

DispenseJet[®] Series

Vacuum Assisted Priming Routine

Operations Manual



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1 Introduction

1.1 Overview

This manual describes the software setup and sequence for operating the Vacuum Assisted Priming Routine (VAPR). VAPR is designed for use with the DJ-9000 Series DispenseJet and is available on the M-2000 and S-900 Series Dispensing System platforms. Refer to the *DJ-9000 Owner's Manual* (P/N 7200530) for detailed instruction on valve operation.

1.2 System Requirements

Dispensing System:	Spectrum Series S-900 or Millennium M-2000 Series Dispensing Systems
Dispensing Valve:	DJ-9000 DispenseJet
Software:	Fluidmove for Windows XP (FmXP) Fluidmove for Windows NT (FmNT)
Fluidmove Version	Version 5.3 or higher



WARNING!



CAUTION!

DO NOT operate the dispensing system unless you have been trained to do so. Operating the dispensing system without proper training may result in personal injury or dispensing system damage.

1.3 Theory of Operation

Trapped air in a dispensing valve influences the amount of fluid deposited. The Vacuum Assisted Priming Routine utilizes vacuum at the purge station to evacuate air from the DJ-9000 fluid chamber prior to introducing fluid.



WARNING!



CAUTION!

Consult the Material Safety Data Sheet (MSDS) for all fluids used with the dispensing system. The MSDS provides material usage instructions, disposal instructions, and safety precautions.

2 Running the VAPR Procedure

2.1 Overview

Priming commands are executed through the Fluidmove software. Prior to running the VAPR routine, the Fluidmove software must be configured properly. The VAPR procedure can be run manually from the Fluidmove Production Window or the Fluidmove Programming Window, but is most effective when launched automatically during the valve offset routine. This section covers the following topics:

- [Fluidmove Configuration](#)
- [Running the VAPR Procedure](#)



WARNING!



CAUTION!

Refer to the *Safety* section in the applicable dispensing system manual prior to operating the dispensing system. Failure to comply with any of the safety recommendations could cause serious injury to the user or damage to the dispensing system.

2.2 Fluidmove Configuration

1. Power on the dispensing system.
 - ▶ Refer to the applicable dispensing system manual if necessary.
2. Start Fluidmove.
 - ▶ Refer to the *Fluidmove User Guide* if necessary.
3. In the Fluidmove Main Menu, select **Configuration>Setup Valves**.
 - ▶ The Setup Valves window opens (Figure 2-1).
4. Make sure that DJ-Series is selected for Valve 1.

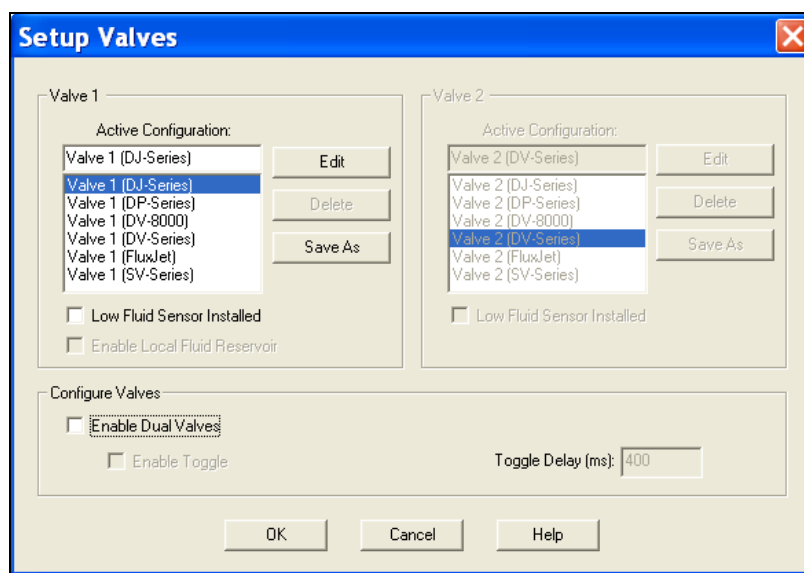


Figure 2-1 Setup Valves

5. Click on **Edit**.
 - ▶ The Valve 1 Settings window opens (Figure 2-2).

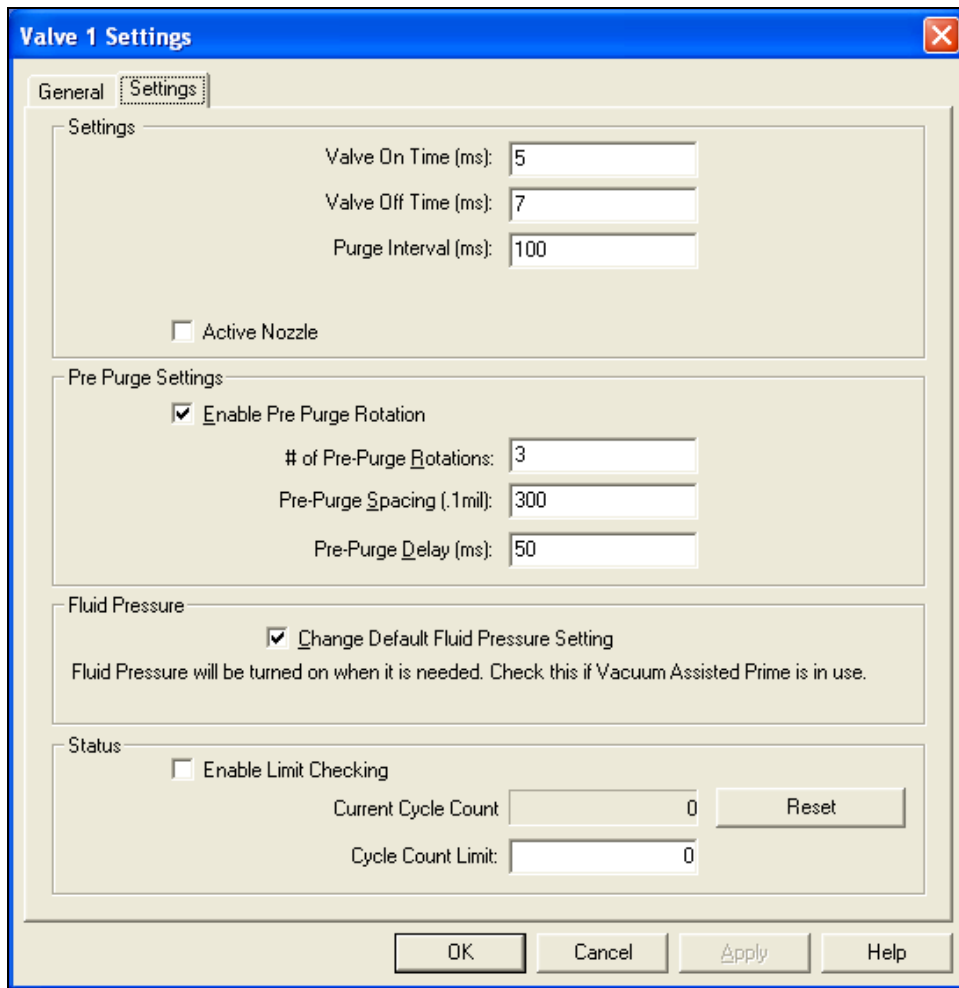


Figure 2-2 Valve 1 Settings

6. Make sure there is a checkmark next to **Change Default Fluid Pressure Setting** in the Fluid Pressure section. If not, click the box to select it.
7. Click **OK** to return to the Setup Valves window.
8. Click **OK** again to return to the Fluidmove Main Window.
9. Verify/select the valve offset routine.
 - a. In the Fluidmove Main Window, click on **Configuration>Setup Scripts Options**.
 - b. Verify that the proper script file (installed with the VAPR kit) is selected. The script file (XXXXX.pss) is displayed below the **Prompted Setup** button.

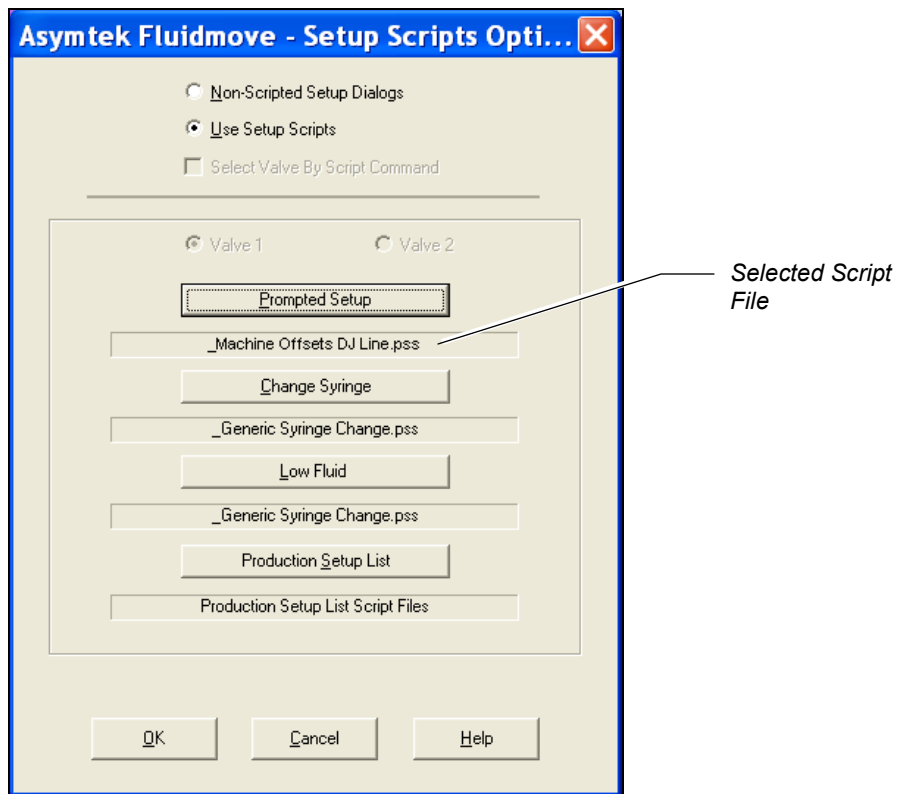


Figure 2-3 Setup Scripts Options

- c. There are two VAPR script files.
 - 1) “**_Machine Offsets DJ Line.pss**” – This script performs machine offsets including a vacuum assisted prime and prime verification.
 - 2) “**_DJ 9K Priming (VA Prime on Purge Station).pss**” - This script only performs the vacuum assisted priming, no prime verification.
- d. To select a script file, click on the **Prompted Setup** button to display a list of available script files. See Figure 2-4.

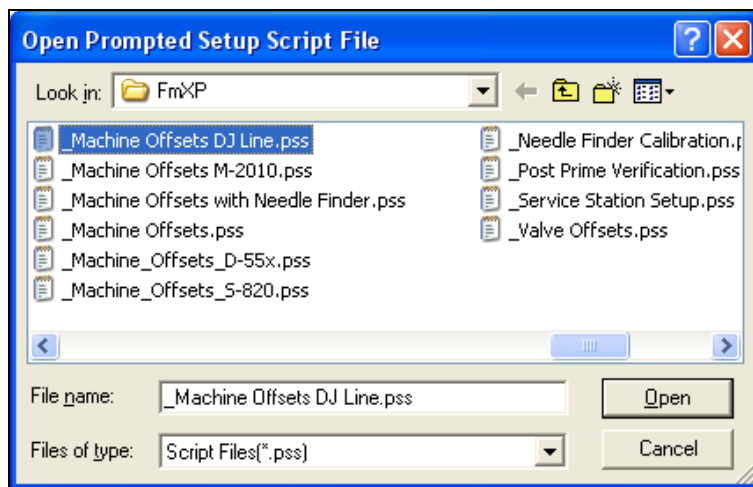



Figure 2-4 Opening a Setup Script File


- e. Select the desired file and click **Open**.

2.3 Running the VAPR Procedure

The VAPR procedure can be run automatically as part of the valve offsets routine or manually from the Fluidmove Programming Window or Fluidmove Production Window.

 **NOTE** VAPR must be run on a clean valve with a new feed tube. Once fluid has been introduced into the valve VAPR cannot be used.

2.3.1 Automatic Operation

 **NOTE** Make sure that "_Machine Offsets DJ Line.pss" is the selected script file. Refer to Step 9 under [2.2 Fluidmove Configuration](#).

2.3.1.1 Fluidmove Production Window

1. Install a clean valve with a new feed tube and fluid syringe onto the dispensing system.
2. In the Fluidmove Main Window, click on **Run a Program**.
 - ▶ The Fluidmove Production Window opens.
3. Click on **Setup**
4. Click on **Setup Scripts**.
 - ▶ The Run Script Window opens (Figure 2-5).

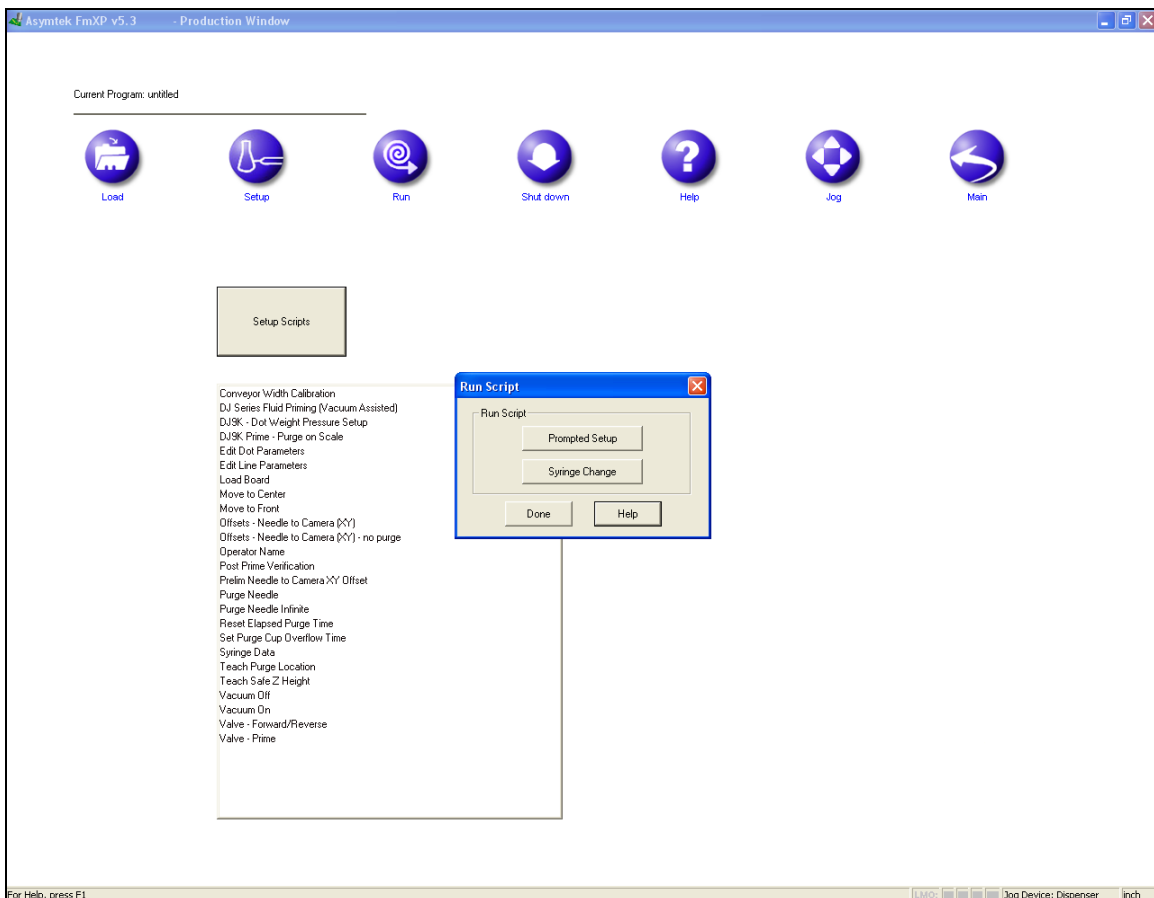


Figure 2-5 Fluidmove Production Window – Run Script

5. Click on **Prompted Setup**.
 - ▶ The Prompted Setup Window opens (Figure 2-6).

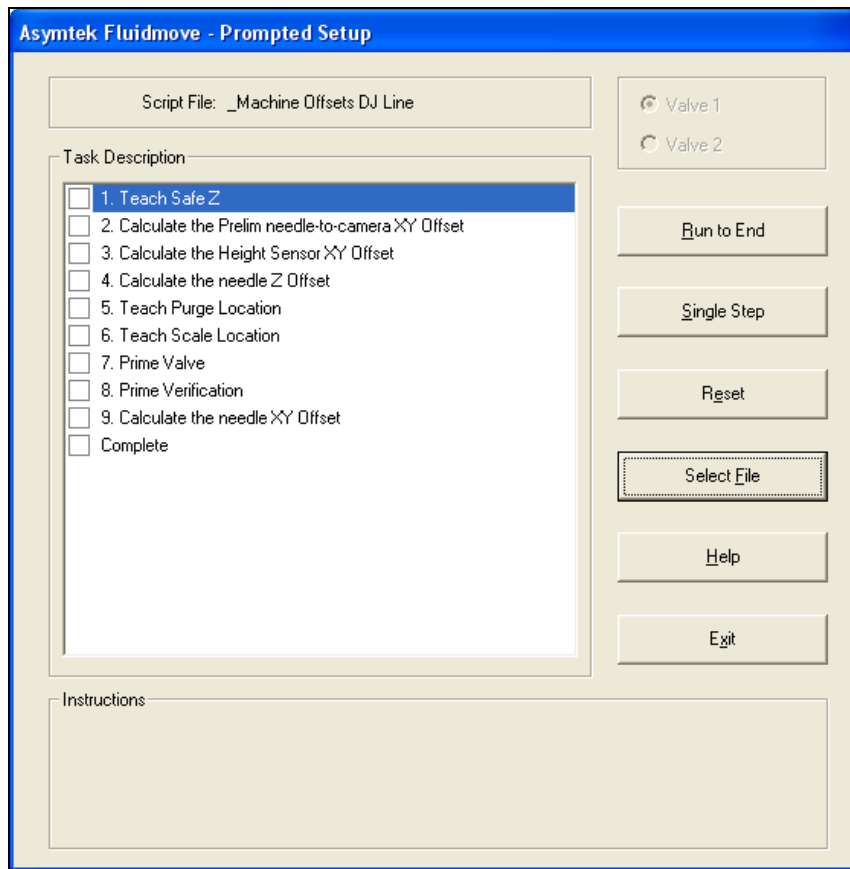


Figure 2-6 Prompted Setup

6. Verify that the "_Machine Offsets DJ Line" script file is selected.
 - ▶ The current script file is displayed at the top of the window.
7. If not, click on **Select File** and select it from the list.
8. Click on **Run to End**.
 - ▶ Fluidmove will prompt you through the setup task list.
 - ▶ Tasks are executed in the order listed.
 - ▶ A check mark will appear next to a task when it is finished.
9. When the Prime Valve task begins, the Vacuum Assisted Prime Window (Figure 2-7) opens. Perform the following steps:
 - a. Set "Move to" position to **1.5 mm** (0.06 in.).
 - b. Set "Start Vacuum for" to **2 sec**.
 - c. Set Prime for" to **15 sec**.
 - d. Set "Turn on Fluid Pressure after Jet has been on for" to **5 sec**.
 - e. Click on **Prime**.

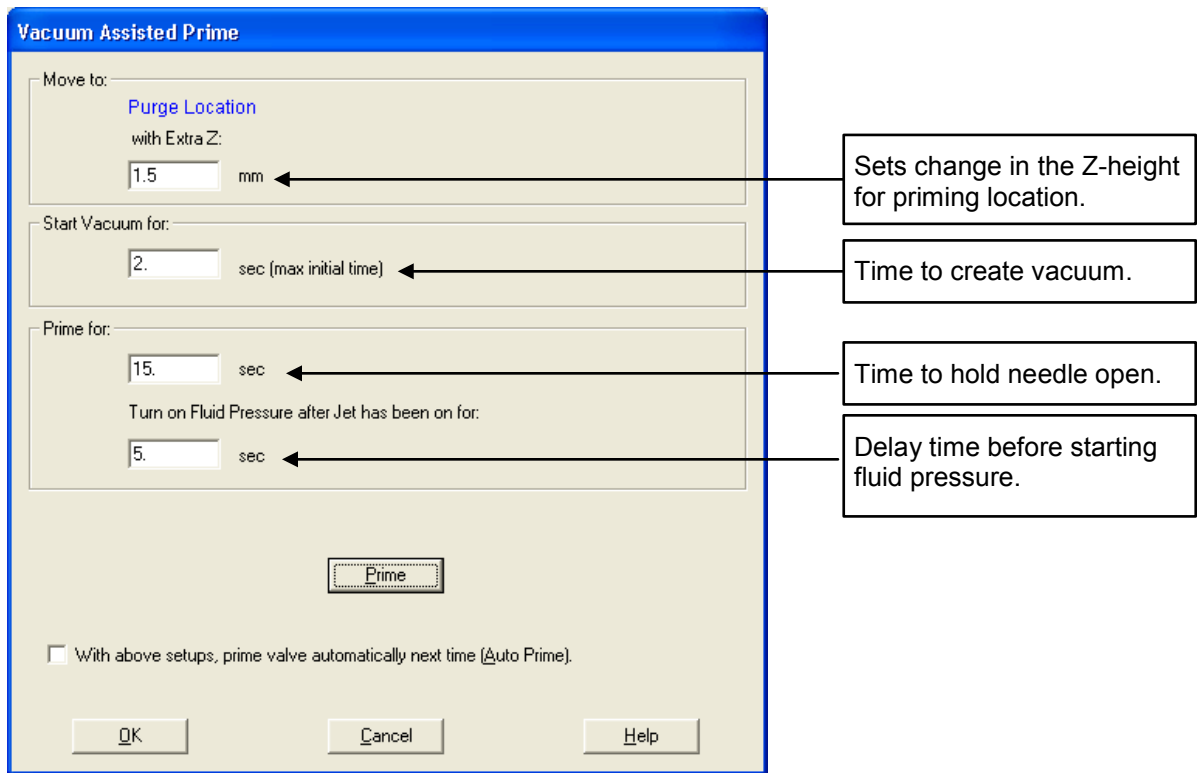


Figure 2-7 Fluidmove – Vacuum Assisted Prime Window



NOTES

The "Prime for" time and the "Fluid Pressure" time settings are influenced by fluid viscosity and nozzle size. The values of 15 and 5 seconds are default values.

Click the box next to **"With above setups, prime valve automatically next time (Auto Prime)"** to skip this step in the future. A checkmark appears in the box when it is selected.

- When the priming process is complete, Fluidmove will display the following message.

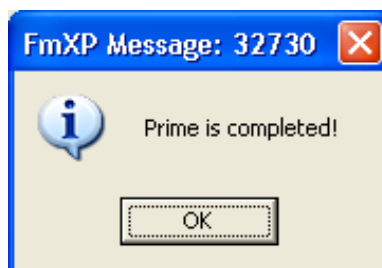


Figure 2-8 Fluidmove Priming Messages

- Click **OK**.
- When the Prime Verification window (Figure 2-9) opens, enter the desired time into the **Dispense Duration** field, enter the desired detection weight, and click on **Verify** to start the verification process.



NOTE

Prime verification is most effective when dispensing for a short duration and detecting a small amount. The values of 1 second and 1 mg are default values.

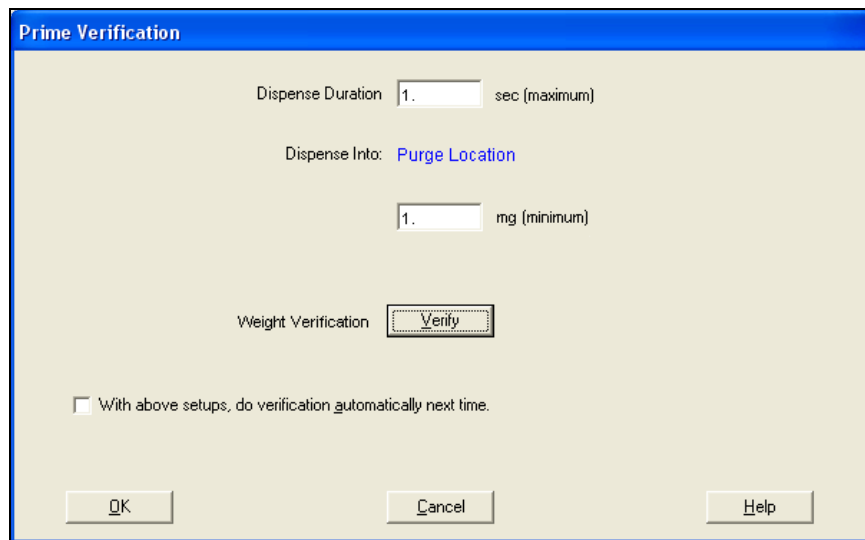


Figure 2-9 Prime Verification Window



NOTE Click the box next to "**With above setups, do verification automatically next time**" to skip this step in the future. A checkmark appears in the box when it is selected.

13. When the remaining tasks are complete, click on **Exit** to close the Prompted Setup Window.

2.3.1.2 Fluidmove Teach Window

1. Install a clean valve with a new feed tube and fluid syringe onto the dispensing system.
2. In the Fluidmove Main Window, click on **Teach a Program**.
 - ▶ The Fluidmove Programming Window opens (Figure 2-10).
3. Click on **Setup> Setup Scripts**.
 - ▶ The Run Script Window opens (Figure 2-11).

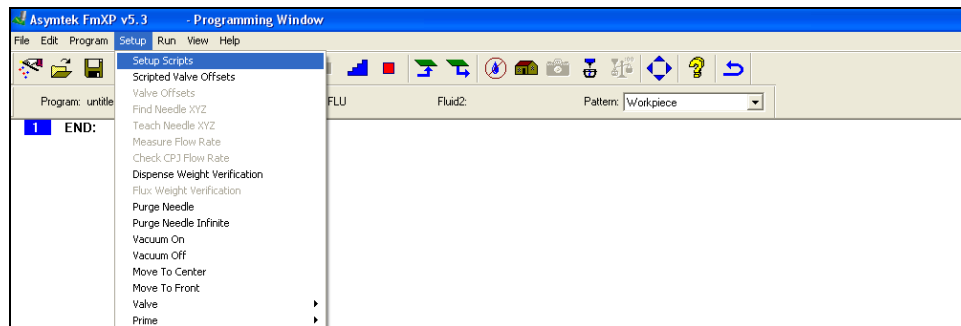


Figure 2-10 Fluidmove Programming Window - Setup Scripts

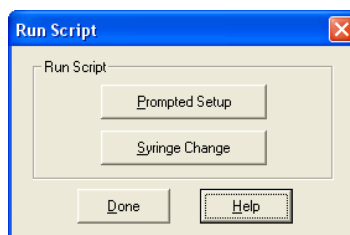



Figure 2-11 Run Script Window

4. Click on **Prompted Setup**.
 - ▶ The Prompted Setup Window opens (Figure 2-6).
5. Verify that the "_Machine Offsets DJ Line" script file is selected.
 - ▶ The current script file is displayed at the top of the window. If not, click on **Select File** and select it from the list.
6. Click on **Run to End**.
 - ▶ Fluidmove will prompt you through the setup task list.
 - ▶ Tasks are executed in the order listed.
 - ▶ A check mark will appear next to a task when it is finished.
7. When the Vacuum Assisted Prime Window (Figure 2-7) opens, perform Steps 9-13 under [2.3.1.1 Fluidmove Production Window](#).

2.3.2 Manual Operation

2.3.2.1 Fluidmove Production Window

1. Install a clean valve with a new feed tube and fluid syringe onto the dispensing system.
2. In the Fluidmove Main Window, click on **Run a Program**.
 - ▶ The Fluidmove Production Window opens (Figure 2-12).
3. Click on  **Setup**.
 - ▶ The Production Setup List opens.

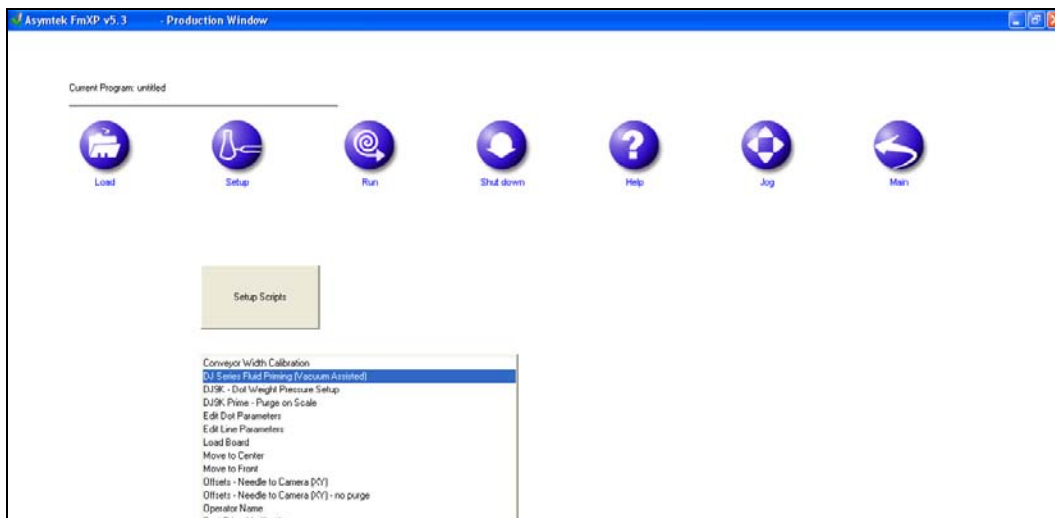


Figure 2-12 Fluidmove Production Window - Setup

4. Double-click on **DJ Series Fluid Priming Vacuum Assisted**.
 - ▶ The Vacuum Assisted Prime Window opens (Figure 2-7)
5. Perform Steps 9-12 under [2.3.1 Automatic Operation](#).



NOTE If the desired task does not appear on the drop-down list, you may add it by selecting **Configuration>Setup Scripts>Production Setup List>Add File** from the Fluidmove Main Window. For more information, refer to the *Fluidmove User Guide* or Online Help.

2.3.2.2 Fluidmove Programming Window

1. Install a clean valve with a new feed tube and fluid syringe onto the dispensing system.
2. In the Fluidmove Main Window, click on **Teach a Program**.
 - ▶ The Fluidmove Programming Window opens (Figure 2-13).
3. Click on **Setup>Prime>DJ Series Fluid Priming Vacuum Assisted**.

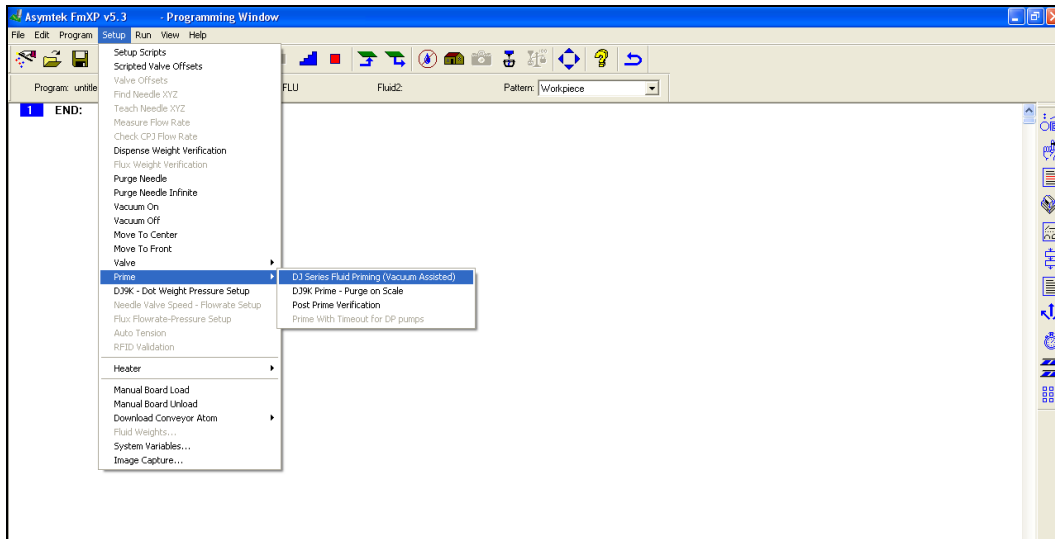


Figure 2-13 Fluidmove Programming Window - Setup Menu

- ▶ The Vacuum Assisted Prime Window opens (Figure 2-7).
4. Perform Steps 9-12 under [2.3.1 Automatic Operation](#) previously in this section.



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