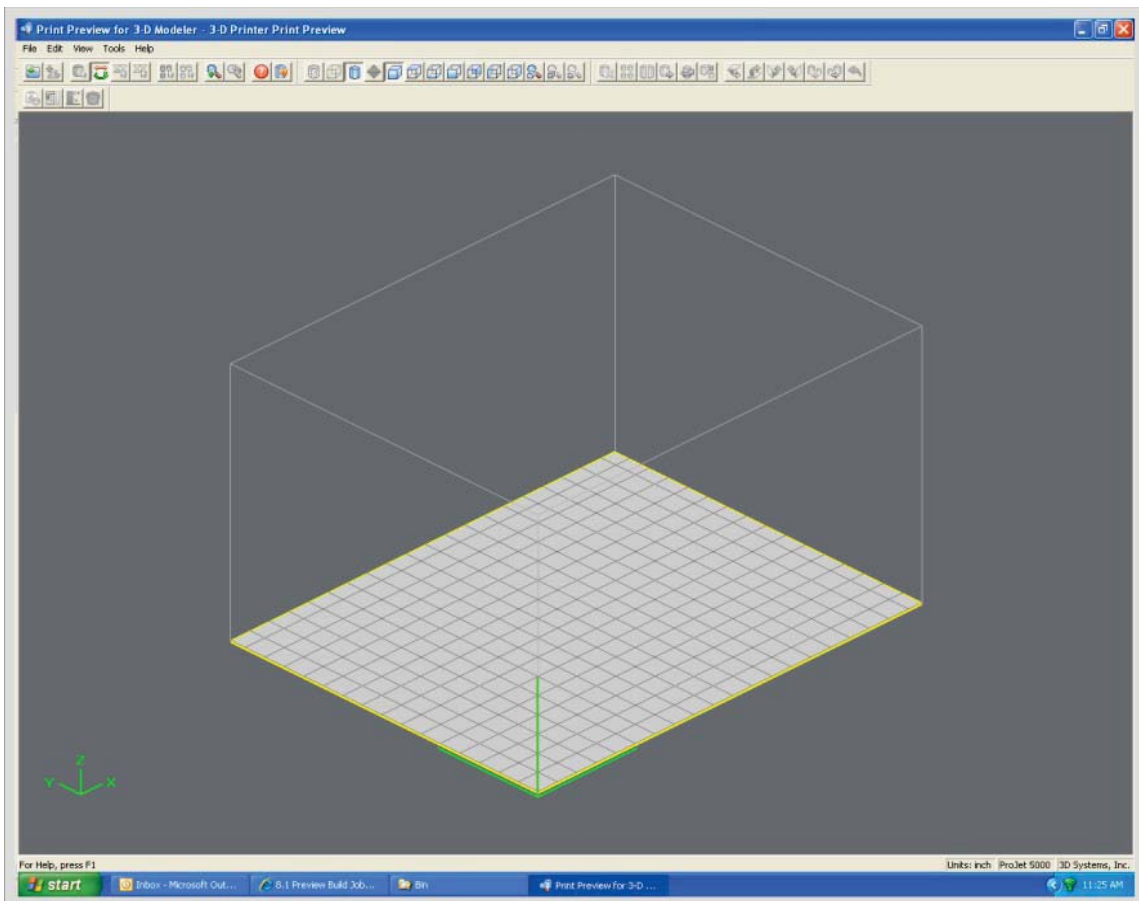


17 OPERATIONS

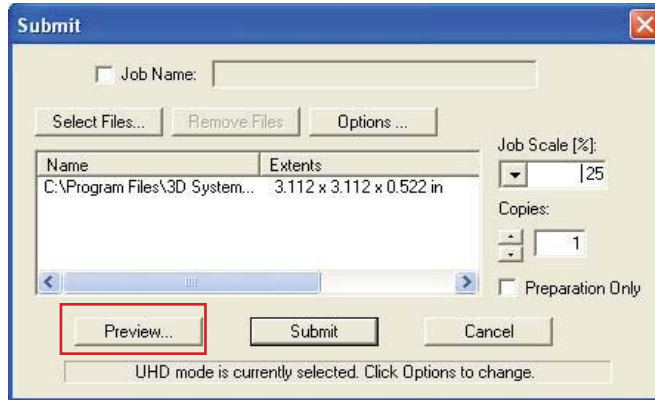
This section provides information on Previewing, Saving, Submitting, and Managing jobs through the touchscreen and 3-D Client Software. In addition this section describes how to remove the build platform, how to empty the waste drawer and how to shut down the printer.

PREVIEW BUILD JOB

Print Preview allows you to view your print in various views; it also allows you to manipulate your print while viewing an image of your print in the build envelope.



- Click Preview button on the Client's Submit dialog box. At least one part must be added for build in the Submit dialog box before able to preview.



- Highlight a Job Name in modeler's Info window, click Preview button or choose Job > Preview. When the preview window opens, STL files can be added and removed, parts can be changed, rearranged, and submitted. The modified jobs can be sent directly to the printer's queue.
- The following are descriptions of each icon in print preview and their function.

Icon Tool Functions	Description
Add Part	Add a STL or CTL File. The system displays a file browser dialog box which you can use to select one or more parts. Select open on the dialog box to add part to the print preview platform.
Part Selections, Translation, Rotation	Move parts in specified X and Y axis as well as in the X,Y coordinates. The parts must be viewed in top, bottom left or right to manipulate them.
Submit Job	See "Submit Job" section to understand how this function is used to submit a job. Once a job is submitted it can be manipulated in print preview.
Trackball View	Change the platform viewing area. Normal dragging (with the left mouse button pressed down) rotates the viewing area. When using the right mouse button, the build envelope can be dragged around within the viewing area.
Triangle Selection	Select one or more individual triangular facets on parts. Afterwards, press the shift key while clicking. If you select more than one facet on a single part, that part will not be reoriented when you use the align facing button. You may find it easier to select specific triangles if viewing parts as wire frame. The 2-D views may also help find the triangles that you want to select.
Align Parts Facings	Instead of manually rotating parts, you can select a triangle on the part and have the system align the part until the selected triangle faces a desired direction: up, down, the X-Z axis or the Y-Z axis. Select a triangle using the triangle selection tool, the align facing buttons become enable. Click the align part icons to rotate the part until the selected triangle faces the selected direction. Triangles can be selected on several parts before clicking an align Parts Facing icons so that all parts can be aligned together.

Icon Tool Functions	Description
Auto Part Placement	This tool arranges parts for optimum build speed. Select the parts and click on auto place. The parts will automatically arrange in the build envelope.
Part Selections, Translation, Rotation	Move parts in specified X and Y axis as well as in the X,Y coordinates. The parts must be viewed in top, bottom left or right to manipulate them.
Submit Job	See “Submit Job” section to understand how this function is used to submit a job. Once a job is submitted it can be manipulated in print preview.
Trackball View	Change the platform viewing area. Normal dragging (with the left mouse button pressed down) rotates the viewing area. When using the right mouse button, the build envelope can be dragged around within the viewing area.
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Align Parts Facings	Instead of manually rotating parts, you can select a triangle on the part and have the system align the part until the selected triangle faces a desired direction: up, down, the X-Z axis or the Y-Z axis. Select a triangle using the triangle selection tool, the align facing buttons become enable. Click the align part icons to rotate the part until the selected triangle faces the selected direction. Triangles can be selected on several parts before clicking an align Parts Facing icons so that all parts can be aligned together.
Deselect all Triangles	Use the deselect all triangles to deselect the triangular facets on parts.
Select all / Deselect all	Select a multiple parts; the parts will high light once selected. To manipulate parts on the platform, select the Bottom View or Top View icon. When using Deselect all icon, all parts on the platform will become stationary
Zoom / Undo Zoom	Zoom in on the parts incrementally to enlarge until they fill the viewing area. Click and hold the mouse button until and drag across the area that you wish to zoom in on for part detail. Click on the undo zoom button continuously, the build envelope will reduce incrementally until they are at the normal viewing area.
Selected Part Information	Click on the selected part information icon to display the part’s information dialog with details about the currently selected part.
Wire Frame Display	Using a wire frame allows visualization of the underlying design structure of a part
Bounding Box Display	A bounding box for a set of objects is a cuboid that completely contains the set.
Shaded Display	Using a Shaded Display allows visualization of the solid design structure of a part. When using the wire frame display, toggle back to the Shaded Display to view the solid design.
Display Support Creation Surface	Select the part and click on the Display Support Creation Surface to identify where the supports are placed on the part. The support structure will be high-lighted green. Use the trackball to rotate the platform to view structure.

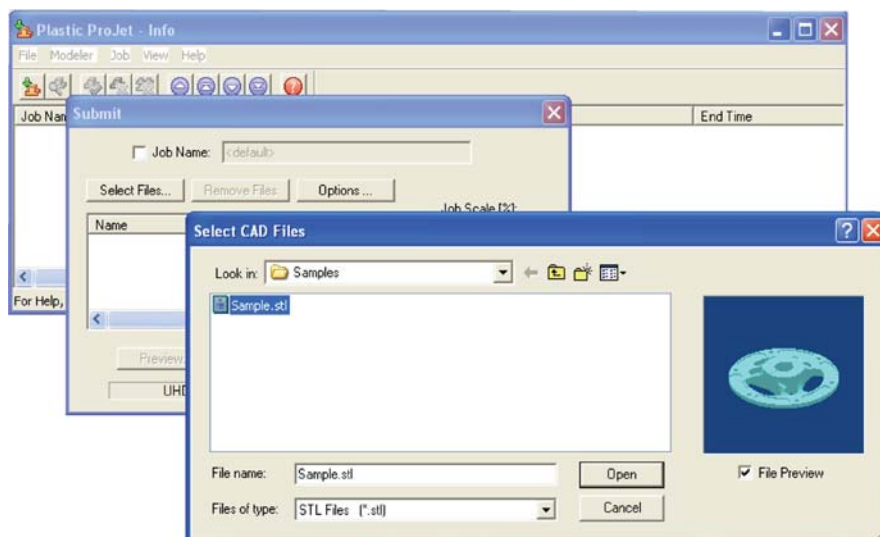
Icon Tool Functions	Description
Isometric, Top, Front, Back, Left Side, Right Side	Various view point of your part. Top and bottom views allow you to move the selected parts on the build envelope.
View Platform and Parts	This predefined view zooms the view to include the entire build envelope and all the parts on the platform..
View All Parts	View all parts display the parts, and enlarges them as much as possible omitting empty portions of the build envelope.
View Selected Parts	View selected parts enlarges the selected parts until they fill the viewing area.
Delete	To delete a part / parts from the platform, select a part using the “Select part” or “Select all” tool and then click the delete icon to delete the selected part / parts.
Copy	To copy a part, select part and click on the copy icon. A dialog box will appear asking for the number of copies and the distance between them. Enter the number of copies and distance, click Apply to generate the copies. .
Mirror	To create a mirror image of one or several parts, select the parts and click the mirror icon; the dialog box will appear. Choose an axis around which to mirror the part, and a separation distance, click Apply.
Translate	Use the translate part dialog box to move parts by entering inch values. The dialog box allows relative movement (parts are moved from their current location in specified X and Y axis) as well as absolute (parts are specified in the specified X,Y coordinates).
Rotate	Select the part to rotate and click on the rotate icon. Use the dialog box to rotate the degree amount in Y,X,Z directions in the maximum of 180°. .
Scale	Parts can be scaled by percentages either by isometric meaning all axes get the same scale factor or differently in each axis. Select one or several parts and click on the scale icon; the dialog box appears. Enter a scale value, then click the apply. Scale values are absolute. A value of 100% always returns the object to its original scale; 200% is always twice the size of the original.
Align Parts Facings/ Align Parts Facings/ Align Parts Facings/ X-Y Align Parts Facings/ Y-Z	<p>Instead of manually rotating parts, you can select a triangle on the part and have the system align the part until the selected triangle faces a desired direction: up, down, the X-Z axis or the Y-Z axis.</p> <p>Select a triangle using the triangle selection tool, the align facing buttons become enable. Click the align part icons to rotate the part until the selected triangle faces the selected direction. Triangles can be selected on several parts before clicking an align Part icons so that all parts can be aligned together.</p>
Scale mm to inch / Scale inch to mm	<p>The parts unit can be changed from millimeters to inch by dividing 25.4 into the part measurement or change from inch to millimeters by multiplying 25.4 to the part measurement.</p> <p>Select the part and click Scale to inch icon. A dialog box will ask if you want to proceed with the modifications; select “Yes” to proceed with the parts unit changes or select “No” to discontinue.</p>
Undo	Click the undo icon to bring part back to its previous state after changes have been made.
Verify	Verification detects and fixes problems in the STL. Also individual STL part can be verified by selecting it and then clicking the Verify icon.
Auto Part Placement	This tool arranges parts for optimum build speed. Select the parts and click on auto place. The parts will automatically arrange in the build envelope.
Estimate Build Time	Click on the estimate build time icon to estimate the time it will take to build the part.

SAVE A PRINT JOB

- Prepare and save build job(s) on your computer. Later, submit the job, skipping preparation steps. A saved job is specific to your computer and can only be built or deleted from that specific computer.
- Click on a Printer icon in 3-D modelers window to open printer's Info window.



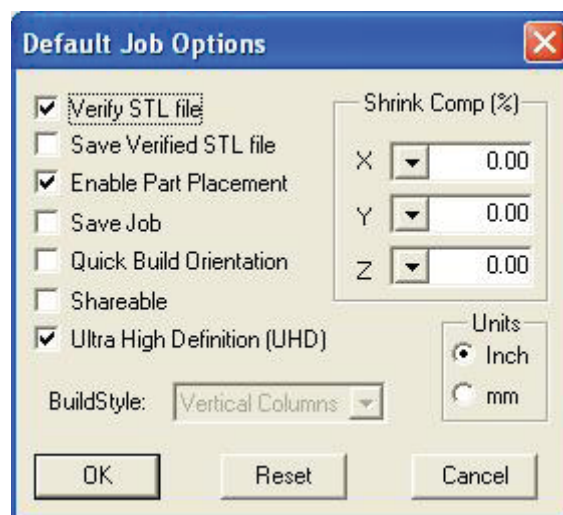
- Select Job name to be saved.
- Choose Job > Default Options



- In the Default Job Options, select Save Job, then click OK.



Note: After submitting jobs to modelers' queue, it cannot be saved unless Save Job was selected. When a build job with the Save Job option enabled reaches Pending status, another job (with the suffix "s") is added to the queue. For more information see Saving, Repeat, and Confirming Build Jobs in your ProJet® Client online Help for more information.



SUBMIT A PRINT JOB

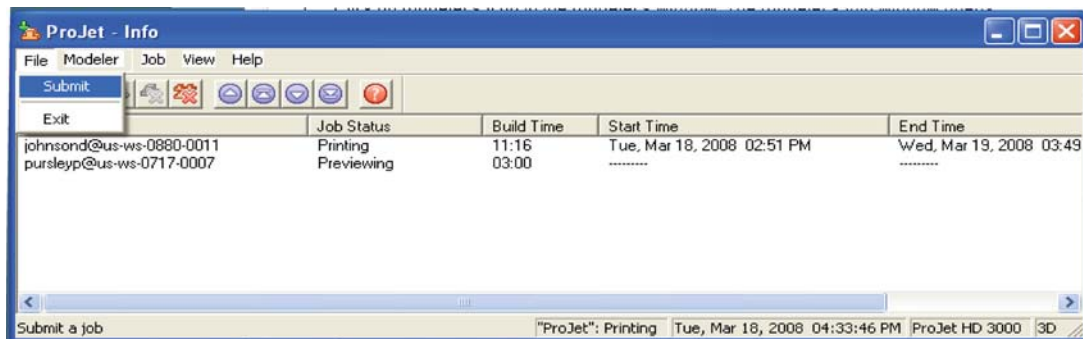


NOTE: Make certain the modeler is Off-Line during the job submittal process. Place the modeler on-line after the job is submitted.

- Click on the printer's icon in the modeler's window. The printer's Info window opens.



- In printer's Info window, click Submit to open Submit dialog box.

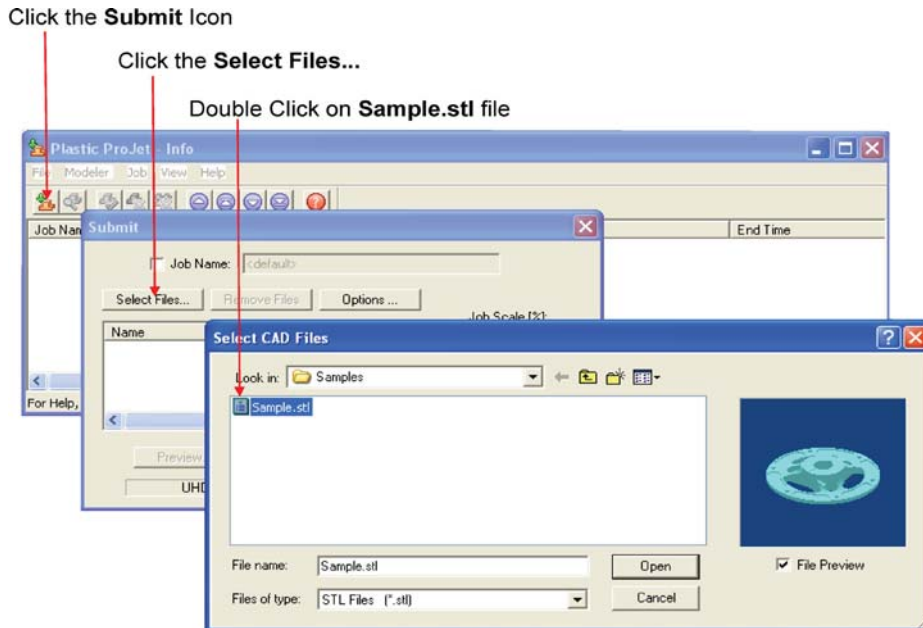


- Click Select Files on the Submit dialog box to add one or more parts to the build job.

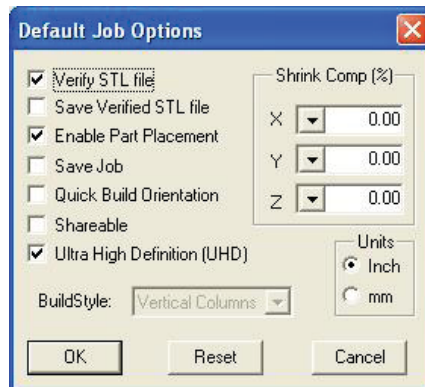


NOTE: More than one STL file can be selected at a time.

- In Select CAD Files dialog box, hold down the Ctrl key and click on several STL files. Add parts in Preview window. After you have added at least one STL file, use Preview window to view build jobs in three dimensions, and to add more STL files if desired. Sample STL files are in the \3-D Modeling Client\Samplesfolder.



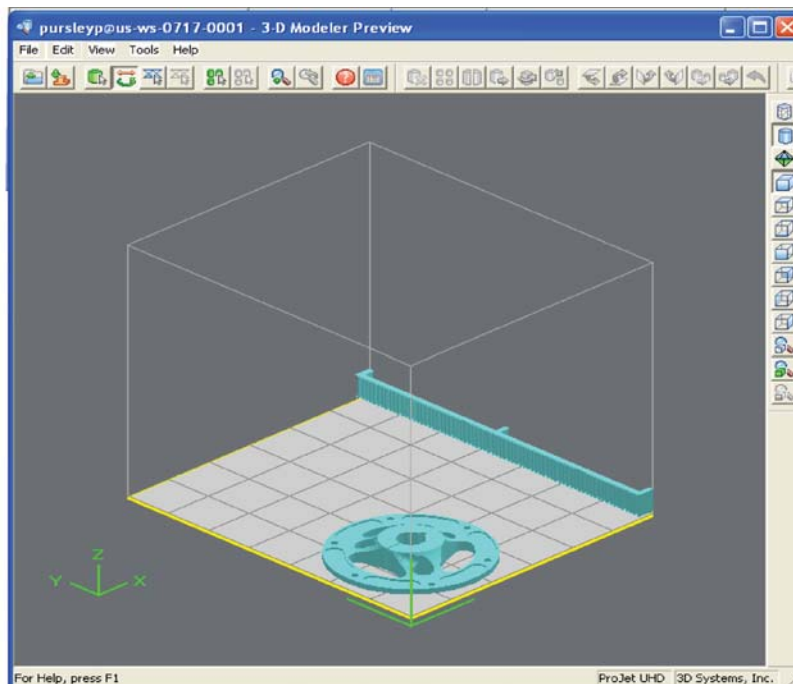
- Browse files in Select CAD files window. When files are selected, file names appear in build job parts list of Submit dialog box.
- Click Options button on Submit dialog box. The Default Job Options dialog box appears.



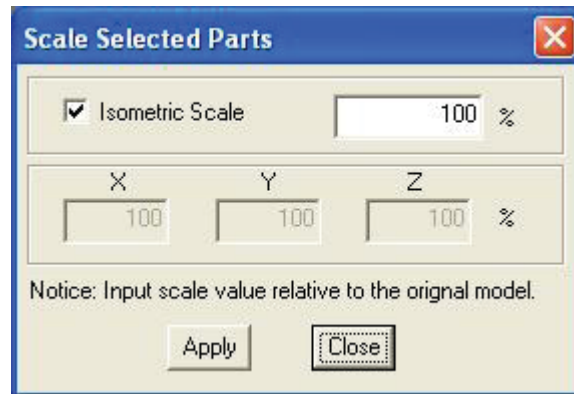
- Change or reset values, such as Build Style, Shrink Comp (%), and Units. (See “**Default Job Options Dialog Box**” in the 3-D Modeling Client online Help for job options definitions.)
- Parts shrink in X and Y. The degree of shrinkage depends on part geometry. To improve part accuracy, apply the X, Y, and Z Shrink Comp (%) values then measure your parts and refine these values. Refer to 8.10 Shrink Compensation for ProJet® VisiJet® Materials.
- Click Preview on Submit dialog box. If the file you are trying to preview is beyond the threshold of a certain file size, the system will automatically access the Bounding Box Display feature. See **Section 8.1 Preview Build Job** for details.



- Manipulate parts interactively in the Preview window's virtual printer 3-D build workspace.



- If required, re-size all parts in build job by the same scale factor, enter a Job Scale % in the Submit dialog box before clicking Submit. To re-size some of the parts of your job, use Edit > Scale in Preview. (See the topic “**Previewing Print Jobs > Scaling Parts**” in your ProJet® Client online Help for instructions.)



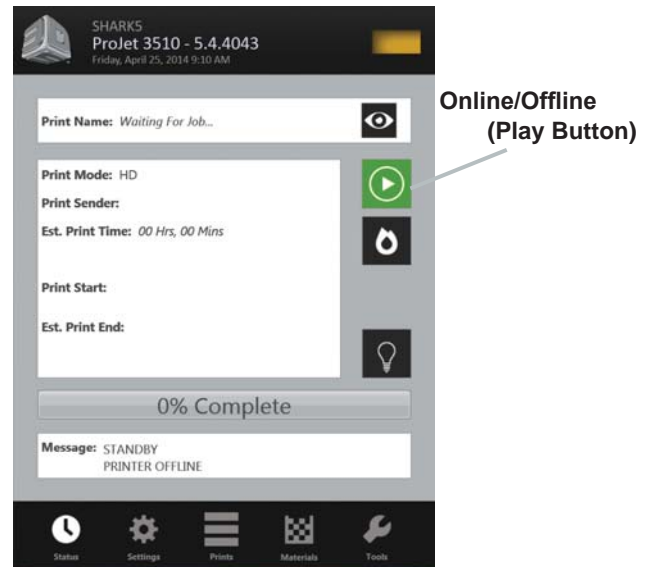
- Click Submit on Submit dialog box if you did not preview the job, or click Submit tool bar button in the Preview window if you did preview the job.



- Both the 3-D Modeling Client and Print Preview now check to make sure that the maximum allowable accumulated build file size on the machine is not exceeded during job submission. The maximum threshold for job submission is roughly two gigabytes or 40,000,000 triangles. If a User attempts to submit a job to the build queue that exceeds this threshold, the following message will be displayed.

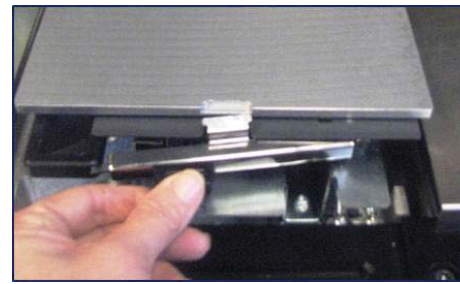


- The build job submitted will be built when printer is ready unless:
 - It is OFFLINE, in which case press the Play button on the operator's touchscreen.
 - It does not have a clean build platform installed; install clean one and press ONLINE.
 - The Preparation Only option in the Submit dialog box was checked. This causes the printer to wait until the build job was confirmed before building enabling you to change the job in the Preview window again before confirming.




 **NOTE** See “Checking Printer Status” and “Confirming Build Jobs.”

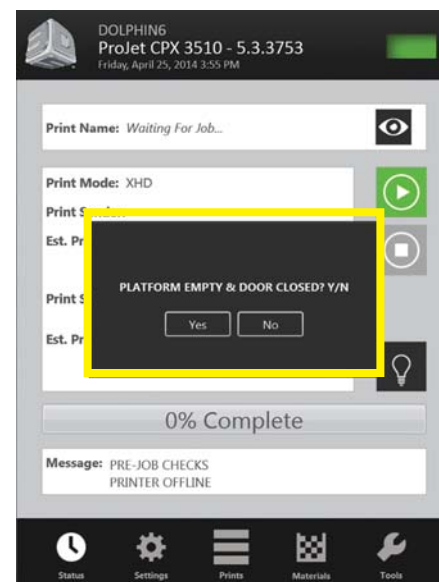
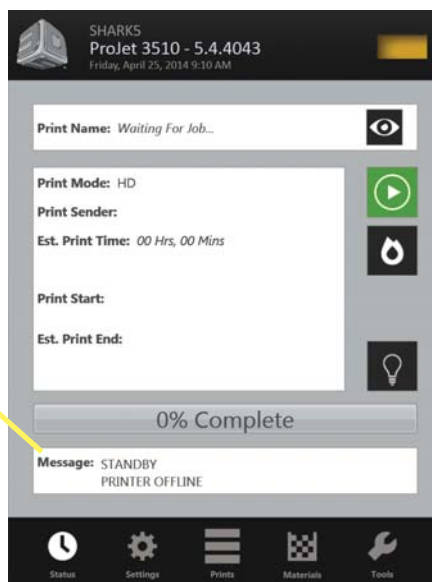
- When the Operator panel shows PLATFORM EMPTY? Y/N, verify platform is clean and free of debris. If required, press NO and remove build platform from the printer to replace.



- Close chamber door and press Online button to bring the printer online. A dialog box will display asking “PLATFORM EMPTY? Y/N, select YES. Otherwise, select No and install a clean platform. If the display shows please empty waste or next build will exceed waste capacity, open the waste drawer and then close waste drawer; the job starts automatically.

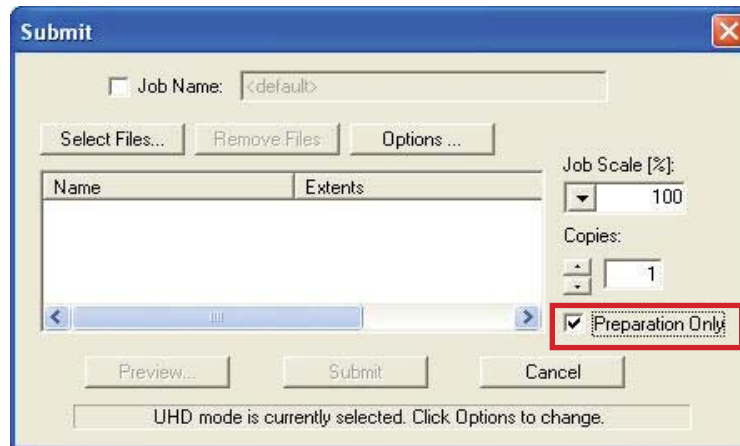
 **NOTE** If the message shows WAITING FOR JOB, no jobs are in the printer's queue. Please return the beginning of “Submit a Print Job” to the queue. Once in the queue, the job starts automatically.

Message Dialog Box

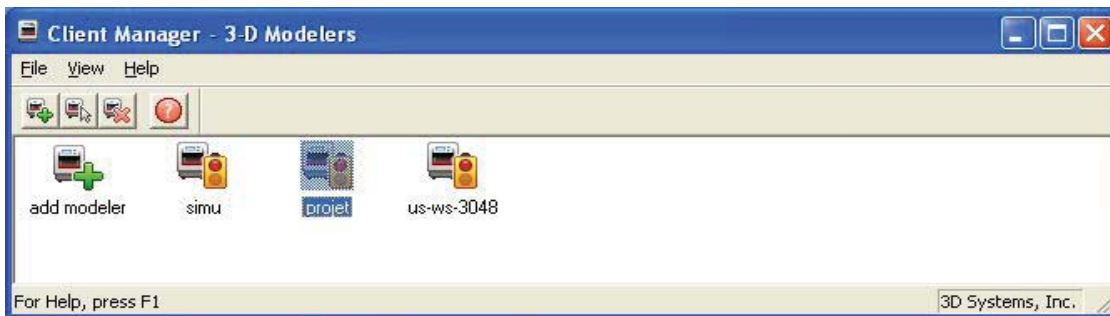


MANAGE A PRINT JOB

- The client software will not send print jobs to the printer until job confirmed by selecting “**Preparation Only**” check box in the “**Submit**” dialog box or resubmit a saved build job.



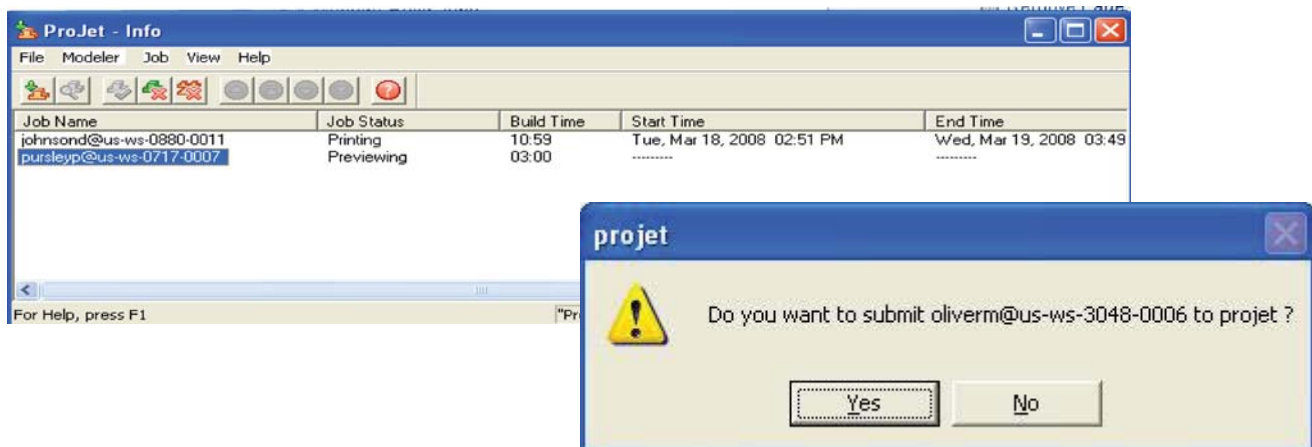
- Click printer's icon in client software to open printer's Info window.



- Select build job with Job Status of Needs Confirm or Saved.
- Click Confirm button or choose Job > Confirm located on the tool bar of the printer window. A dialog box will ask if you want to submit; click Yes.

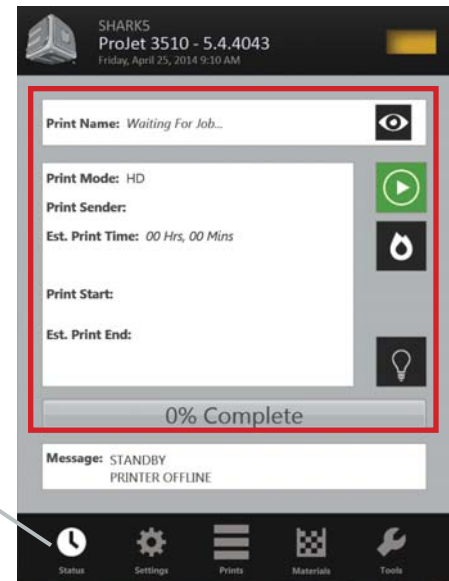


NOTE Confirming saved jobs generates a Pending build job whose name lacks the “_s” suffix. However, saved jobs remain in the queue.



PRINTER STATUS

- To view the printer's status, Click in "Status" icon and observe the screen for print name, print mode, print sender, est. print time, when the print began and when it will end. A percentage bar will inform you what percentage of the print is completed.



EMPTYING WASTE DRAWER



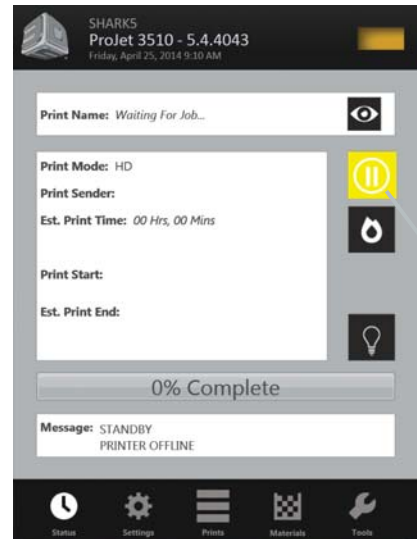
CAUTION: Before removing waste materials from the waste drawer, adhere to all personal, and safe handling of materials described in "Material Safety." Keep disposal records if local law requires.



Wear gloves when removing and disposing waste material.

To remove waste pan:

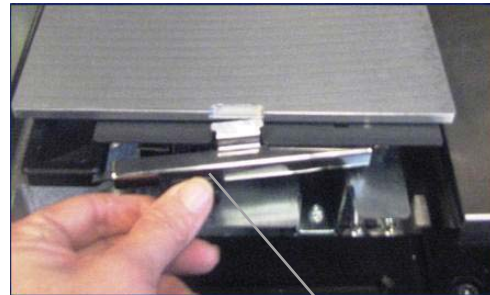
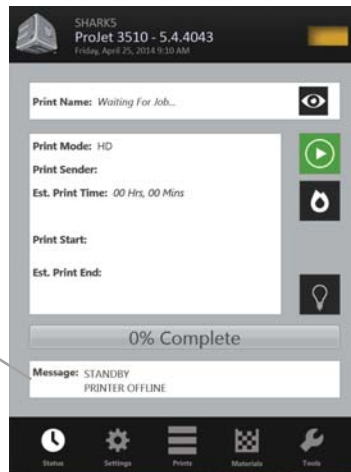
- If the printer is idle, open the waste drawer. If the printer is operating, press "**Pause**" on the Status Screen. When pause is completed, open waste drawer.
- Remove waste pan and place it in a plastic bag.
- Remove contents by scraping the block of waste out from pan and putting the waste in the bag.
- Dispose of waste material according to your local law.
- Replace the waste pan in the right side of drawer.
- Close drawer and press "**Pause**" again to resume build. The icon will return to Online/Offline button.



REMOVING PRINT PLATFORM

- When Status screen message shows <job_name> Remove Print; open chamber door.
- Open the chamber door.
- Slide the latch release back to disengage the latch; lift platform from x-carriage.

<job_name> Remove
Print; open chamber door



Slide latch back

REMOVE PART FROM PRINT PLATFORM

- Place warm platform of parts in a freezer for a few minutes. As the parts and platform cool, they contract at different rates and separate.
- Alternatively, the parts can be mechanically separated from the build platform by force using a tool such as a thin blade.