


3D SYSTEMS CONFIDENTIAL

	Title: Work Instruction – ProJet 6000/7000 Manual Resin Stirring Procedure		
	Doc: 283584-00	Description: ProJet 6000 and 7000	
	Rev: A	Date: 9/18/14	Page: 1 of 7

Purpose: To provide step-by-step work instructions for manually stirring the vat in the ProJet 6000 and 7000 printers.


Tools & Supplies Required:

- Nitrile gloves
- Safety goggles
- Lab coat
- Absorbent paper towels
- 3/8" to 1/2" variable-speed drill (cord or cordless) which can operate to stir resin for at least 30 minutes.
- A propeller which has a long shaft stem and can be attached to the drill for mixing. The total length of the propeller should not be longer than 6" (15cm).



Example propeller

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- 1
- Open the machine door and remove the platform from the system (if it is in the system)
 - Close the door. When alerted, select **"Yes"** to turn the power back on.

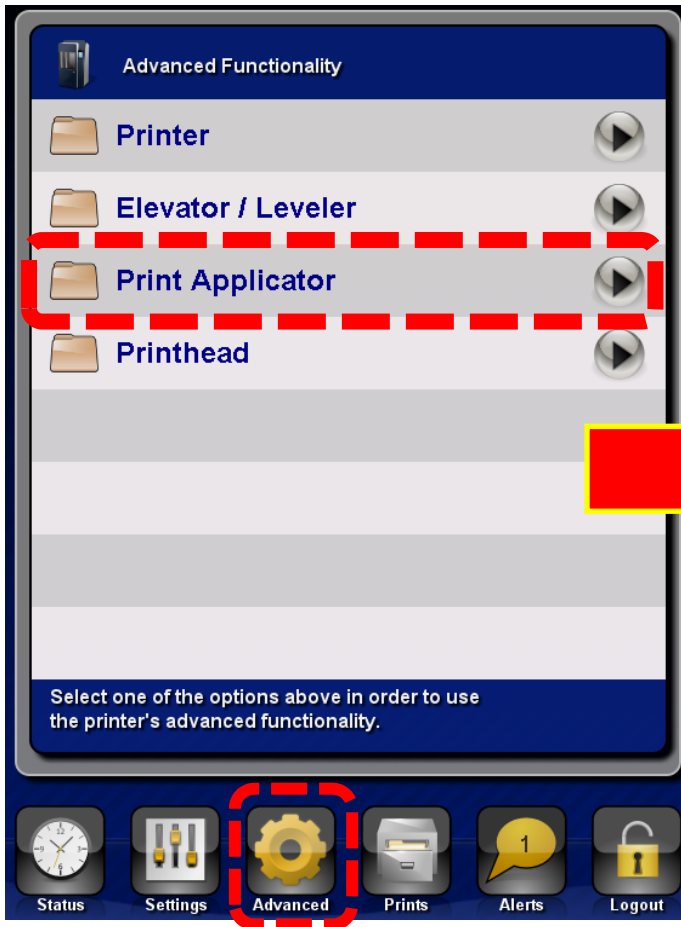
- 2
- Go to the **"Advanced"** screen, select **"Elevator/Leveler,"** and select **"Home."**
 - Wait for the elevator to move to the home position.




- 3
- Enter **"-5"** in the **"Distance"** box and select **"Move Elevator."**
 - Wait for the elevator to reach the bottom limit.

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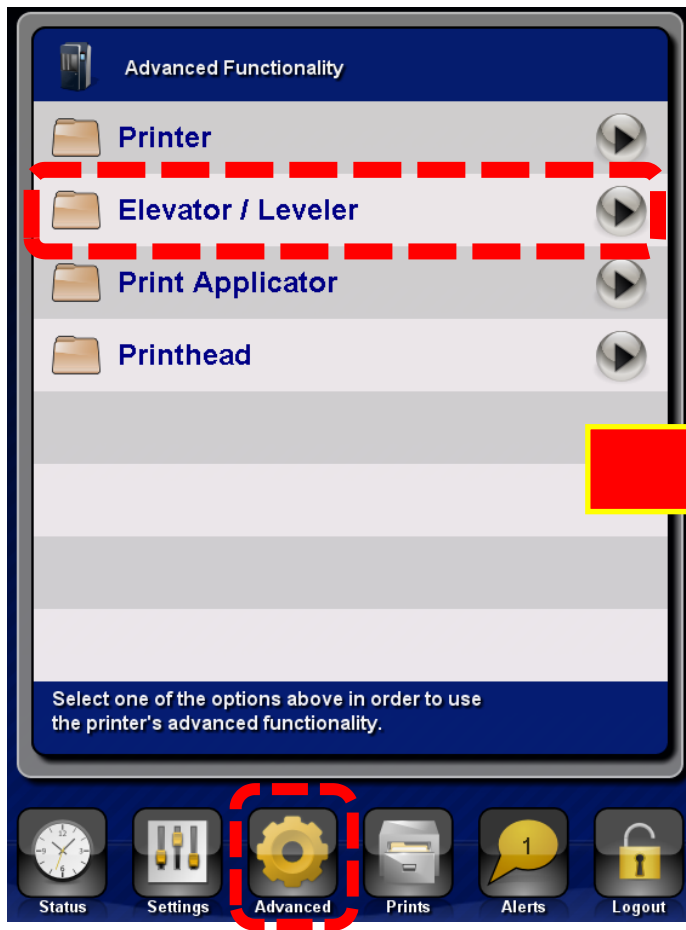
- 4
- Go to the **“Advanced”** page, select **“Print Applicator,”** and select **“Park.”**
 - Wait for the print applicator to move to the park position.



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- Go to the **"Advanced"** screen and select **"Elevator/Leveler."**
- Select **"Drain Print Tray."**
- Let the resin drain until the resin level in the print tray is about 2" below the rim.



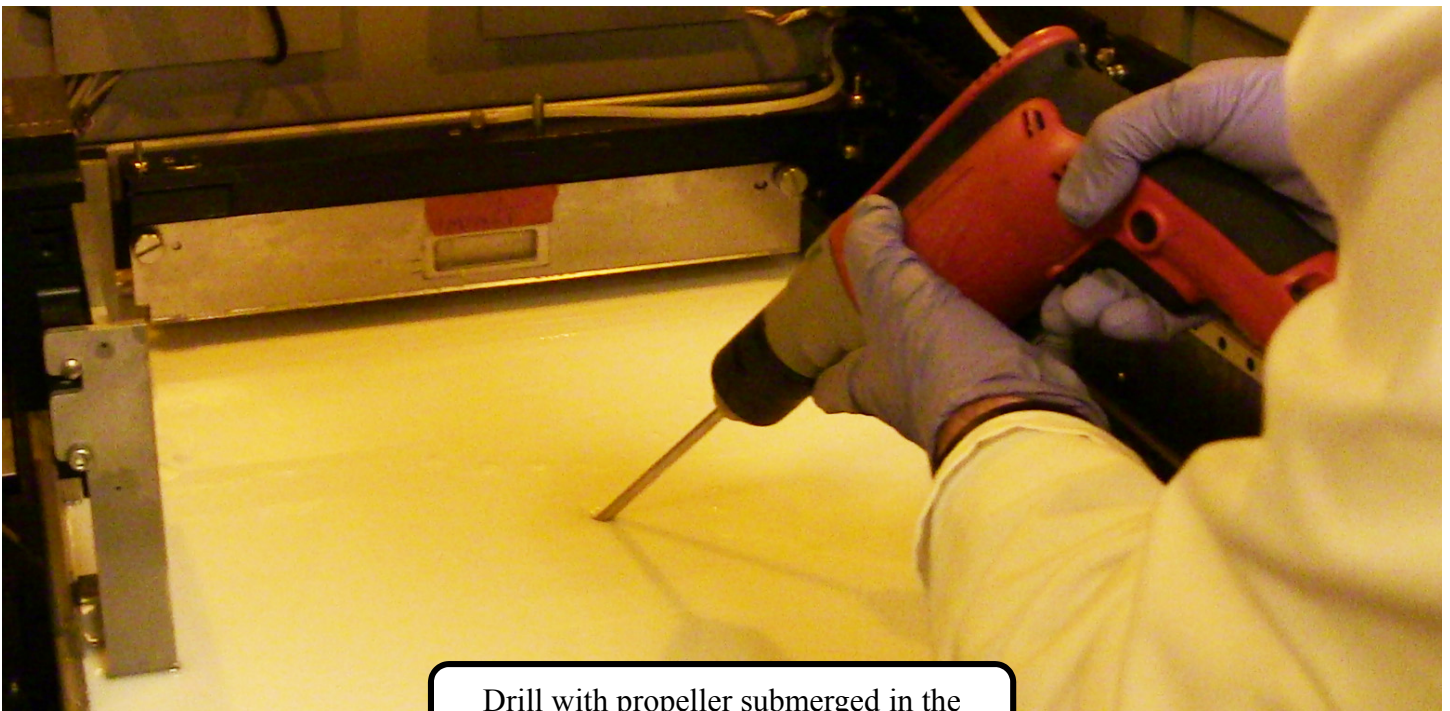
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- Install the propeller shaft to the drill.
- Ensure that you have the appropriate protective equipment on (gloves, goggles, lab coat).
- Open the machine door.
- Remove any visible debris in the print tray.

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- Put the propeller at the stirring position. The stem should form a 45-60° angle with the horizontal plane.
- The propeller should be submerged at the center of the print tray.
- Turn on the drill and slowly increase the rpm until it reaches the highest rpm without the resin overflowing.



Drill with propeller submerged in the resin at the proper angle for stirring

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- Stir the resin for about 30 minutes. If continuous stirring is not possible, there should be no more than 5 minutes between two consecutive stirring sessions.
- During the stirring procedure, debris may collect around the propeller or show up on the resin surface. If this occurs, stop stirring and remove the debris.
- When you have finished stirring, remove the drill and place the drill and propeller in an appropriate location, supporting them with absorbent paper towels to avoid spilling excess resin on any surfaces.

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- Close the machine door.
- When alerted, select **"Yes"** to turn the power back on.
- Go to the **"Advanced"** page, select **"Elevator/Leveler,"** and select **"Offload."**
- Wait for the elevator to move to the offload position.



The image displays two screenshots of the printer's control interface. The left screenshot shows the 'Advanced Functionality' menu with four options: Printer, Elevator / Leveler, Print Applicator, and Printhead. The 'Elevator / Leveler' option is highlighted with a red dashed box. A red arrow points from this option to the right screenshot. The right screenshot shows the 'Elevator/Leveler Settings' screen. It features a 'Current' position of 7.312 and a 'Distance' of 0. Below this is a 3D model of a resin cylinder. On the right side, there are several control buttons: Move Elevator, Home, Start, Offload, Level Print Tray, Drain Print Tray, Set Start, and Set Offload. The 'Offload' button is highlighted with a red dashed box. A red arrow points from the 'Advanced' button in the bottom navigation bar to the 'Elevator / Leveler' menu item in the left screenshot.

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- Open the machine door and install a clean platform.
- Close the machine door.
- When alerted, select **"Yes"** to turn the power back on.
- Select **"Start."** Wait for the elevator to move to the start position.
- In the **"Elevator/Leveler"** menu, select **"Level"** to level the resin.
- When the resin level reading reaches roughly **31.000**, select **"Stop"** to stop leveling.
- In the **"Elevator/Leveler"** menu, select **"Home."**
- Wait for the elevator to home.
- Wait for large bubbles and micro-bubbles to disappear.
- The system is now ready for part building.

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- To clean the drill and propeller, take them to a room away from the machine and wipe down with isopropyl alcohol and paper towels.
- The drill components may then be post-cured in a Post Curing Apparatus (PCA) for at least 45 minutes on each side, making them safer for handling.

END OF PROCEDURE