

Magnus VLF Controlled Release 2.0

Readme/Release Notes

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Revision History

Revision	Date	Author	Comments
1.0	June 15, 2005	Gary Theobald	Initial draft
1.1	July 18, 2005	Gary Theobald	Additions for new MCE Main firmware
A	July 28, 2005	A.Blignaut	Edited (E.Sellers) and formatted

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1. IMPORTANT INFORMATION

Magnus® VLF Controlled Release (CR) 2.0 has a number of new features that are important to both Customer Services and Solutions (CS&S) and the customer. Familiarize yourself with this information before installing this controlled release.

1.1 Providing Feedback to Product Development

To ensure that these release notes are being read so that we can continue this trend (a number of people are involved in producing, editing, and publishing this document), please e-mail gary.theobald@creo.com after reading this document. Feel free to suggest changes to the format and quantity/quality of material.

1.2 Upgrading to CR 2.0

It is *recommended* for this controlled release that *all components be updated* to the Magnus VLF Controlled Release 2.0 level. Due to the scope of changes for Creo Feature Licensing, thermal head firmware changes, device firmware changes to solve the top 10 issues and other features, there is (as always) no guarantee that a partial install of this controlled release will be fully functional. A partial install of the controlled release constitutes a high-risk action and may result in future service visits.

1.3 Creo Feature Licensing for Service Shell Host Configuration TCP/IP Wizard and Service Shell Client Access

Service Shell's TCP/IP configuration portion of the Host Configuration wizard uses feature licensing with a service license. (More information is available in New Features—Host Configuration Wizard.)

Service Shell now uses Creo Feature Licensing's service license for access to the client without the use of a password. This is in addition to feature licensing of Service Shell's TCP/IP configuration portion of the Host Configuration.

CSEs will need a service dongle and/or service license for both cases. As well, Creo Feature Licensing and the Microsoft® .NET framework must be installed. (Both are included on the CR 2.0 CD.) Please read the information in New Features—Creo Feature Licensing.

1.4 Controlled Releases On Workstations

All MCE device servers shipped from Creo have had the controlled release contents copied to the folder **ControlledRelease** under the system drive name since Feb 27, 2004. The controlled release will be under a subfolder for that version—for example, **C:\ControlledRelease\2.0**.

When a CSE updates a CR at a customer's site, it is best practice to copy this new CR to this same folder under its controlled release version. This ensures that others (such as a service representative or another CSE) have access to the latest versions of software and firmware.

It is also best practice to delete the old CR after ensuring that the device is running correctly. This ensures that customers or third-party service cannot access versions of software that are not feature licensed, to downgrade and bypass security features implemented in newer CR packages.

1.5 Lock Panel functionality

Please note that the Lock Panel functionality from Print Console has been implemented to help in error recovery situations. More information is available about the feature and its benefits in Major Features and Fixes—Lock Panel Functionality.

1.6 Service Shell Version Checker

Although Service Shell Version Checker has been an integral part of controlled releases for some time, it has likely not received the attention that it deserves. Find Version Checker in the **Tools** menu of Service Shell Client. It is *mandatory* that the CSE who is installing the CR run Version Checker before and after a CR upgrade to show which software and firmware components need to be updated and/or are currently installed. Ensure that you have upgraded Service Host and Service Shell, as well as the device version configuration file provided with each controlled release, to ensure that you are checking against the latest controlled release version information.

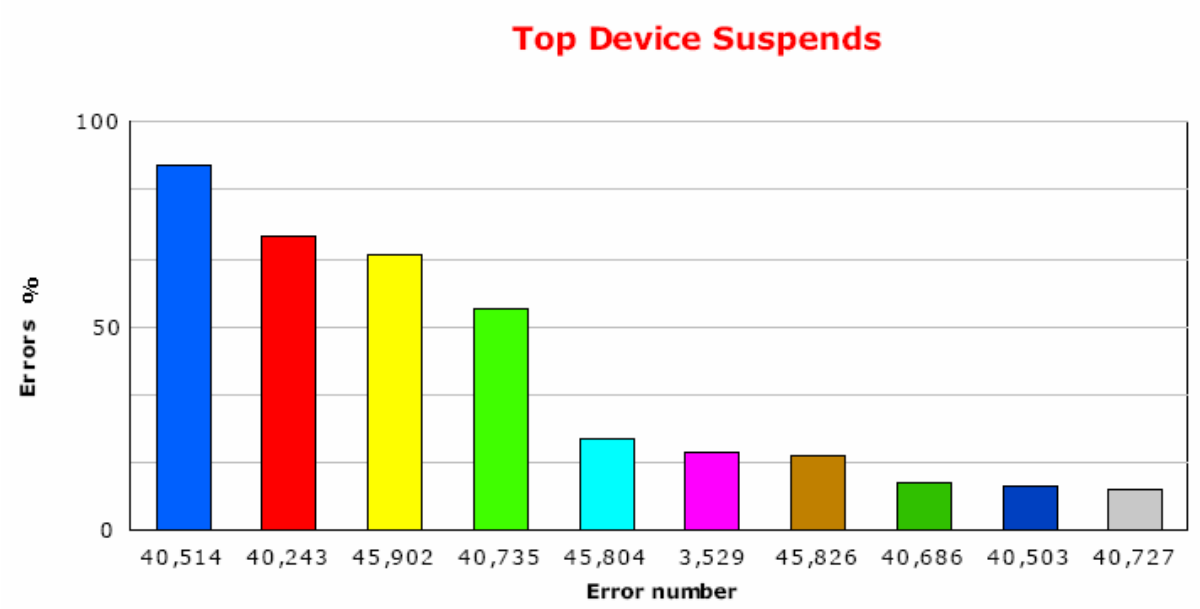
1.7 Enabling USB Ports on the Device Workstation

There was an issue with some workstations not having all USB ports correctly enabled. To ensure that all USB ports are correctly enabled, please ensure you follow the procedure Enabling USB Ports—709-00208A-EN-A-PR01.pdf in the **Release Notes** folder of the controlled release CD.

Note: If you are looking for ports to plug in service dongles, all GX version Dell® workstations (for example, GX270) have two USB ports on the front of the workstation underneath the light grey molded flip-up cover.

1.8 Top 10 Errors and Targeted Fixes

The top 10 errors reported over several months of Magnus VLF runtime have been reported as follows. Specific firmware fixes were targeted to help solve some of the errors reported next.



1. **40514** Load table failed to register plate

   This problem is maskable, or if not masked will retry three times before failing, as per the information in Major Features and Fixes—Registration Error Reduction.

2. **40243** Stepper motor did not reach the sensor it was searching for [REG_Sensor0]

   This problem is not maskable, but will retry three times before failing.

3. **45902** No plate was expected to be at the processor but one was found. Check for processor malfunction

   This problem is generally due to processor faults or operators manually removing plates. There is no fix for this error.

4. **40735** Registration continuity check failed

   This problem is maskable, or if not masked will retry three times before failing, as per the information in Major Features and Fixes—Registration Error Reduction.

5. **45804** Fetcher plate vacuum on/off timeout: Failed to arrive at sensor. [FET_SensorPVac]

   This problem is not maskable, but will retry three times before failing.

6. **3529** Error Code [03529] Failure of the focus learn

   DVP error reporting could help in this case, if the DVP has not been functioning correctly as per the information in Major Features and Fixes—Drum Vacuum Support.

7. **45826** There is no plate detected on the fetcher where one was expected. Plates in cassette 4 may be pinched by the side rails.

   No specific fixes are targeted for this error message.

8. **40686** Cannot actuate the leading edge clamp at the current drum position.

   This error is a suspend during the release from the "registration continuity check failed" error (#4). This problem is maskable, or if not masked, will retry moving the drum to the LEC position three times before failing, as per the information in Major Features and Fixes—Registration Error Reduction.

9. **40503** Load table left cups vacuum timeout: Failed to trip sensor. [LT_SensorLeftCupsVac]

   The load table cups will retry moving up and down three times before failing.

10. **40727** Registration failed

    This problem is maskable, or if not masked will retry three times before failing, as per the information in Major Features and Fixes—Registration Error Reduction.

2. CONTROLLED RELEASE PACKAGE INFORMATION

2.1 Component Information

Component	Version
Print Console	3.8.3.6
Service Shell	2.6.1
Creo Feature Licensing	2.1.5
License Definition Files	2.0.7
MCE firmware	1.08.18
MCE Xilinx	2.23
MCE Core Firmware Bundle	1.4
Thermal head 2.x firmware	1.05c
Brisque® Agent	1.00.057
Version config file	Magnus VLF.ini

CR SW kit: 634-00222A

CR CD only: 651-00128B

2.2 Device Qualification

The following devices have been qualified with this controlled release:

- Magnus VLF SemiAutomatic
- Magnus VLF ContinuousLoad
- Magnus VLF Multi-Cassette Unit

The thermal head 2.x has been qualified with this controlled release.

2.3 Limitations

- DEC® Alpha is not supported for Print Console.
- DEC Alpha is not supported for Service Shell.
- Older Dell® and Data General® workstations may have inadequate performance.
- Allegro™ Console is not qualified for Windows 2003.
- Brisque Direct Connection (GDAPI) with Magnus VLF F & V speed has inadequate performance. Brisque Screen2Go (S2G) is recommended.
- Inventory Assist and Processor Monitor Interface have not been qualified.

2.4 Dependencies

- Windows® 2000 SP2 or Windows 2003 operating systems on workstation
- LVD SCSI card or suitable converter on workstation
- Adequate performance achieved with Dell PowerEdge® 2600/2800 (1 GB RAM or greater)
- Internet Explorer 6 or later

2.5 Workflow compatibility

Workflow items are not part of the release but have been tested for compatibility. The controlled release has been tested with the latest released version of workflow and it is recommended that customers are brought to this level.

- Brisque Direct 4.1
  Note: If using Brisque 4.1, it is recommended to upgrade to 4.1.76 Output Update 5. See Important Information—Brisque Direct 4.x Customers and CR 2.0.
  Note: If using the Manual Load option, it is mandatory to upgrade to Brisque Agent 1.00.057 to enable this option correctly (if running Brisque Agent 1.00.053 and earlier).
- Brisque Direct 5.0
  Note: It is recommended that Brisque 5.0 is upgraded to Update 10.
  Note: If using the Manual Load option, it is mandatory to upgrade to Brisque Agent 1.00.057 to enable this option correctly (if running Brisque Agent 1.00.053 and earlier).
- Prinergy® 2.3 software
- TIFF Connectivity via Print Console 3.8 (Tiff Downloader)
- Allegro 2.1—TIFF Connectivity via Allegro Console
- CRI Workflows: Not available—CRI no longer supported with Print Console 2.1 and later

3. INSTALLATION/UPGRADING

3.1 Upgradeability

This controlled release has only been tested with upgrades from Magnus VLF Controlled Release 1.x. It is likely that upgrades from previous versions are possible, but they have some risk level.

3.2 Install/Upgrade Procedure

Total time: 3 hours (minimum)

Task	Time
Dependencies Review Dependencies before beginning.	
Patches Check the **Patches** folder and apply any patches as documented in the readme files.	
Creo Feature Licensing Ensure that the Microsoft .NET framework is installed. Ensure that USB ports are enabled. Install/upgrade Creo Feature Licensing. Install/upgrade license definition files.	0.5 hour
Service Shell Install/upgrade Service Shell—needed for checking head/MCE firmware versions and for downloading the new firmware. Ensure that the COM ports are configured correctly.	0.5 hour
Configure Host Device Run the host configuration from Service Host and configure to correct device model.	0.10 hour
Version Check 1. After installing the Service Shell client, start the Version Checker applet. 2. Click **Config**. A dialog box prompts you for the controlled release config file. 3. Locate the **VersionConfig** folder on the controlled release CD, select the version config file, and select **Evaluate > Yes**. 4. If a dialog box indicates that the device is not yet configured with controlled release version information, select **Configure System > Next**. Locate the **VersionConfig** folder on the controlled release CD, select the version config file, and click **Finish**. For more information about Service Shell, see the Service Shell support site on TechPlanet.	0.25 hour
Firmware Use the firmware upgrade script in Service Shell to back up parameters and download all new head, MCE Main, PDB, and	0.5 hour

GENINE firmware.	
Print Console Install/Upgrade Print Console.	0.5 hour
Workflow Brisque: No update necessary Prinergy: No update necessary	
Version Check After all firmware and software have been upgraded, use the Version Checker applet in Service Shell to evaluate all system versions. Ensure that Version Checker reports no errors.	0.25 hour
Functionality Check Check that the device and all applications are functional including loading and unloading of small, medium, and large media.	1.5 hours

4. MAJOR FEATURES AND FIXES

4.1 Cross Component Functionality

4.1.1 Print Console Lock Panel Functionality

Print Console and firmware now supports the **Lock panel(s)** option on the Print Console **Device** menu. This means that operators can now lock the device panels from the menu in Print Console. Error recovery messages asking the operator to unlock panels have been modified to also ask them to lock panels when finished or if an operator incorrectly or accidentally selects the **Unlock panel**. Previously, they had to open and close the panel to signal the firmware to lock it. Due to this new functionality, the door locks no longer autoengage after 60 seconds.

There are two reasons for the change. First, the door locks now work consistently for all error recovery operations where panels must be opened. In the past, there was a difference in the way the door locks were handled for error recovery that involved opening the slip sheet bin panels, and error recovery that involved opening the front hood. Second, in general, the operators were not aware that the machine autolatched the locks only after 60 seconds. This resulted in many nuisance error messages: `The door locks are not engaged, check the door locks`.

Note: This will affect the way operators use the device. The new functionality must be explained to them. If **Unlock panel(s)** was pressed, the operator must press **Lock Panel(s).**

4.1.2 Creo Feature Licensing

Creo Feature Licensing (CFL) is an effort to ensure consistent license practices across output devices (and other groups). CFL uses a combination of a service dongle, a customer dongle, and workstation license manager software to license software and firmware features. You can obtain licenses and dongles by following the procedures posted on TechPlanet.

Magnus VLF licenses two features—service usage of Service Shell Host Configuration TCP/IP wizard and service usage of Service Shell client without password protection.

Service Usage Licenses

You need the service dongle or a service license to run the TCP/IP configuration portion of Service Shell's 2.6 Host Configuration wizard and to use Service Shell client without password protection.

4.2 Print Console Functionality

4.2.1 Multiple Bay Functionality for MCE Devices

Print Console now supports MCE devices that have multiple bays. When Print Console detects that a bay is empty or does not have enough plates for a job, it will reassign the job to another bay that does have an adequate supply of the media required for the job. After depleting the bays containing the appropriate media, it will prompt the operator to reload the bays. When operators need to load a bay, they can do so without canceling the job.

4.2.2 Control the Amount of Job Information That Initially Appears

The new **Job Collapsed** and **Data Source Collapsed** features allow you to specify the level of detail that appears when a job is added to the Pending or Processed queues. If you do not want new jobs to enter the queues displaying all levels of information, you can select the **Job Collapsed** and/or **Data Source Collapsed** buttons to reduce the amount of information that is initially displayed. Information in the Active queue continues to be displayed fully expanded, so that you can monitor what is happening as a job is being processed. See the online help in the **General** tab of the **Preferences** pane for details.

4.2.3 TIFF Files Not Deleted Until Print Console Checks to See Whether They Are Referenced by Any Active Jobs

Files that are deleted from the **Pending** queue now move into the **Processed** queue. They will be deleted from the **Processed** queue only after Print Console confirms that they are not being referenced by any jobs.

4.3 Service Tools Functionality

4.3.1 Creo Feature Licensing and Password Protection

Service Shell client 2.6.1 is Creo Feature Licensed software. All client components are available without password restriction for users with Creo Service Licensing or Service Shell Customer Licensing.

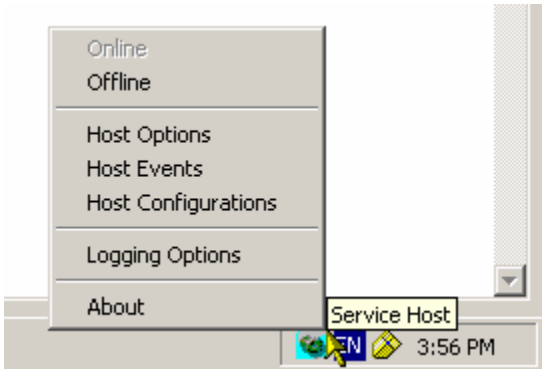
The Service Shell 2.6 SP1 client is password-protected but, as above, is disabled if Creo Feature Licensing (CFL 2.0) is installed with a valid service dongle or Service Shell client license. Otherwise, Service Shell client has four different passwords. You must enter the correct password to use the Service Shell SP1 client. The client remembers the password. When the current password expires, you are prompted to enter the next password. Each password is valid for six months. When all four passwords terminate, the Service Shell 2.6 SP1 client expires and you must use CFL service or a customer license to continue to use the software.

4.3.2 Bug Zipper

Bug Zipper includes up to 12 Print Console Event Logs. If there are more than 12, Bug Zipper includes only Event Logs created or modified within the past seven days.

4.3.3 Host Configuration Wizard

Service Shell 2.6 Host Configuration wizard allows you to automatically configure the device communication ports for your MPE/MCE device, as well as the TCP/IP configuration for an MCE device. You can access Host Configuration wizard by right-clicking the **Service Host** icon in the system tray of the workstation.



Host Configuration wizard also verifies and runs diagnostics for the COM port that you select, and displays a list of available COM ports. If problems are detected, an error message appears, giving you the option to resume configuration or cancel and select a different port.

Note: Due to an synchronization error between Magnus VLF firmware and Service Shell Host, auto detection of COM ports from Host Configuration wizard is not possible in this release.

MCE TCP/IP Configuration

TCP/IP configuration for MCE-based systems is now available in the Service Host Configuration wizard. This page is only available with a service license—see New Features—Creo Feature Licensing. Configuring the workstation port, MCE user, IP pool, and Remote Access Service (RAS) is automated, to simplify connecting an MCE device.

4.3.4 Versioner

Service Shell 2.6: Versioner is automatically scheduled software that collects and stores system configuration information that you can use to quickly troubleshoot a system problem. This includes information about the device, firmware, hardware components, and software.

Versioner checks versions against the Version Checker configuration. It is important to use the Version Checker applet to check the controlled release versions after the install/upgrade has finished. For more information about Version Checker, see Important Information—Service Shell Version Checker.

The Service Host Versioner software XML format file is updated with new fields that help you distinguish component types, such as workstation, operating system, and so on.

Versioner now waits for the firmware `POST` command to complete before issuing subsequent commands.

4.3.5 Thermal Head II Firmware Download Protocol Upgraded

The new protocols support Thermal Head II main firmware download on MPE- and MCE-based devices and issues the correct device type commands.

4.4 Firmware Functionality

4.4.1 Unload Table Tilt Error

For small drum machines, the middle backbone position was considered unsafe for the unload table to tilt, resulting in a deadlock when trying to recover from a safety loop error. The firmware has been updated to recognize the middle backbone position (horizontal load/tilted unload) as safe for unload table motion.

4.4.2 Registration Error Reduction

There are three aspects to this, as described next.

Registration Retries

All aspects of the registration system now make three attempts to register the plate on the pins before returning an error.

Bypassable Registration

It is now possible to bypass various registration checks. There are four checks for registration for an automatic device: the initial load table search for registration, the check after applying preload, the check after handoff to the engine, and the check while closing the LECs. The last three checks can all be bypassed. This is accomplished by setting *mh EnableRegCheck*. The

value for this NVS can be obtained by adding up the contribution numbers from the following table.

The default value for this NVS is 6 (LEC off reg check disabled):

LT search for registration reg check enabled	0	+
Handoff to engine reg check enabled	2	+
Post preload reg check enabled	4	=
		6

Registration Check	Failure Error	EnableRegCheck Contribution
LT searching for registration	40243	0 (this check cannot be bypassed)
LEC off reg check	40735	1
Handoff to engine reg check	40727	2
Post preload reg check	40514	4

Load Table Registration Hold Current

Due to the force required to achieve and maintain registration, the load table stepper has a difficult time holding the plate securely against the registration pins. The firmware now applies a full current hold whenever the plates are touching the registration pins, reducing the chance that the load table traveler gets pushed back, causing registration errors.

4.4.3 Drum Vacuum Support

Drum vacuum is now fully supported, including suspending for error conditions. The *mh DrumVacOffThresh* likely must be reset to the new default of 275. Support was also added for the drum vac dump valve option for 0.150 mm plates. The dump valve option can be enabled using *mhauto hardwareconfig*.

Note: The dump valve option also needs hardware support.

4.4.4 Device Configuration Procedures

Setting Up a Model (Head/Drum Type)

The config command is used to determine the model type. For customers with small drum devices, it is advisable to configure the model properly to prevent operators from loading media that is too large for the machine to handle.

1. **access dev**
2. **config <password> <model code>**

Available models:

MCEDM	Magnus VLF Default Model (Premium)
MVLF_LE	Magnus VLF (Large Drum) Entry Model (Performance)
MVLF_SE	Magnus VLF (Small Drum) Entry Model (Performance)
MVLF_L	Magnus VLF (Large Drum) (Premium)
MVLF_S	Magnus VLF (Small Drum) (Premium)

4.4.5 Configuring the Device Options

Manual vs. Automatic

For autoloading devices (MCU or CL), the following option must be enabled—if the option is not enabled, the firmware assumes a manual device:

option autoloader enable

Multi-Cassette Unit (MCU) vs. Continuous Load (CL)

For an MCU device, the following option must be enabled—if the option is not enabled, the firmware assumes a CL device (note: the MCU option requires that the Autoloader option be already enabled):

option mcu enable

Large Drum vs. Small Drum

For large drum devices, the following option must be enabled—if the option is not enabled, the firmware assumes a small drum:

option largedrum enable

Portrait Mode

If the device supports portrait mode (dual edge detects used to calculate rotation), the following option must be enabled:

option portrait enable

Note: Portrait mode is not the same as portrait orientation. The device will be able to handle and image media in portrait orientation without the portrait option set.

Dual plate

For dual-plate (six-pin) devices, the following option must be enabled—if the option is not enabled, the firmware assumes a single-plate (four-pin) device:

option dual-plate enable

Machine Orientation

For right-to-left machines (as determined by the flow of media through the device from the MCU to the side processor eject, when standing in front of the machine), the following option must be enabled. If the option is not enabled, the firmware assumes a left-to-right device:

option righttoleft enable

Zstage

If the device has a Z-stage installed and the customer wants to use it, the following option must be enabled:

option zstage enable

Rotator

If the device has a rotator installed and the customer wants to use it, the following option must be enabled:

option rotator enable

101 degree load angle

If the device has the 101 degree load hardware installed, the following option must be enabled:

option 101degreeload enable

Processor interface

If the device has the processor interface installed and the customer wants to use it, the following option must be enabled:

option processorinterface enable

4.4.6 Device Calibration Procedures

Load Calibrate

The load calibrate command is used to calibrate the engine. This includes calibrating the backbone positions, the balance weights, and the load table plate length sensors:

1. Accurately measure the mainscan size of the plate to be used for the calibration.
2. Type `load calibrate manual <mscan> <sscan>` where `mscan` is the measured mainscan size of the media. (The subscan size of the media does not have to be accurately represented.)

When prompted by the device, follow the load instructions (manual vs. automatic dependant).

4.4.7 Variable Slip Sheet Bin Maximum Level

A new NVS, *mhauto SSBinFullLevel*, has been added that allows sites to adjust how many slip sheets can fit into the bin before the firmware registers that the bin is full. This value is also used to drive the percent full slip sheet bin lights. This value is a linear distance of slip sheet (subscan) measured in millimeters that constitutes a full bin. The default and maximum value for *SSBinFullLevel* is 210820 mm, which is 100 maximum-sized slip sheets (83 inches).

4.5 Thermal Head Firmware

4.5.1 Improved Error Messaging

To facilitate easier debugging, we implemented the following changes in firmware version 1.05c:

- When reporting errors on new MCE platforms, return the original error, instead of translating the message into a system-level error. This means that we will see the actual focus error, instead of `Failure to configure focus driver.`
- When an error is translated, provide more detailed information. We have always provided additional details about the error translation when error-level verbosity was enabled in the new subsystem. Now, we provide additional details when error-level verbosity is enabled in either the old or the new subsystem. We also print out the original error message in the TH2 monitor window.

4.5.2 Change Redirection Mode Reporting

The thermal 2 command `redirect info` displays the current redirection mode for the thermal 2 head. Redirection modes include disable, enable, and pass.

4.5.3 Add Correction to Reduce Head Creep

Head creep is a phenomenon that occurs in some heads, reducing the quality of the beam profile. Head creep occurs over time, and is linked to laser power and laser on time. We can reverse this effect and increase head life by applying beam correction when the laser is off.

To prevent creep, the head applies several seconds of beam correction for every second that the laser is on. Because we need to apply so much beam correction, it is very important that the machine is powered on when not in use—for example, overnight and on weekends. Powering the device off may result in insufficient beam correction, which could lead to reduced head life.

Three parameters control automatic beam correction. They are all located in the LVD block:

- The first parameter—*beamcorrfactor*—allows you to specify the number of beam correction seconds for each second that the laser is on. The default value is 5. By setting *beamcorrfactor* to 0, you can disable automatic beam correction.
- The second parameter—*beamcorrtime*—specifies the amount of beam correction time that we have accumulated. You should never change this parameter during normal operation.

- The third parameter—*beamcorrvolts*—specifies the voltage to use during beam correction. The default value is 40. You should never change this parameter during normal operation.

Some heads may continue to exhibit creep even when beam correction is enabled. This may be because the head usage is too high to allow adequate correction, because of the type of images generated, or because the device is powered down when not in use. To facilitate beam correction on these heads, we have implemented a manual correction mode. This correction mode is much faster than the automatic mode. However, during manual correction, the device is reserved and the laser is powered on.

One parameter controls manual beam correction. It is located in the BBS block.

- The *beamcorrpos* parameter specifies which head pixel is used to evaluate the level of creep. The head will default to use the highest pixel in the beam. In some cases, creep may be more prevalent on another pixel. If other testing indicates that this is the case, then you should change *beamcorrpos* to the worst pixel. The pixel must be an even number, with a minimum value equal to stroke offset and a maximum value equal to stroke width + stroke offset - 2.

To enable manual correction, type:

```
TH2 > eng
TH2 > sys correct on
```

The head will begin by measuring the magnitude of the creep that is present. This will take approximately five minutes. If no creep is present in the head, then the head will return the following message:

```
No correction required, exiting.
```

Otherwise, the head will proceed with correction. This will take many hours. In extreme cases, it may even take days. Every hour, the head will return a progress message, indicating how much time is lapsed, and approximately how much time is remaining.

Please contact your local or remote support specialist before starting this procedure.

When the correction is complete, the head will return the following message:

```
Correction complete.
```

The head will exit rapid correction.

At any time, you can exit manual correction by typing:

```
TH2 > sys correct off
```

Following manual correction, you should reset the device and then leave the device idle for approximately 15 minutes. This will allow the head to recover from the correction, and ensure that a beam balance is performed on each media before plotting. Beam balance is essential because manual correction will cause the profile to change considerably.

4.5.4 Enforce Strict Image Mode Matching

Thermal 2 heads do not use narrow mode for Staccato® imaging. Instead, if any images require different parameter settings, we use different media slots. To distinguish between two otherwise identical slots with the same name and color, we use the MED *imagemode* parameter. When matching media slots with the host, we look for slots with the same name, color, and image mode value. Previously, we did not force the host and head slots to have the same image mode. Starting in version 1.05c, we do enforce strict compatibility between the host and the head.

4.5.5 Provide Meaningful Hotlink Self-Test Feedback

During the hotlink self-test, you can query the status and monitor performance using the host command `hotlink status`. Unfortunately, the data returned was not useful or valid in the context of the self-test. To allow more meaningful feedback, the MCE platform was updated to return new, valid output data to the user.

4.5.6 Improve Parameter-Handling for Script Responses

Service Shell timeouts, and communications problems between the head and the host, were causing slow script responses and occasional head resets when executing `prm diff` and `prm write` commands. These issues have been resolved in firmware version 1.05c.

5. MINOR FEATURES AND FIXES

Fixes and smaller features are documented in component release notes, available in the **Release Notes** folder and on the component install folder on the controlled release