# Buildstation 4.1.1 Software Release Notes

## Introduction

3D Systems is proud to announce Release 4.1.1 of the Buildstation Software. This release runs under the Microsoft Windows™ NT operating system and provides many desired features and enhancements over Buildstation 4.0. These include:

- Implementation of the SmartSweep™ recoating system hardware upgrade option that sweeps just where your parts are and not over the entire vat.
- Laser power control enhancement to optimize drawing speed based on the cure depth of the vector being drawn.
- Significantly improved build time estimator.
- New Field Service menu assists customers in moving from DOS 1.8 to Buildstation 4.1.1 / NT 3.51 and is a diagnostic tool for 3D Systems Field Service Personnel.
- Build file verification to ensure that all of your build files are SLA ready.
- User interface design enhancements to make SLA utilization even easier.
- Improved diagnostic logging to allow better troubleshooting.
- Comprehensive bug fixes that improve all aspects of operation over Buildstation 4.0.

Additionally, Buildstation 4.1.1 incorporates a much simpler installation procedure. Due to the extensive differences between Buildstation 4.1.1 and the DOS-based Buildstation Software releases 1.7.4 and 1.8, refer to the Buildstation User Guide for a detailed description.

# Recommended Configuration

Buildstation 4.1.1 was tested with Windows NT version 3.51 operating system and PC-NFS for Windows NT version 2.1 and 2.2, and DiskAccess 3.01. Buildstation 4.1.1 is not recommended for use with any other versions of Windows NT or PC-NFS for Windows NT. The following is the minimum required configuration for your control computer:

- 80486 CPU based controller
- 16 MBytes of RAM
- 500 MBytes hard drive with at least 100 MBytes of free space
- 3.5" floppy drive
- CD-ROM drive
- Network adapter card (3COM 3C503, 3C509, 3C590 or 3C900) as provided with your SLA.
- Keyboard, Monitor, and Mouse

# Enhancements & New Features

## SmartSweep™

SmartSweep is a new feature that optimizes recoater blade sweep time, and in Buildstation 4.1.1 it is completely transparent to the user. This feature requires a specific hardware upgrade. SmartSweep determines the extents of the part geometry on a layer by layer basis, then sweeps the recoater blade only over the areas of the extents plus a safe distance to avoid any blade shadow. The calculation of the extents is performed at the start of each layer. **Please note, as the geometry of the part changes, the blade will continue to sweep with the previous geometry for approximately 0.200 of an inch in the Z- direction of the new geometry.** This happens when changing from larger geometry extents to smaller geometry extents and is required to ensure that no disturbance of previously drawn layers occurs.

## Draw Speed Ceilings (Formerly known as Max Draw Speed)

The Max Draw Speed option within the Build Job Parameters section of the build screen has been changed to Draw Speed Ceilings. This function now has 2 numerical entries, B (border) and H (hatch). The border and hatch entries correlate with the improvements within the maximum drawing speed algorithm and the new feature Smart Power (smart laser power). Smart Power uses the border draw speed ceiling to limit the maximum draw speed of border vectors. Smart Power also uses the hatch draw speed ceiling to limit the maximum draw speed of hatch and fill vectors independently of the border draw speed ceiling. The following chart provides recommended draw speed ceilings:

| Machine | Border Vector Draw Speed Ceiling | Hatch & Fill Vector Draw Speed Ceiling |
|---|---|---|
| SLA-350 | 50 inches/second | 120 inches / second |
| SLA-500 | 100 inches / second | 200 inches / second |

## Build-Time Estimator

An improved build-time estimator has been included with Buildstation 4.1.1. The build time estimator reviews the entire build file and combines this with information about machine performance to provide a build time estimate. The build-time estimate is displayed in the Build Status section of the build screen when the estimate is complete. The estimate displayed will normally be within +/- 10% of the actual build time in most cases. In addition, if an asterisk appears after the estimate, the build time estimator is ignoring a build option. For example, the build time estimate displayed during a preview will show an asterisk to indicate that the build time estimate is calculated for a true build in which profiling, hatching, elevator movement, etc. are used. The build-time estimator no longer updates continuously during part building.

## Build File Verification

This new feature reviews the build file as it is being loaded for part building. The review consists of checking for closed loop layers and verifying that complete recoating and overcure information is included in the build file. This feature is enabled/disabled in the Setup pull down menu under the Customize... entry.

## Change for ACES (Hatch Draw Speed Calculations)

This feature applies to the way draw speeds of vectors are calculated. There are two different equations used to determine the draw speed of a given vector. One equation is meant to be used for border and hatch vectors, the other equation for use with fill vectors. Fill vectors are meant to overlap, so their drawing speeds are influenced by the cure depth contribution for the neighboring fill vectors.

Thus 2 equations for determining the drawing speed:

- Draw-speed equation intended for overlapping vectors
- Draw-speed equation intended for non-overlapping vectors

In releases prior to Buildstation 1.8 and 4.0, the distinction as to which equation to use was made solely on whether a vector was a border (non-overlapping), hatch (non-overlapping) or fill (overlapping) vector.

Advancements in drawing styles eventually made this simple distinction more difficult. For the drawing styles employed prior to the advent of ACES drawing style, the spacing between hatch vectors was always so large that they never overlapped each other. With a drawing style like ACES, however, not only do hatch vectors overlap, but they overlap on purpose.

ACES draw styles were originally released when software did not recognize the fact that hatch vectors could overlap. Therefore, to overcome the deficiency in deciding which equation to use, the ACES styles were released with “adjustments” to the parameter values, to account for the choice of equations. This applies to ACES for the SLA-500. Since the SLA-350 had no existing styles that would be “broken” by changing the equations, Buildstation 1.8 and 4.0 incorporated code that chose different draw speed equations for the SLA-350. Buildstation 4.1.1 now makes the SLA-500 hatch calculation equation consistent with that for the SLA-350. Included in Maestro 1.9.1 are the appropriate SLA-500 ACES build style files. The parameter changes include Hatch Overcure, Pre Dip Delay and Z Level Wait values. If you are not using Maestro 1.9.0, please update your build style files in accordance with Appendix A.

## Event Log

Build preview events are no longer included in the Event Log. The Event Log is accessed in the View pull down menu.

## Telephone Dialog

The Telephone dialog box and function have been enhanced for more robust operation. The dialog box now allows you to input up to three telephone numbers to call for build completion and three telephone numbers to call for build failure. Input for number of retries and the time between retries can also be controlled. The Telephone dialog box is accessed through the Telephone icon or the Setup pull down menu.

The modem is now dialed by way of “Remote Access Service,” which must be installed for proper operation.

## Toolbar Buttons

Buildstation 4.1.1 toolbar buttons have been enhanced to make them easier to use. A Restart button was created for the Build toolbar. This function performs the same function as the Restart check box in Buildstation 4.0. The Restart button uses the Restart value under the Build Job Project section of the build screen.

The popular Elevator Home, Stir resin, Adjust resin volume, Level resin and Elevator to start position buttons were added to the Main Motion toolbar. These buttons perform the same functions as the pull down menu items of Buildstation 4.0.

## Other Build Screen Enhancements

### Build Job Options

The Build Job Options section of the Build Screen has been reorganized for clarity. This includes renaming the check options, adding the Smart Power check box and removing the Restart check box. The Restart function has been added to the Build toolbar as a button, as well as to the Build menu.

## Build Screen

Double clicking in either the Build Job Parameters section or the Build Status/Image sections of the build screen causes that section to dominate the whole display or revert to the standard split screen.

## Build Status

The Build Status section of the build screen has been reorganized. Much of the information displayed in the Buildstation 4.0 Build Status section was redundant with other sections of the build screen, and was removed to simplify the display.

## Image

The Image section of the Build Screen has been enhanced for easier viewing on an 800x600 display. The percentage Complete display bar was resized to fit on this type of view image.

## Machine Type

The Machine Type button and dialog box are new to Buildstation software. This option, which is available only when Buildstation 4.1 has been installed as Desktop, enables you to change the machine type for simulation. The Machine Type button is located near the bottom left corner of the build screen.

## Part Copies And Part Position Dialog Box

The Number of Copies field is now display-only. You can no longer use this field to specify the number of copies of the part to be placed on the build platform. To control number of part copies and placement, click the Edit Copies button or click the build platform image on the Build screen.

The part position dialog box appears, with the part extents (X and Y) graphically represented by a rectangle. The box will be located in the image window, which represents the dimensions of the vat and the relative position of the part in the vat.

You can use this window to add, remove, and reposition copies of parts on the build platform.

### Adding Parts to the Platform

The system displays the minimum number of parts that you can place on the platform. This is always 1, by default. The system also displays the maximum number of parts you can place. This number will vary, depending on part size and the amount of spacing specified between parts. The placing of parts on the platform depends on user-specified options. For example, if Auto Position is selected, parts will be equally spaced out on the platform. If Auto Position is not selected, parts will be stacked at the origin.

There are several ways to add parts to the platform. You can add several at once using the Number button, which lets you specify the number of parts you want on the platform. You can also add parts one at a time, using the add button. In this method, parts are placed using system parameters for placement and spacing. These parameters can be user specified. Instructions for specifying these parameters are included in a separate section of these instructions.

To add several parts at once:

1. Click on the Number button.

The Number of copies dialog box will appear. This dialog will contain the currently selected number of parts and will display the minimum and maximum values.

2. To change the part to the minimum number, click the Minimum button. To change the part to the maximum number, click the Maximum button. To enter a particular number of parts, click on the number in the edit window and replace it with the required number of parts. You cannot specify fewer than 1 part or more than the system-determined maximum number of parts.

3. Click the OK button to set the number of parts. To cancel setting the number of parts and return to the Build screen, click the Cancel button.

If you attempt to specify fewer than 1 or more than the maximum-allowed number, an error message appears. To resolve the error condition, click OK on the message window and specify an appropriate number of parts.

To add parts one at a time:

1. Click the Add button or press the “Insert” key.

In both methods, the system places parts according to placement options and spacing parameters as set in the Customize dialog box

### Adding Parts with Auto Position Off

If you add parts with auto-position off (unchecked) parts are added at the XY origin of the vat. They will appear to “stack up” one on top of the other. If you leave them there, they will build one on top of another and your build will not be successful. Instead, you must position the parts manually on the platform. Follow these steps:

1. Click on a part with the right mouse button.

2. Hold the right mouse button down and drag the part to its new location

3. When the part is where you want it on the platform, release the mouse button.

### Adding Parts with Auto Position On

If Auto position is selected, the system places parts on the platform in one of two ways: either in rows across the center of the vat or in a square pattern in the center of the vat. To change the way the system places parts:

1. Select Customize from the Setup menu.

2. Select either Prefer Rows or Square Pattern from the Customize dialog box.

### Deleting Parts from the Platform

To delete parts, select the part by clicking in it. Either click the Delete button or press the Delete key on the keyboard. Parts are deleted one at a time with either of these methods.

### Controlling Spacing

To control the spacing for all parts on the platform, click the spacing button. The system displays the current between-part spacing. To change the spacing, click in the edit window and change the spacing value to the desired amount. Note that spacing will be the same among all sides of all parts on the platform. You cannot specify different spacing for individual parts or groups of parts.

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NOTE: You can manually place parts with Auto Position ON, but adding or deleting a part from the platform will reposition all parts. To prevent this, turn OFF Auto Position when manually placing parts.

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### Moving Parts on the Platform

Regardless of how system parameters are set, you can manually place parts on the platform in any configuration which suits you, as long as you don't exceed platform space capacity.

To move parts on the platform:

1. Click on a part with the right mouse button.

2. Hold the right mouse button down and drag the part to its new location.

3. When the part is where you want it on the platform, release the mouse button.

To uniformly position parts that you may have placed manually or moved, click on Auto position. The system will position the parts as specified in the Customize dialog box.

### Verifying and Changing Part Position

To verify or change XY position of a part using its coordinates, click on it. Its Index number and its coordinates will display. The index number functions like a counter. It "counts" parts from the XY origin of the vat. For example, the part closest to the XY origin is number 1, the next closest is number 2, and so forth.

### Suppressing Parts from a Build

To temporarily suppress a part from a build, highlight the part to be suppressed and click the Suppress button. The display will reflect the selected part with a red "X" through it. Parts with "Xs" will not be included in the build.

To unsuppress a suppressed part, select it and click on the Unsuppress button. The part will be restored and included in the build or the build preview.

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NOTE: If a part is suppressed after a build is started and paused, it cannot be unsuppressed.

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## Setup Pull Down Menu

The Setup pulldown menu contains the following enhancements:

The addition of "Field Service..." menu is being provided ONLY for the purpose of:

- Customers who are currently running DOS 1.8 and are upgrading to NT 3.51 with Buildstation Software Release 4.1.1. SEE THE INSTALLATION INSTRUCTIONS FOR THE STEP BY STEP PROCEDURE.
- Diagnostic and troubleshooting performed by 3D Systems Field Service personnel, or by customers who have been instucted by 3D Systems Customer Support personnel on what to do.

PLEASE NOTE THESE ARE THE ONLY SITUATIONS IN WHICH "FIELD SERVICE..." IS TO BE ACCESSED.

SLA Performance Characteristics has been added to allow viewing of this information. The build time estimator function uses this information about machine performance in calculating the estimated build time.

Two new log types have been added to ease troubleshooting, Sensor Logs and Laser Log. The Sensor Logs function as with Buildstation 4.0, while the laser logs provide detailed information about laser performance for troubleshooting laser problems.

The Logging ... selection contains two useful options; a Purging Menu for purging Build Log and Event Log information as these files grow too large; and a TGP Laser Logging Group Control option for enabling the different machine logging capabilities and to display the name of the current laser log file.

The Customize option of the Setup pull down menu contains the following enhancements:

- Two patterns for automatically positioning multiple parts can now be selected, Prefer Rows (to optimize build times on machines with SmartSweep) and Square Layout.
- An enable/disable check box for build file verification, Verify Build Files.

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NOTE: If the build envelope is 19.6 inches or greater in X or Y, turning off “Strict Part Positioning” in this menu can allow the part to build.

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## SmartLaser Power

SmartLaser Power (SLP) is a feature that provides significant time savings. When SLP is enabled, the Buildstation software calculates the power that meets the maximum border/hatch speed criteria at the beginning of each layer. Previously, a single maximum laser power was used for all layers. This sacrificed time, because vectors that require greater cure depths take longer to draw than vectors with smaller cure depths,

The SmartLaser Power dialog has been added under the main setup menu. This feature is helpful in certain situations where a manual override of the maximum commanded laser power value (mW) may be necessary. The user or applications engineer (AE) has access to this menu **during** a build to make adjustments if necessary.

There are a number of reasons why access to laser power might be required:

- As the age of a high-power laser increases, it may be advisable to decrease the amount of power normally commanded by the software to help alleviate stress on the laser. This may happen particularly with the gas lasers for the 500/30H and 500/40.
- An AE can easily insert power values for a new laser installation.

This procedure may save you from having to call for Field Service assistance.

To adjust to a more stable laser power, do the following:

1. "Laser Control" of the gas laser will display "CUR" (which represents current regulation mode).

2. The Action field of the Build screen will display "commanding power xxx (where xxx represents laser power). The xxx value will continue to change until "LRM" (which represents light regulation mode) is displayed on the Laser Control of the gas laser.

3. Once the xxx value has stabilized in the "action field", make note of this value.

4. Go to the Field Service menu and select the Smart Laser Power option.

5. Enter the value noted in step 3 in the Power Limit box on the Smart Laser Power dialog. Note that the software will prohibit entry of a mW value beyond the maximum capability of the laser for a particular model. The default value depends on the laser type.

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**NOTE**: The purpose of the Power Limit field is to prevent laser damage. Build speed is controlled with the Max Border Speed and Max Hatch Speed settings in the buildstation software.

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6. You can also specify Power Tolerance by entering a percentage value between 0 and 100. The default value is 5. This tolerance will give the program some leeway as it experiences slight changes in laser power. If the Power Tolerance is too small, then the software will constantly "hunt" for the correct power and waste time during the build. If the Power Tolerance is too large, then the max draw speed constraints will

not be honored. That is, the error in the draw speeds is proportional to the error in the laser power. Increase the Power Tolerance with older lasers whose power readings tend to vary more than 5%. Reducing the tolerance below the 5% default is not recommended.

## View Pull Down Menu

Toolbar display/hiding has been enhanced in the View pull down menu to include the following:

Logo, which is the 3D Systems logo display.

Build. Although not new, the Build Toolbar has been simplified to contain only buttons pertaining to part building, restarting, previewing, aborting or pausing a build.

Main Motion, which contains only the most essential motion control buttons.

Other Motion, which contains the remaining motion control buttons previously available in the Buildstation 4.0 motion toolbar.

## Notes and Warnings Listing

Buildstation 4.1.1 uses a different algorithm for centering parts than the DOS-based Buildstation Software. Hence, you should avoid starting builds in one operating system and restarting (or using Start On Layer) in the other.

On the SLA-350, Buildstation 4.1.1 uses a different algorithm for setting the laser power than the DOS-based Buildstation Software. As a result, your machine may provide a different power when the laser is first turned on in Buildstation 4.1.1.

Beam and Movebeam, while still provided in Buildstation 1.8, cannot be used on the SLA-350 or on an SLA-500 with a Pentium control computer. Use Feild Service or ServDiag to perform the Beam and Movebeam functions.

All logging ( except event logs ) is done in text files, which can be viewed with any text editor. Event logs can be viewed from the View / Event Log menu item.

## Remote

Remote allows build status checking at a remote site. Remote.exe is utility software provided with Buildstation 4.1.1 that connects a remote computer to a SLA machine over the network to view the current build status of parts.

Remote is a tool for listening to messages transmitted by the SLA machine over the network. The SLA produces this broadcast at one second intervals, unless network broadcasting is disabled by the user at the SLA. Accessing this broadcast is similar to tuning a radio to a radio station. Remote can tune into this channel from anywhere on the network. The channel identification must be supplied when Remote is activated. Without the channel identification Remote will not know where to tune. The channel identification is the name or IP address of the SLA machine to which you are trying to connect. Remote supports multiple SLA machines and remote listening sites. There two main roles in the remote operation:

- Source - The SLA machines that are broadcasting on the network.
- Remote - The Remote application that is listening to the broadcast of interest.

## Source Setup

Buildstation 4.1.1 must be running in order for the broadcast to take place. If the machine is idle, it still broadcasts the status. The broadcast can be disabled if desired using the Buildstation 4.1.1 Setup and Customize... pull down menu.

## Remote Operation

IMPORTANT: Remote and Source must be in the same network domain. Remote must run on Windows NT. Remote will not run on any other operating system.

Use File Manager or the Program Manager of Windows NT to run remote.exe. Remote will ask for a channel id. The channel id is the machine name which is broadcasting the information on the network.

If the broadcast is available and after entering the channel id, Remote will begin displaying the broadcast information.

Selecting the cancel button will abort Remote application.

The following defines each of the Remote window parameters shown:

| | |
|---|---|
| **Machine status:** | This field will be either "Idle" or "Build In Progress". If this field is "Idle" then none of the following field will be valid. |
| **Job name:** | The current job name |
| **BFF file name:** | The current BFF file being built. |
| **Action:** | Last action that was taken by the Buildstation. |
| **Job status:** | Completion of the job under way, in percent. |
| **Start time:** | When this job was started. |
| **End time:** | When this job will be finished. (estimate ) |
| **Start layer:** | The start layer for this job. |
| **On layer:** | Current layer being processed on the build station. |
| **End layer:** | End layer for this job. |
| **Power** | Current buildstation laser power in mW, as measured at the vat. |

If selected channel is not broadcasting, the Remote window will not display anything.

Remote window can be set to always be displayed on top of all other windows by selecting Always On Top from the Options pull-down menu. Re-selecting the same menu item will disable this option and Remote window will no longer be the top most window on the display.

## Command Line Options

The channel ID can be specified as a command line parameter. This feature can be used to create program items in the Program Manager.

### Mover

Mover, an interface used to copy machine-specific parameters from DOS-based Buildstation Software to Windows NT Buildstation 4.0, is no longer necessary with Buildstation 4.1.1. This utility should be deleted. DO NOT USE MOVER PROGRAM UNDER ANY CIRCUMSTANCES!!! If you are currently running a DOS version of Buildstation (1.74 or 1.8), refer to the Installation Instructions and refer to the step by step procedure to move from DOS to Buildstation 4.1.1 / NT 3.51.

## Known Software Issues

Known software issues are described in Appendix B.

## APPENDIX A: ACES DRAW SPEED CALCULATION CHANGE

RESIN SPECIFIC PARAMETERS

SL 5180

| Build Parameter Description | SLA-500/40 ACES | SLA-500/20, /30 & /40 ACES |
|---|---|---|
| Layer Thickness | 0.10 mm (0.004 in) | 0.15 mm (0.006 in) |
| Hatch Type | Box | Box |
| Hatch Spacing | 0.10 mm (0.004 in) | 0.10 mm (0.004 in) |
| Layer Offset Depth | not applicable | not applicable |
| Layers from Bottom No Fill | not applicable | not applicable |
| Layers from Top No Fill | not applicable | not applicable |
| Thick Skins | not applicable | not applicable |
| Min Skin Width | not applicable | not applicable |
| Staggered Hatch | ON | ON |
| Alternate Sequencing | ON | ON |
| Retracted Hatch | start point: 0<br>end point: 0 | start point: 0<br>end point: 0 |
| Fill Type | X & Y | X & Y |
| Fill Spacing | 0.10 mm (0.004 in) | 0.10 mm (0.004 in) |
| Border Overcure | 0.175 mm (0.007 in) | 0.175 mm (0.007 in) |
| Hatch Overcure | 0.000 mm (0.000 in) | 0.000 mm (0.000 in) |
| Fill Cure Depth | 0.187 mm (0.0075 in) | 0.187 mm (0.0075 in) |
| Beam Compensation | ON | ON |
| Beam Compensation Value | 0.15 mm (0.006 in) | 0.15 mm (0.006 in) |
| Auto Z-Correct | ON | ON |
| # Layers | automatically calculated | automatically calculated |
| Additional Borders | not applicable | not applicable |
| Double Border Compensation | not applicable | not applicable |
| Minimum Width for Fills | 0.10 mm (0.004 in) | 0.10 mm (0.004 in) |
| Recommended X & Y Shrink Factor | 1.0020 | 1.0020 |
| Recommended Z Shrink Factor | 1.0010 | 1.0010 |

| Support Build Parameter Description | SLA-500/40 ACES | SLA-500/30, & /40 ACES |
|---|---|---|
| Layer Thickness | 0.10 mm (0.004 in) | 0.15 mm (0.006 in) |
| Support Spacing | 10.0 mm (0.400 in) | 10.0 mm (0.400 in) |
| Border Overcure | 0.175 mm (0.007 in) | 0.175 mm (0.007 in) |

| Recoat Parameter Description | SLA-500/40 | SLA-500/40 Trapped Volume |
|---|---|---|
| Pre Dip Delay (PR) | 50 sec | 50 sec |
| Z Level Wait | 10 sec | 10 sec |
| Number of Sweeps | 1 | 3 |
| Blade Gap Percent***<br>Layer Thickness 0.10 mm<br>Layer Thickness 0.15 mm | <br>250<br>250 | <br>200<br>167 |
| Sweep Velocity | 50mm/sec**<br>(2 in/sec) | 25 mm/sec<br>(1 in/sec) |
| Z Dip Velocity | Normal | Normal |
| Z Dip Distance | 0 | 0 |

| Recoat Parameter Description | SLA-500/20 and /30 Non-Zephyr | Supports |
|---|---|---|
| Pre Dip Delay (PR) | 50 sec | 15 sec |
| Z Level Wait | 25 sec | 15 sec |
| Number of Sweeps | 1 | 0 |
| Blade Gap % | 140 | not applicable |
| Sweep Velocity | 50 mm/sec (2 in/sec) | not applicable |
| Z Dip Velocity | Normal | Normal |
| Z Dip Distance | 6.35 mm (0.25 in) | 5 mm (0.2 in) |

## APPENDIX B: KNOWN SOFTWARE ISSUES

| KNOWN ISSUES | COMMENTS |
|---|---|
| 1. In "Choose Resin" dialog under the Setup menu, be certain that the system blade gap value matches the actual blade gap.<br><br>When changing resin, you must exit and re-launch Buildstation 4.1.1. | **Information Only**. |
| | |
| 2. When multiple copies are specified, the view screen is drawn that same number of times. | **Information Only** - this is normal behavior |
| | |
| 3. At times the job name selected will not be displayed correctly in the title bar. | **Information Only** - will not interfere with the overall build. |
| | |
| 4. Suppressed copy information is not necessarily saved if the program crashes. | **Information Only** |
| | |
| 5. Zooming feature has a scaling issue where zooming on one view only can cause the view to be positioned and drawn incorrectly. | **Information Only** |
| 6. Opening the chamber door during resin leveling causes the application to hang. No error message is displayed. | **Workaround** - Avoid opening the chamber door during resin leveling**.** |
| | |
| 7. Resetting the system clock during a build may cause the system to hang | **Workaround** - DO NOT reset system clock during a build. |

| KNOWN ISSUE | COMMENTS |
|---|---|
| 8. If a part is moved completely off the top of the platform in the "part position" window a "Purge Part Offset Cache" error occurs followed by a program crash if you attempt to preview or build. | **Information Only** |
| | |
| 9. Until an axis is homed at a known position, the values are shown as "relative", suffixed with an "R". This occurs in the **"Motion Control"** menu under SETUP and on the status bar at the bottom of the Buildstation screen. | **Information Only** |
| | |
| 10. The Remote function does not recognize if a .bff file has been renamed. | **Information Only** |
| | |
| 11. "Start Time" field in the Build Status section displays the time when a build is started. A different start time is then displayed when the first layer is drawn.<br><br>The first time a user pauses and then resumes a build, the start time displayed returns to the original build start time. | **Information Only** |
| | |
| 12. If you exit Buildstation and immediately attempt to relaunch Buildstation by clicking on the WinSLA icon, "Failure to open mailslot" may appear. This is followed by a dialog box saying "Operation has been completed successfully". Program operation is not affected. | **Information Only.** Waiting 5 seconds before restarting Buildstation will prevent this message. |
| | |
| 13. When a part is being restarted, there is the potential for the top of the part to be flooded with resin and for recoating not to occur. The result is the first "restart" layer is drawn on a mound of resin. | **Workaround** - This will not happen if the user answers "No" to the Initialize Elevator prompt and "No" to the Adjust Resin prompt. |

| | |
|---|---|
| 14. Resin leveling may take a very long time when the vat is a long way from “home” (near the level position). | **Workaround** - Abort the build and click OK. Click Start or Restart to continue. |
| | |
| 15. “Other Motion” and “Telephone” toolbars are disabled when exiting Buildstation. | **Workaround** - Users must enable them (if desired) each time Buildstation is started. |