step 23.
21. Select **Run** (F1).

Run	Head	Paste Load	Clean Screen	Adjust	Setup	Monitor	Maint.

If the Camera Idle Position in Set Preferences is set to Behind Rail, the following window and menu bar is displayed:

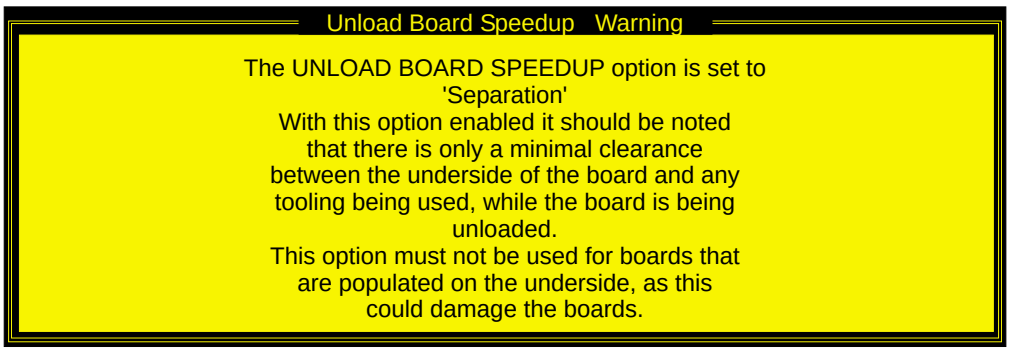


Continue Run							End Run

Selecting **Continue Run** clears the warning window and the print cycle continues.

Selecting **End Run** clears the warning window, the print cycle is aborted and control is returned to the ready page.

If the Unload Board Start in Set Preferences is set to Separation, the following window and menu bar is displayed:



Continue Run							End Run

Selecting **Continue Run** clears the warning window and the print cycle continues.

Selecting **End Run** clears the warning window, the print cycle is aborted and control is returned to the ready page.

NOTE
If Camera Idle Position is set to Behind Rail and Unload Board Start is set to Separation, the warning windows appear one after the other in the order shown above.

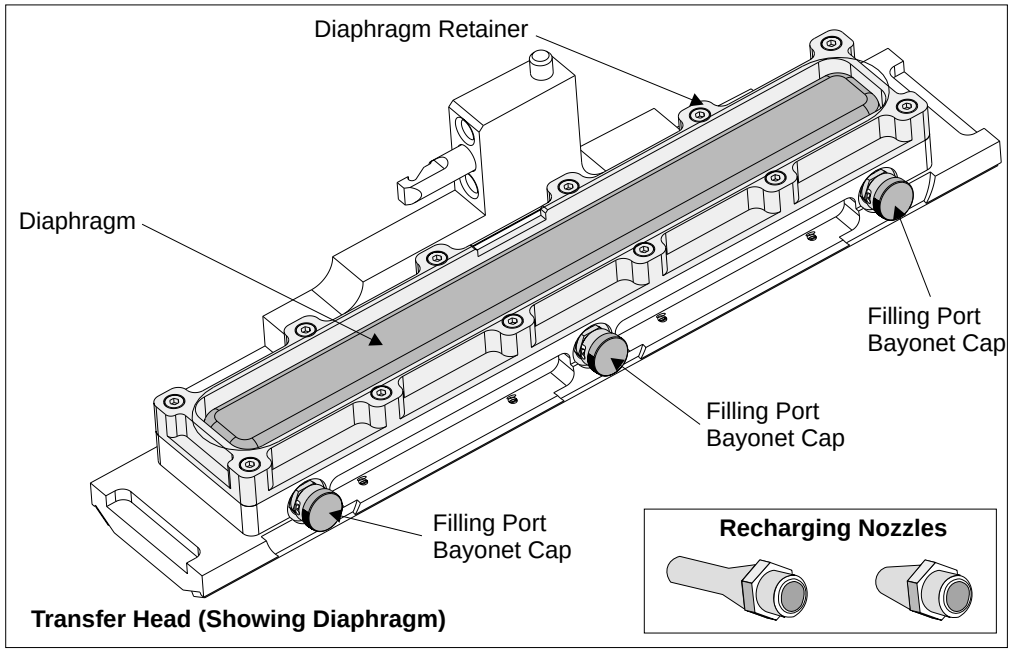
The machine carries out a print cycle, the ProFlow unit moves to the rear of the image.

22. When the ProFlow unit is at the rear of the image, select **End Run** (F1).

End Run	Stop Cycle	Paste Load	Clean Screen	Adjust	Knead Paste		

23. Open the front printhead cover.
24. Ensure that the ProFlow pressure mechanism is in the raised position (to expose transfer head diaphragm).

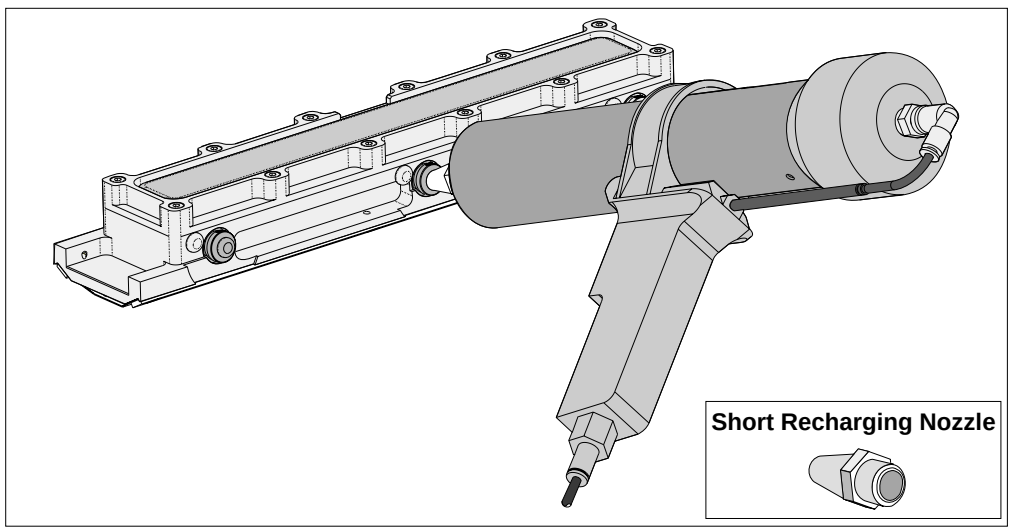
25. Remove the centre filling port bayonet cap.



26. Using either a general purpose mastic gun or the optional ProFlow pneumatic gun. Load a standard cartridge and fit the short recharging nozzle to the cartridge, (figure below refers).

    NOTE
    Ensure that any air within the cartridge and nozzle is expelled prior to using the gun, ie charge the gun so that paste is starting to exude from the nozzle (figure below refers).

27. Push the nozzle of the gun into the centre filling port of the ProFlow transfer head (see figure below).



28. Slowly fill the diaphragm until it starts to balloon, smooth the top of the diaphragm so that the paste is evenly dispersed along its length.
29. Alternatively, fill using all three filling ports for even distribution.

    NOTE
    Ensure that only one port is opened at a time.

30. Do not overfill. If this occurs any excess will seep out between the wipers and the screen.

    NOTE
    Clean any excess seepage before commencing print operations.

31. Ensure that the threaded areas around the filling ports are thoroughly clean before commencing print operation.
32. Refit the port bayonet caps.
33. Close the front printhead cover.
34. Press the **System** button.

During a Print Run

When the transfer head needs replenishing a warning window is automatically displayed on the monitor. The warning window varies, depending on the setting of the consumable action in set preference.

If the set preference is set to warn, continue with Step 1. If the set preference is set to pause go to Step 6. If the set preference is set to suspend go to Step 13.

1. If the set preference is set to warn, the tricoloured beacon shows amber/green and the following window is displayed:

2. Select **Confirm** (F1).

Confirm							

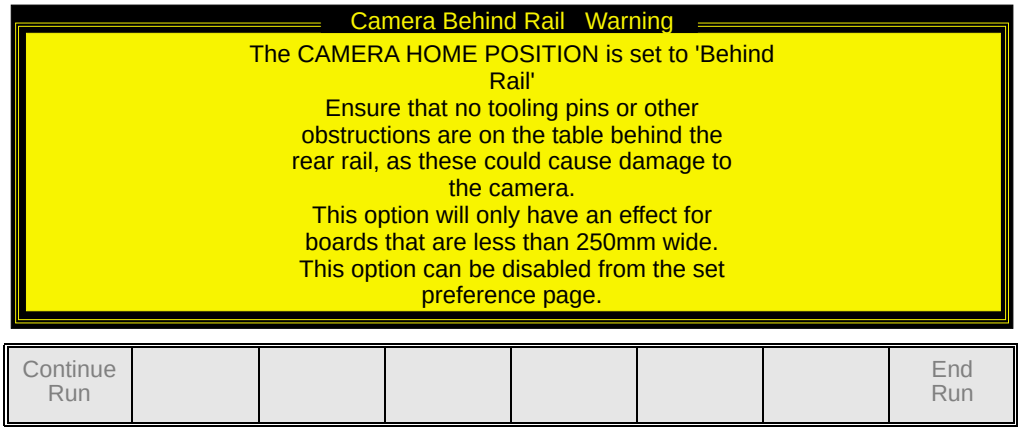
3. Select **End Run** (F1), when the ProFlow unit is at the rear of the image..

End Run	Stop Cycle	Paste Load	Clean Screen	Adjust	Knead Paste		

4. Carry out Steps 23-34 of Prior to a Print Run procedure, earlier in this section.
5. Select **Run** (F1).

Run	Head	Paste Load	Clean Screen	Adjust	Setup	Monitor	Maint.

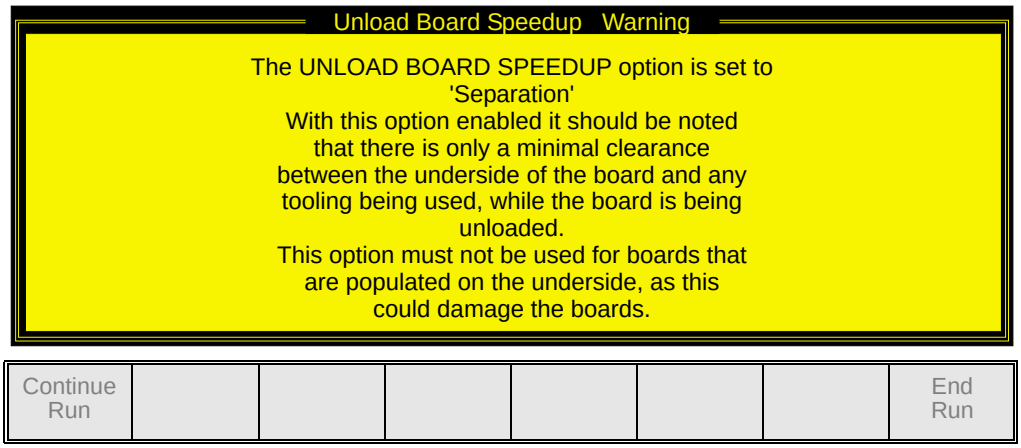
If the Camera Idle Position in Set Preferences is set to Behind Rail, the following window and menu bar is displayed:



Selecting **Continue Run** clears the warning window and the print cycle continues.

Selecting **End Run** clears the warning window, the print cycle is aborted and control is returned to the ready page.

If the Unload Board Start in Set Preferences is set to Separation, the following window and menu bar is displayed:



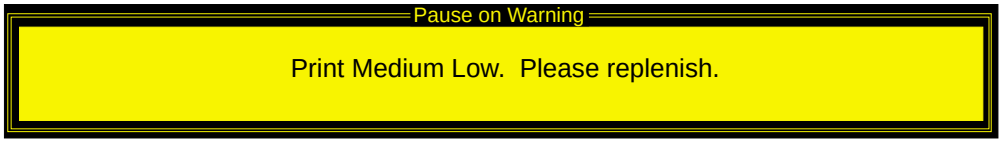
Selecting **Continue Run** clears the warning window and the print cycle continues.

Selecting **End Run** clears the warning window, the print cycle is aborted and control is returned to the ready page.

NOTE
If Camera Idle Position is set to Behind Rail and Unload Board Start is set to Separation, the warning windows appear one after the other in the order shown above.

The print run resumes.

6. If the set preference is set to pause, the tricoloured beacon shows red and the following window is displayed:



7. If the ProFlow unit is in front of the image continue with Step 8. If the ProFlow unit is at the rear of the image go to Step 9.
8. Select **Defer** (F8). The machine carries out a print cycle, the ProFlow unit moves to the rear of the image and the pause on warning window is re-displayed.

Refill Paste							**Defer**

9. Select **Refill Paste** (F1). The message **'Open the cover and change the ProFlow cassette.'** is displayed.

Refill Paste							Defer

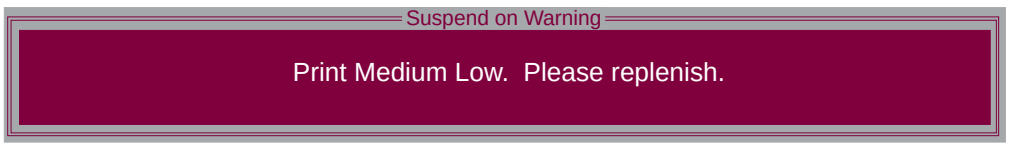
10. Select **Open Cover** (F2).

Continue	**Open Cover**						

11. Carry out Steps 23-34 of Prior to a Print Run procedure, earlier in this section.
12. Select **Continue** (F1). The print run resumes.

Continue	Open Cover						

13. If the set preference is set to suspend, the tricoloured beacon shows red and the following window is displayed:



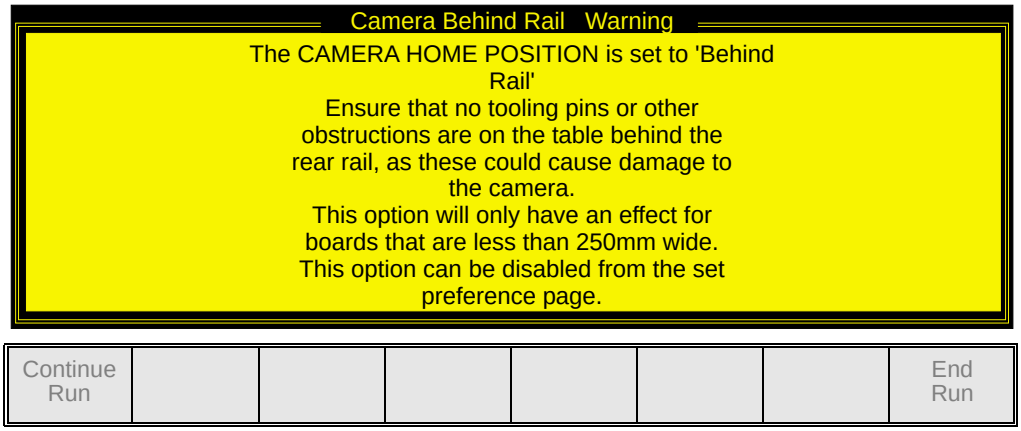
14. If the ProFlow unit is in front of the image continue with Step 15. If the ProFlow unit is at the rear of the image go to Step 17.
15. Select **End Run** (F8).

Refill Paste							**End Run**

16. Select **Run** (F1).

Run	Head	Paste Load	Clean Screen	Adjust	Setup	Monitor	Maint.

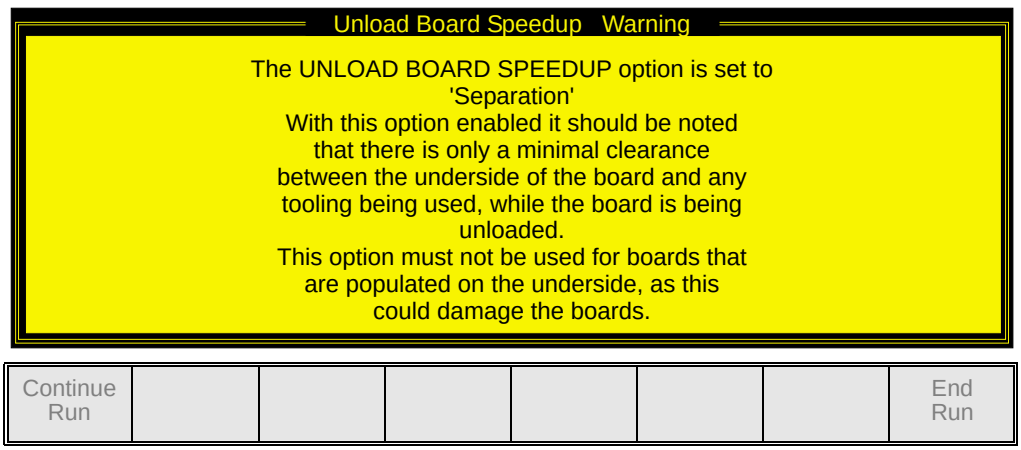
If the Camera Idle Position in Set Preferences is set to Behind Rail, the following window and menu bar is displayed:



Selecting **Continue Run** clears the warning window and the print cycle continues.

Selecting **End Run** clears the warning window, the print cycle is aborted and control is returned to the ready page.

If the Unload Board Start in Set Preferences is set to Separation, the following window and menu bar is displayed:



Selecting **Continue Run** clears the warning window and the print cycle continues.

Selecting **End Run** clears the warning window, the print cycle is aborted and control is returned to the ready page.

NOTE
If Camera Idle Position is set to Behind Rail and Unload Board Start is set to Separation, the warning windows appear one after the other in the order shown above.

The print run resumes. The machine carries out a print cycle, the ProFlow unit moves to the rear of the image and the suspend on warning window is re-displayed.

17. Select **Refill Paste** (F1). The message **'Open the cover and change the ProFlow cassette.'** is displayed.

Refill Paste							End Run

18. Select **Open Cover** (F2).

Continue	**Open Cover**						

19. Carry out Steps 23-34 of Prior to a Print Run procedure, earlier in this section.
20. Select **Continue** (F1). The print run resumes.

Continue	Open Cover						