

# Nobel 1.0A 3D Printer Product Manual

ENGLISH

#### FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

#### CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



## Safety and Compliance

Read the following safety instructions and contents of this manual before use, operation, maintenance, replacement or removal of any parts, components, or materials of the printer.

For the latest information about the Nobel 1.0A 3D Printer and XYZprinting products, please visit XYZprinting website (<http://www.xyzprinting.com>) or contact your sales representative.

The following has been written in order to cover all possible printing scenarios. For scenarios which occur outside the scenarios detailed in this manual, the user will be held accountable for their own safety.

## Important Safety Information:

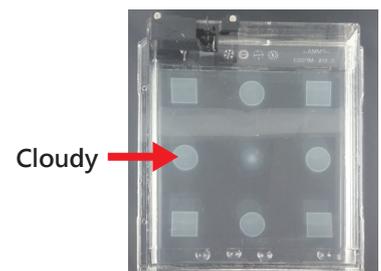
- Do not let children operate this device without adult supervision. Moving parts may cause serious injury.
- Electric shock hazard.
- Do not place the printer on an unlevelled or unstable surface. Printer may fall or tumble causing harm and/or injury. Also tank level detection may be inaccurate.
- Do not place any object on top of the printer. Liquid and solid objects that fall into the printer may lead to printer damage or safety risks.
- Please keep the printer, resin, or alcohol away from fire.
- Do not disassemble or replace the printer cover with non-XYZprinting covers.
- Insert and secure the power cord firmly for proper usage and to avoid potential electricity and fire dangers.
- Do not attempt to service the printer beyond the instructions specified in this document. In the case of irrecoverable problem, contact XYZprinting service center or your sales representative.
- Do not place the printer in humid or dusty environments such as bathrooms and high traffic areas.
- Some components of the printer move during operation. Do not attempt to touch or change anything inside before powering off the printer.
- Please keep the lid closed during printing to avoid injury.
- This printer is a Class 1 Laser Product. A Class 3B laser module is used as a light source. Never disassemble the product.
- For optimized printing quality, only use resin supplied by XYZprinting.
- Make sure to set the power switch to the off position and remove the power cord before transporting the device.
- Only use the grounded power adapter and power cord supplied with the printer to prevent possible electrical shocking.
- Please place and use the printer in a well ventilated area. The process of printing will produce a small amount of non-toxic odor. Having a well ventilated area will ensure a more comfortable environment.

## Resin Care

- Wear proper protective equipment, avoid raw material contact and vapor inhalation.
- Chemical-resistant gloves should be worn when you make contact with resin.
- Avoid exposing resin to high temperatures, localized heat sources (i.e., drum or band heaters), oxidizing conditions, freezing conditions, direct sunlight, ultraviolet radiation, inert gas blanketing.
- Never pour the waste resin back to the bottle or down the sink, as it may pollute the remaining resin or clog the drain.
- You may pour resin waste into plastic bag and expose it to sunlight or UV light source to cure the resin. The cured resin can then be discarded.
- Avoid dripping resin on anything other than the platform or the resin tank, or the printer may malfunction.
- The stability of printing quality is affected by temperature and humidity. Please ensure that the recommended operating conditions are adhered to (Operating temperature 18-28°C (64.4-82.4°F)/humidity 40-80% RH; If a different operating temperature is printed on the label on the resin bottle, please adhere to recommended conditions on the label.)

## Resin Tank Care

- Due to the nature of the print technology and material, the resin tank may develop cloudy regions overtime where the laser cures the resin frequently and may lead to print fails. Moving the print location around the platform can help prolong the life of the tank.
- Avoid printing over cloudy area in the tank. Laser power may be reduced by the cloud. This may decrease the adhesion between the model and the platform.
- Change to a new tank when over 2/3 of the surface gets cloudy.
- Use a separate resin tank when using resin of different colors. Mixing resin of different color may affect printing quality.



## Copyright

All other trade names and trademarks are properties of their respective owners.

\*Keep original packaging material in the event of sending your unit back for repair.

## Unpacking & Setup

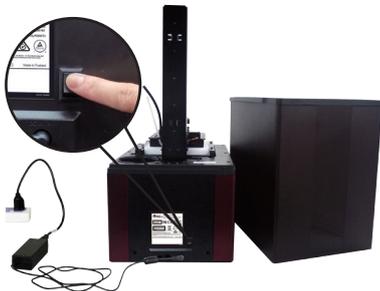
After removing all external packing materials and tapes...



① Take off the lid and remove the accessory tray over the platform.



② Lay down the printer, and release the printing module lock by pushing it to the right. Follow the procedures to remove the protecting foam under the platform.



③ Connect power adapter, power cord to the printer. Switch on the printer. (Please do not use the power adapter for Nobel 1.0 on this model.)



④ Raise the platform:  
On the printer screen, select "UTILITIES" and press ► to find "MOVE PLATFORM" > "TO TOP". And press "YES" to raise the platform.



⑤ When the platform is moved to the top, remove the protecting foam.



⑥ Unpack the resin tank and insert it into the tank slot. Push all the way until reaching the end.



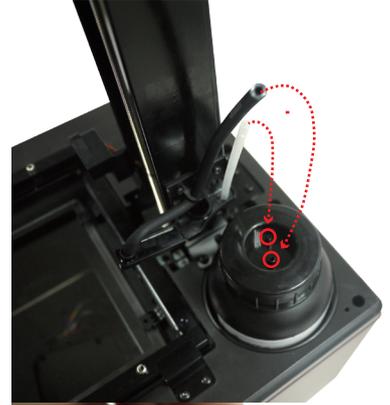
⑦ Shake the resin bottle for around 10 seconds to ensure even color.



⑧ Assemble the nozzle cap and the tube (placed in the rinse basket when shipped).



⑨ Replace the bottle cap with the assembled nozzle cap.



⑩ Install filling tubes. Push the tubes all the way down. First attach the black tube to thick nozzle, and then connect the transparent tube to thin nozzle.



⑪ Put on the lid.



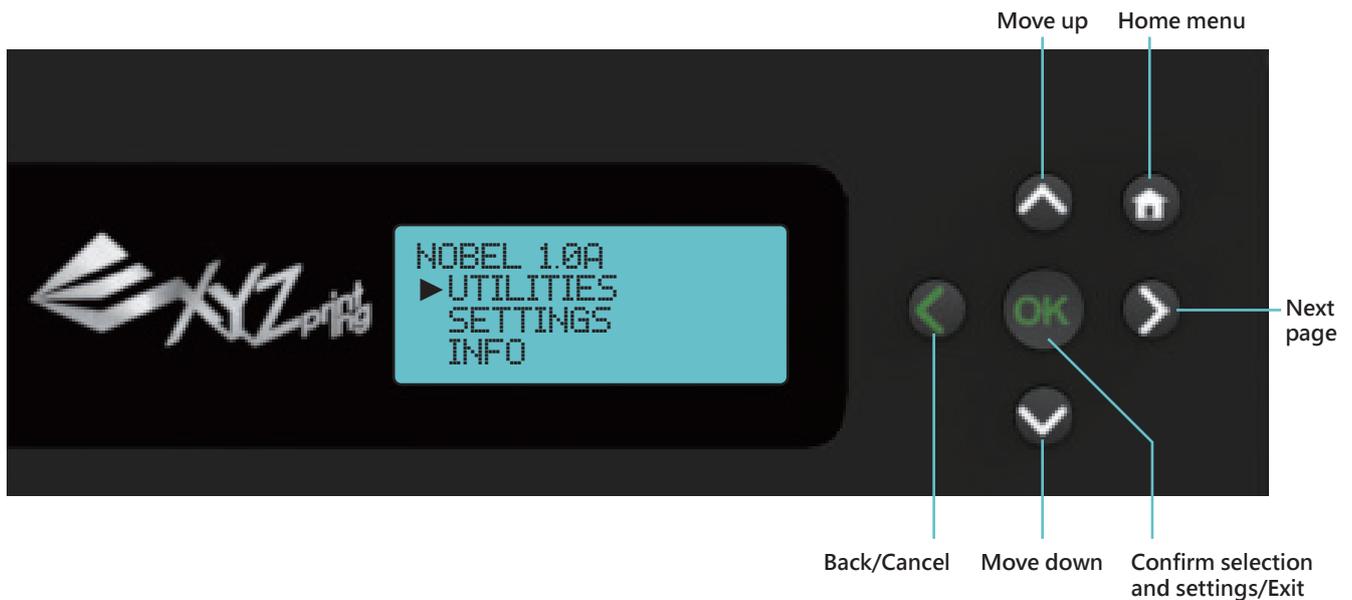
⑫ Connect the printer to your PC via USB wire and install the printing software XYZware\_Nobel from the bundled USB drive. (See page 8 for details.)

## Product Overview & Accessories



## Use the Display and Control Panel

To control and maintain the printer, you will need to operate certain functions with buttons on the control panel. Here is the map of the buttons:



## UTILITIES

"Utilities" menu provides the control of the printer. You can instruct to fill the resin tank manually, and calibrate the printer when necessary.

### INSTALL RESIN

You can activate resin-filling function manually. Before doing so, make sure the resin bottle, resin tank and the lid are installed correctly. (See "Unpack & Setup" for details).

Select "Yes" and press [OK] to begin:



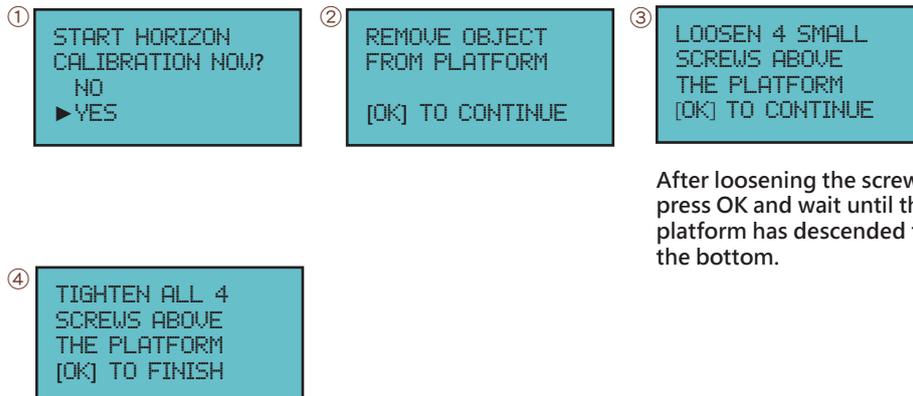
- Note**
- "Auto Fill" function is enabled by default. You may skip loading resin manually when auto-fill is enabled.
  - Shaking the resin bottle well before use ensures an even color.
  - The printer detects the tank level after "Install Resin" is activated. Resin will be filled only when the tank level is low.

### HORIZON CALIB

**Note** To ensure the accuracy of calibration, please empty the resin tank before calibrating.

"Horizon Calibration" ensures the platform is parallel with the resin tank for more stable printing performance. Always perform "Horizon Calibration" after changing to a new tank or a tank different the one used for last print.

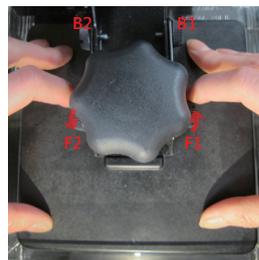
Select "Yes" and press [OK] to begin:



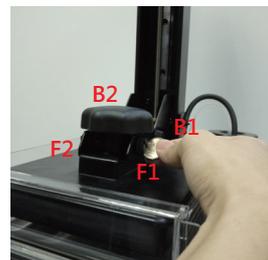
After loosening the screws, press OK and wait until the platform has descended to the bottom.



When you see the message above, press the platform with both hands 3 times. Make sure you see the right side of the tank sinks into the tank slot slightly. Free your hands from the platform for a few seconds so the silicon finish on the tank can reshape. Check the tank frame has repositioned (there's no gap between the black frame holders).



Place both hands over the platform to make sure the surface is adhered to the resin tanks. At the same time, tighten the front screws (F1, F2) with fingers and then the screws at the back (B1, B2). And then release both hands from the platform, fasten the 4 screws firmly.



Finally tighten the screws with a coin or other tools (sequence from F1, B1, F2 to B2) and press [OK] to complete calibration.

## MOVE PLATFORM

Activate the function when you need to move the platform manually.  
Simple select move the platform "to top" or "to bottom" to proceed:

```
MOVE PLATFORM  
TO TOP  
▶ TO BOTTOM
```

```
MOVE PLATFORM  
TO BOTTOM NOW?  
NO  
▶ YES
```

```
TASK COMPLETE  
  
[OK] TO FINISH
```

## SETTINGS

The Settings menu allows you to adjust printer settings.

### BUZZER

When the buzzer is turned on, the printer will output an audible signal when a button is pressed.

Buzzer is turned on by default. To switch off the buzzer:

```
BUZZER [ON]  
▶ OFF  
ON
```

Select "OFF" and press [OK] to change the setting.

### AUTO-FILL

When "Auto Fill" is enabled, the printer will fill the resin tank before printing and when low tank level is detected. With the auto-fill function, you no longer need to manually refill the resin during printing. This is especially useful when printing large objects.

"Auto Fill" is enabled by default. To disable the function:

```
AUTO FILL [ON]  
▶ OFF  
ON
```

Select "OFF" and press [OK] to change the setting.

- Note**
- Be sure to place the printer on a leveled surface, or tank level detection may be inaccurate.
  - Auto-fill will be switched off when the timeout expires. Timeout may be caused by an empty resin bottle or the tank level sensor soaked by resin. Please replace the resin bottle or clean up the level sensor before enabling the function.

### LANGUAGE

You may switch the display language on the printer.

The default language is English. To switch to other language:

```
LANGUAGE [EN]  
ENGLISH  
▶ ニホンゴ  
FRANCAIS
```

Select a language and press [OK] to change the setting.

### ENERGY SAVE

LED backlight of the LCM enhances the readability of the content of the display. To save energy consumed, the backlight will go off after the printer idles for 3 minutes (shown as 03M on the display) by default.

To set a longer time interval:

```
ENERGY SAVE [OFF]  
▶ OFF — Backlight will never go off.  
3 MINS — Backlight will go off after the printer idles 3 minutes.  
6 MINS — Backlight will go off after the printer idles 6 minutes.
```

Select an option, and press [OK] to change the setting.

## RESTORE DEFAULT

All settings can be reset to factory default with a few clicks.

To reset all settings at once:

```
RESTORE DEFAULT
ARE YOU SURE?
NO
▶ YES
```

Simply select "YES" and press [OK] to reset.

## INFO

Under "Info" menu, you can check the statistics and firmware version of the printer, status of resin bottle installed, and information on XYZprinting.

### STATISTICS

In "Statistics" , you can check the accumulated print time and last print time.

Sample:

```
STATISTICS
LIFETIME 590h
[OK] TO RETURN
```

Accumulated working time for the printer (in hours).

### SYSTEM VERSION

Firmware version is shown here. To ensure optimal printing performance, it is advised to keep the firmware up to date. To check for firmware updates, please go to XYZware\_Nobel.

```
SYSTEM VERSION
ENGINE:0.0.0.12
LCM :0.0.7
[OK] TO RETURN
```

Select a language and press [OK] to change the setting.

### RESIN STATUS

"Resin Status" provides the information on resin level (see REMAINING), and the capacity, color and material of the resin. Press ▼ to read the second page.

```
RESIN STATUS
CAPACITY 500G
REMAINING 10%
[OK] TO NEXT
```

```
MATERIAL:
CLEAR
RESIN MODEL: A1
[OK] TO RETURN
```

Resin Model indicates the resin version. While setting up printing preference in XYZware\_Nobel, please select the correct resin model.

The info is also printed on the serial number label on the resin bottle. For resin bottles without the info of resin model, the resin model is A1.



### SENSOR STATUS

When you encounter exceptional status during the operation of the printer, you may check the status of each sensor here. The information is especially helpful for troubleshooting.

The content may look like this:

```
SENSOR STATUS
C:0 Z-T:1 Z-B:0
T:1 L:0 Y:0
[OK] TO RETURN
```

How to read the status:

C:1 – Lid (Top cover) covered; C:0 – Lid not covered

Z-T:1 – Platform at top; Z-T:0 – Platform away from top

Z-B:1 – Platform at bottom; Z-B:0 - Platform away from bottom

T:1- Tank motor in action (Right side of the tank sinks slightly) T:0 - Tank motor idling (Tank is leveled)

L:1 – Tank level low; L:0 – Tank full or tank not installed

Y:1 – laser engine in action; Y:0 – laser engine idling

### HELP

The URL to XYZprinting website can be found here. You may go to the website for the latest information, product documents, tutorial video and more.

```
INFO & HELP >>
XYZPRINTING.COM
[OK] TO RETURN
```

## PRINT FROM USB

Insert USB flash drive to the USB drive port at the back of the printer.



press ▼ to browse the menu, and press [OK] to select a file to proceed:



### Note

- Please slice the 3D model with XYZware\_Nobel and save it in .3wn format. Files in other format or not sliced with XYZware\_Nobel will not be shown.
- For correct file name display, please name the file with English and Japanese (Katakana preferred) alphabets and numbers.

\* Sample files are provided in the bundled USB drive. To print the sample, please slice the stl files with XYZware\_Nobel before printing, or selected the sliced .3wn files.

## PC-link Printing via XYZware\_Nobel

Before printing from PC, please first install XYZware\_Nobel on your device. **Connect your PC to the printer before installing the software, or the installation may be incomplete.** "XYZware\_Nobel" Installer can be found in the bundled USB drive or at XYZprinting website:

[http://support.xyzprinting.com/us\\_en/Help/download](http://support.xyzprinting.com/us_en/Help/download) (log in is required)

Windows version:

Supported operating systems:  
Windows 7, Windows 8 and Windows 10

Minimum system requirement:  
32-bit operating system  
System RAM: 4GB  
Graphics RAM\*: 1GB  
Hard disk space: 300MB and more

Recommended system requirement:  
64-bit operating system  
System RAM: 8GB  
Graphics RAM\*: 4GB  
Hard disk space: 300MB and more

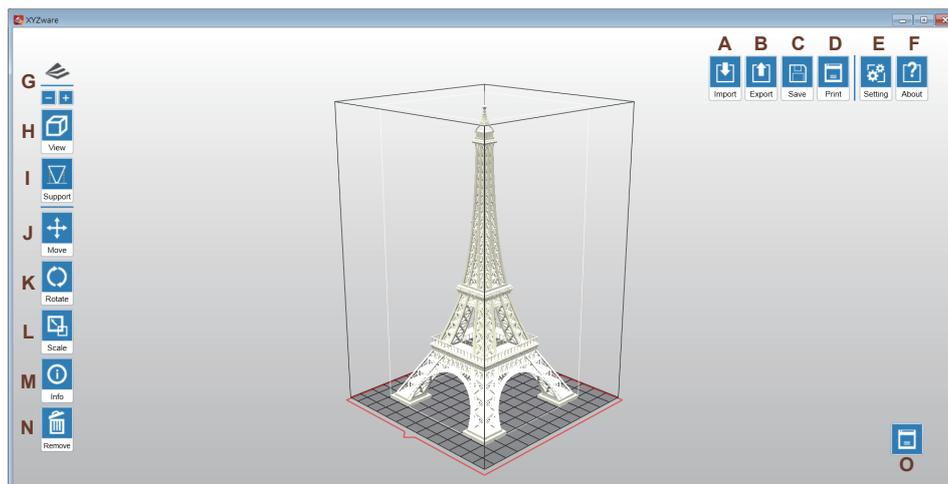
Mac version:

Supported Mac OS X operating systems:  
Mac OS X v10.8, OS X v10.9, OS X v10.10

Recommended system requirement:  
System RAM: 8GB  
Graphics RAM: OpenGL 2.1+ compatible  
Hard disk space: 300MB and more

\*OpenGL 2.1+ compatible

## Overview of XYZware\_Nobel



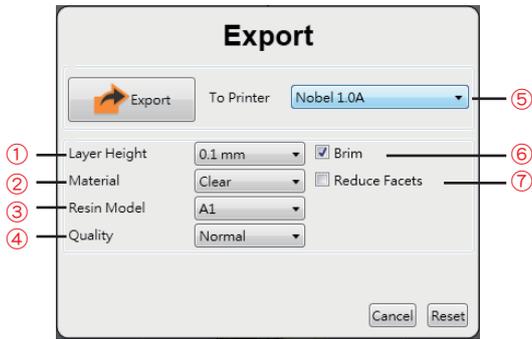
### Supported file type:

File Type	Description
.stl	The file format is native to stereolithography CAD software. It is widely used for 3D printing.
.3ws	After adding supports to the object in XYZware_Nobel, you can save the file in this format. The support layout can be re-adjusted.
.3wn	The XYZware_Nobel proprietary file format contains detailed instructions for the printer to follow for each slice. The file is unadjustable. The file type also contains the data of the targeted printer type. For the file set to slice for printer type other than "Nobel 1.0A", it will not be printed on this printer.

## Functions:

- A. Import objects in .stl/.3ws/.3wn format: Open file browser and select the files to print.
- B. Export to .3wn format: After selecting the target printer and the preferred printout setting, click on "Export" to save the model to a sliced .3wn file. Once the file is sliced, you may skip repeating settings in the future.

## Options under Export :



- ① "Layer Height" indicates the resolution of a print. Using thinner layers will make higher quality prints but will also take longer to print.
- ② Printing setup varies based on the color and material of the resin. Please set the option based on the resin cartridge installed on the printer before printing. It is advise to include color setting in filename for instant distinction in the future. Please note that printing will be stopped if the selected resin type doesn't match the resin installed.
- ③ "Resin Model" can be found under "Info" > "Resin status" on the printer and on the serial number label on the resin bottle. For resin bottles without the info of resin model, please select "A1" .
- ④ The setting of Quality has impact on the smoothness of the surface of the printout. When printing with "Good" quality, the surface with less features will be more smooth. With the setting, it will take slightly longer for printing.
- ⑤ Printing parameters are different between Nobel 1.0 and Nobe1 1.0A.If other printer model is selected when Nobel 1.0A is connected, it will not be printed on this printer.
- ⑥ Check "Brim" for the 3D objects that has less contact with the platform to increase adhesion. Complex 3D models are composed of a large amount of meshes.
- ⑦ Enable this function for slicing such models may save the render time as it will reduce the facets to 200 thousand elements. This function can also repair the 3D model when necessary.

- C. Save as .stl or .3ws file: Save all objects on the platform to a single stl/3ws file. Any adjustment to the size or placement of the objects will apply to the file.
- D. Setup printing preference and send the objects for printing: Once your device is connected to the printer, click "Print" to open printout setting window (options are the same as "Export" window). Set your printing preference based on the features of the objects and hit "Print" to proceed.
- E. Setup interface language, printer type, display unit, light strength tuning and etc.



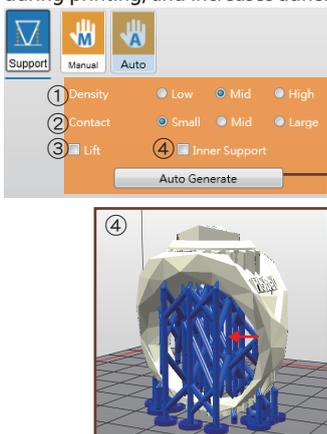
### Tips for Light Strength Tuning (①):

The delicacy and solidness of prints is determined by the strength of the laser beam. You may adjust the strength of the laser's power based on common features and purposes of your prints. The printer prints in moderate laser power by default. You may get more delicate objects when printing with lower laser power, but the printouts may slightly weaken under force. Try post curing in the sun or with a UV source in this case. If the objects deform easily, you may try to increasing the laser power.

### Tips for Printout Scaling (②):

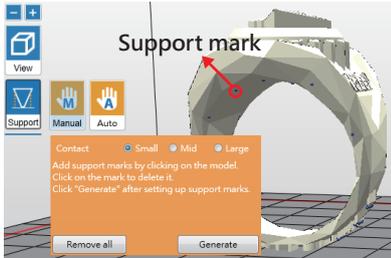
If you find the dimension of the printout doesn't match the 3D model, you may adjust the scale of the X/Y axis. The setting will be stored in the software and applied to every print job sent afterwards.

- F. Info/Software & firmware update: Apply printer firmware and XYZware\_Nobel updates when prompt by the software for stable printing performance.
- G. Zoom in/out: Zoom in or out the platform to view the details of objects.
- H. Switch views: Switch views with a click to view objects from different angles.
- I. Support structure: support structure is required under overhangs. It prevents the falling for gravity and the deforming due to the peeling force during printing, and increases adhesion of the model to the platform.



Support auto generation: XYZware\_Nobel is able to analyze the features of the model and add support structure to where necessary. Simply select a desired density<sup>①</sup> and contact<sup>②</sup>, choose to "Lift"<sup>③</sup> the print and/or print without internal support<sup>④</sup>, and press "Auto Generate" to preview the support structure.

- ① Density : Large overhangs will require more support structure. However, more support structure will take longer for printing.
- ② Contact : Thicker contact point will lead to higher strength but will take longer for printing.
- ③ Lift : Lift the objects over the platform will ease the removal after printing. However, the support structure under the prints will take longer for printing.
- ④ Inner Support : For objects with inner overhanging structure, XYZware\_Nobel will add support to the parts. However the support at inside may not be removed easily, you may consider printing without inner support.



Manual editing: you may add or delete support structure based on the features of the print manually. To add support, simply select a proper size of the contact point and then click on the model at the overhangs. To delete support, just click on the support mark (the blue dot). After setting up support marks, click "Generate" to continue.

**Tip** You may generate support automatically with XYZware\_Nobel, and then add/delete the support structure based on your printing experience. Use both functions help to ensure the success of printing, and may decrease resin consumption and shorten printing time.

Once the support structures are setup, you can save the object in .3ws format. With this file format, you can re-adjust the support layout.

**Note** If the object is moved vertically or resized, the support structure will be reset. Please set up the supports again.

- J. Move the object: move the object along the x, y, or z axis. You may also press and hold ALT key and drag the mouse to move the object horizontally.
- K. Rotate the object: adjust the angle of the object around the x, y, or z axis. Flipping the object around to adjust the face on the platform may help to enhance printing performance. Increasing the contact area between the object and the platform may help to enhance printing quality and strength.
- L. Resize the object: Scale the object as you desire. The adjustment to the object on the platform will not affect the size of your original file.
- M. View info of the object: check the dimension and location of the object, so you can tell the size of the object easily.
- N. Remove the object from the platform: select an object and click the option to delete it from the platform. Or you may press Delete key to remove the object.
- O. View printer status.

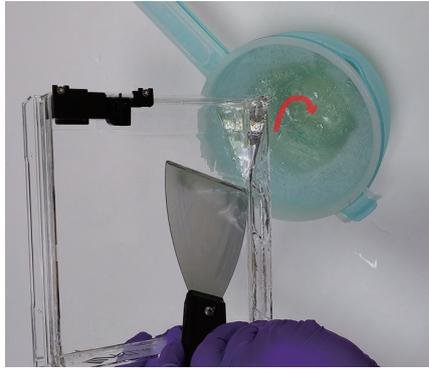
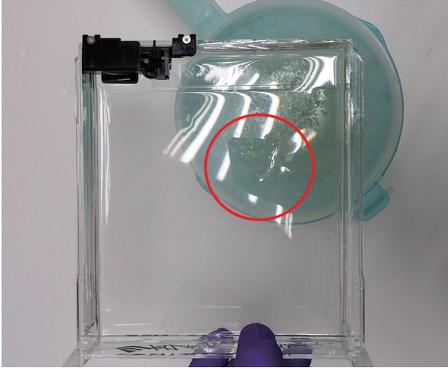
## Operation Flow

- ① Click "Import" to import a .stl/.3ws/.3wn file to the virtual platform.
- ② Adjust the placement, angle and size of the object with "Move", "Rotate" and "Scale" buttons on the left as desired. Also add supported and brim for objects with overhangings or with less contact with the platform.
- ③ Click "print" and setup printing preference based on the features of the prints, and click "Print" to slice and send the file for printing.

## Check Before Every Print

A. Check the following items to ensure printing quality and the operation of the printer.

① Sift any residue or cured debris from the platform and tank with the scraper, high-density filter or other tools. Resin can be reused after filtering.

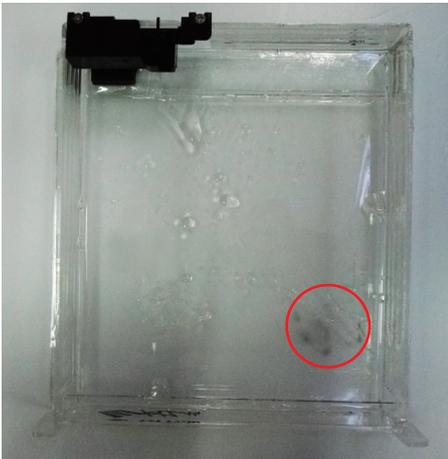


**Note** Filter the resin after every prints may ensure the stability of printing.

Resin resided in the black filling tube may drip on the printer case. Please cover the opening of the tube with paper towel before removing the tank.

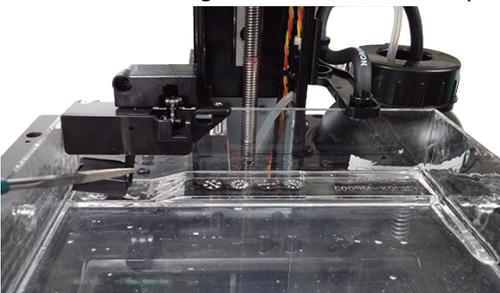


② Mop the fingerprint or resin under the tank or on the glass with with lint-free cloth dampened with alcohol.



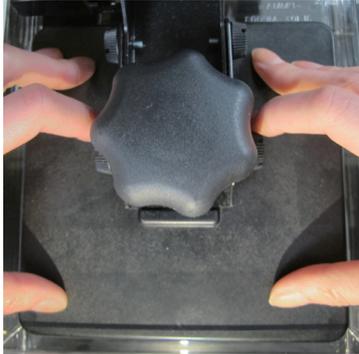
③ Brush the level sensor with alcohol if it gets stuck.

Level sensor should return to the original position after a soft push. When the tank is full or the resin gets sticky, the sensor's movement may be hindered greatly. Normally, it may take 1 minute for sensor to return. If stuck, remove the remaining resin from tank before cleaning. If resin in tank is cured, please replace the tank.

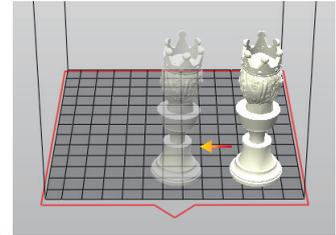


B. Also make sure that the printer and the printout setting is optimized by following the tips below.

① Re-calibrate the platform after changing the platform or the tank. Make sure that the platform is paralleled with the tank.  
Please note that platform calibration should be done with an empty tank.



② Check if the tank is cloudy at where you place the model. Move the model away from the cloudy area in the software with the "Move" function. Replace the tank if the overall surface is cloudy.



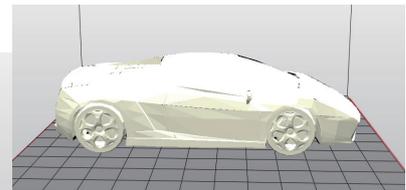
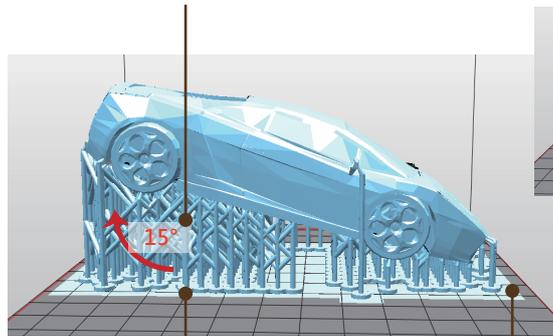
**Note** The placement on the virtual platform in the software is opposite to the actual placement in the tank. For models placed at the right side of the virtual platform, they will be built on the left side of the tank.

Printing at the left side of the tank (right side on the virtual platform) will be less affected by the peeling force during build process.

③ Optimize the placement and the support structure of the model with the "Rotate", "Support" and "Brim" functions in the software.

**Rotate:**

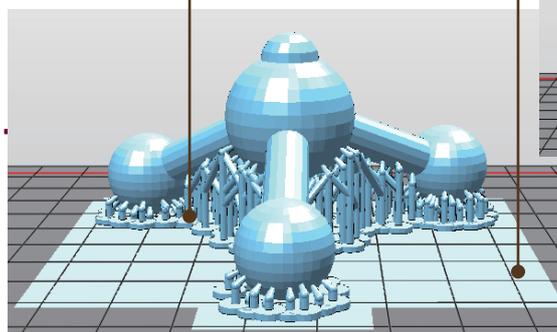
For models of **top-heavy structure, with less contact with the platform, or with any larger solid layer**, please rotate the model to reduce the effect of peeling force during build process.



**Support:**

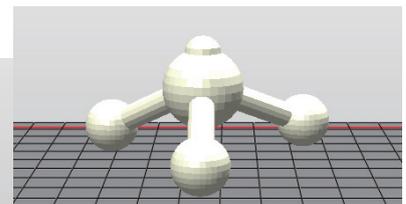
For models of **top-heavy structure, with overhanging parts or with less contact with the platform** after rotated, please add support structures.

**Tips** For larger overhanging parts, please choose the support structure with higher density and larger contact point.

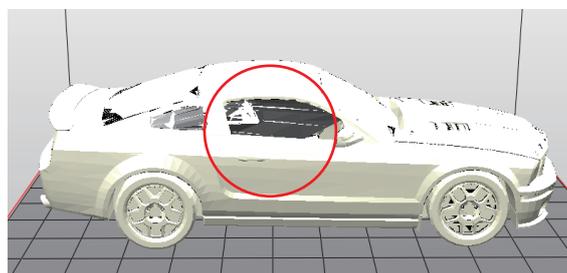


**Brim:**

One of the keys to successful printing on the bottom up type SL printer is to ensure the adhesion of the model to the platform. **If rotating the model doesn't increase the contact between the models and the platform greatly**, please check "Brim" while exporting or printing the file. Also add "support" if necessary.



④ For models with non-manifold geometry (black-highlighted in the software), please repair the models before printing.



## Printed Object Removal and Cleaning

When removing prints from the printer, follow the procedure to post-process the object and maintain your printer.



- 1 Remove the platform  
Wear gloves before removing the prints. Turn the platform locker counterclockwise until it stops. And pull the platform to remove it.

### Note

Always remove the platform before removing the resin tank to avoid dripping leftover material on printer surface.

- 2 Use the scraper to remove print

### Note

Scrap off the print gently to avoid damaging the surface of the platform.



- 3 Rinse part in Alcohol ( $\geq$  75% Alcohol)  
Pour alcohol into the rinse basket, shake the print for 10 minutes, then rub it with your fingers though-roughly.



- 4 Cleanup and reinstall

Remove any residue in the resin tank. Operate gently to avoid scratching the surface of the resin tank. Reinstall the resin tank after cleaning.

Scrap off any residue and remove excess resin from the surface of the platform. Turn the platform locker clockwise until it stops when reinstalling it to the printer.

Uncured resin in the tank can be left for future printing. To prevent dust from accumulating on the resin, always cover the lid over the printer after removing any residue from the tank or the platform.

Place the printer away from direct sunlight or UV lighting, even if the lid is covered, or resin in tank may cure and solidify.



## Resin Tank Cleanup

To remove any residue stuck to the bottom of the resin tank, clean the tank level sensor covered resin, or to clean the tank thoroughly, follow the procedure for cleaning:



- 1 Pour uncured resin in the tank into a waste bin. For remaining resin, scrape the surface of the tank gently while pouring the liquid out.



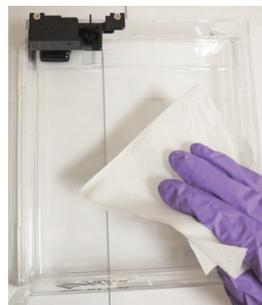
- 2 Scrape off the residue stuck on the tank gently. Avoid damaging the silicon finish.



- 3 Clean the tank level sensor if it gets stuck. Rinse the sensor with alcohol, or brush it with a soft-bristled brush gently.



- 4 Spray alcohol on the tank and the silicon finish, and wait for around 1 minute. Gently scrape residue and pour remaining alcohol left in the tank into the waste bin. Repeat these steps until all residue has been removed.



- 5 You can either wait until the alcohol in the tank evaporates completely or wipe away the alcohol with a lint-free cloth.

### Note

If resin in tank is cured, please replace the tank.

## Post-Process Your Prints

### Remove Support Structure

Use pliers or other tools to remove the support structure from the cleaned prints to ensure perfect finish.



### Empty Uncured Resin Inside the Prints

Hollow prints with uncured resin inside may break as time passes. To ensure the durability of hollow prints, leave a weep hole at the bottom of your 3D design, so you can empty the uncured resin easily.



## Specification

### Nobel 1.0A 3D Printer

Print Technology	Stereolithography (SL)	Connectivity	USB Wire & USB drive
UV Light Source	UV Laser $\lambda$ 405nm (100mW)	AC Input	100-240V 50/60Hz 60W
Maximum Printing Area*	128 x 128 x 200mm 5" x 5" x 7.8"	Printer Dimension	280 x 337 x 590 mm 11" x 13.2" x 23.2"
X/Y Axis Resolution	0.13mm	Net Weight	9.6 KG
Z Axis Resolution	0.025mm (maximum allowed height: 50mm) 0.05mm (maximum allowed height: 100mm) 0.1 mm (maximum allowed height: 200mm)	Print Material	Photopolymer Resin
File Format	.stl .3ws (stl file with adjustable support layout) .3wn (Sliced data; unadjustable)	OS Support	Windows 7/8 and above Mac OSX 10.8 and above
Operating Conditions	Temperature: 18-28°C/64.4-82.4°F (Operating temperature may be different for functional resins. If a different operating temperature is printed on the label on the resin bottle, please adhere to recommended conditions on the label.) Humidity: 40-80% RH (no condensation)		

\* For the objects with dimension of cross section larger than 100mm x 100mm, please consider dividing them in multiple parts that can be assembled after printing.

## Troubleshooting

When an error occurs, please refer to the service code on the printer and/or in the software, and check the suggestion below for troubleshooting.

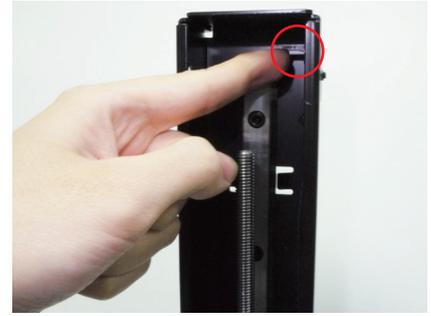
If any error persists, please contact customer service center for support.

- **Error Code 1000: Vibration generator movement abnormalities or tank sensor malfunctioned**  
Suggestion:  
Contact customer service center directly.

- **Error Code 1001: Z axis motor upward movement abnormalities or Z axis top sensor malfunctioned**  
Suggestion:  
Select "INFO">"SENSOR STATUS" on the printer, touch Z axis top sensor, and see if the status of "Z-T" switches from 0 to 1. If the value doesn't switch accordingly, then the sensor is malfunctioning.

Then select "UTILITIES">"MOVE PLATFORM">"TO TOP" to raise the . If the platform doesn't rise accordingly, then the motor is malfunctioning.

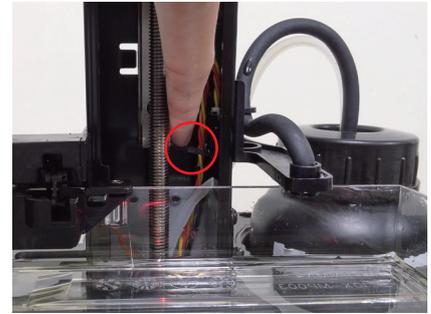
Contact the service center after you have checked the status of the printer.



- **Error Code 1002: Z axis motor downward movement abnormalities or Z axis bottom sensor malfunctioned**  
Suggestion:  
Select "INFO">"SENSOR STATUS" on the printer, touch Z axis bottom sensor, and see if the status of "Z-B" switches from 0 to 1. If the value doesn't switch accordingly, then the sensor is malfunctioning.

Then select "UTILITIES">"MOVE PLATFORM">"TO BOTTOM" to descend the platform. If the platform doesn't descend accordingly, then the motor is malfunctioning.

Contact the service center after you have checked the status of the printer.



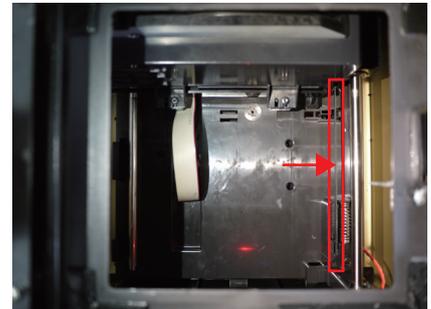
- **Error Code 1003: NFC tag reader malfunctioned**  
Suggestion:  
Contact customer service center directly.

- **Error Code 1004, 1006, 1007, 1008: Engine board malfunctioned**  
Suggestion:  
Contact customer service center directly.

- **Error Code 1005: Y axis movement problem**  
Suggestion:  
Remove the resin tank, release 3 latches by the glass and remove the glass. If you find any object falls inside the printing chamber and blocks the movement of the printing module, please remove it. If you find the belt is broken, please contact the service center.

Please also check if the printing module lock at the bottom of the printer has been released.

Y Axis belt:



Printing module lock:



- **Error Code 1020: Printer not found**  
Suggestion:  
Make sure printer is powered on, and connected to PC correctly. If the error persists, please try to restart your PC or refer to FAQ on XYZprinting website.

- **Error Code 1021: XYZware\_Nobel slicer not found**  
Suggestion:  
Reinstall XYZware\_Nobel.

- **Error Code 1022: Transmission failed**  
Suggestion:  
Make sure the USB wire is securely connected to the printer. Do not remove the wire before data transmission is completed.

- **Error Code 1023: Insufficient memory to load file(s)**  
Suggestion:  
Increase system memory to 4G RAM and 1G graphics RAM or above. Leave some prints for next task if you are printing several models. For better performance, it is recommended to run the program on 64-bit operating system.

- **Error Code 1024: XYZware\_Nobel runtime error**  
Suggestion:  
Restart XYZware\_Nobel.

- **Error Code 1025: Unable to save the file**  
Suggestion:  
Please check if there is enough space on the selected disk/device. Delete some files and try again. If you are saving the file to external device, make sure that the device is securely connected.

- **Error Code 1026: Non-manifold issue is found in the file**  
Suggestion:  
Repair the file with 3D model repairing software (such as netfabb or MakePrintable) and slice the model with XYZware\_Nobel again.

● **Error Code 2000: Resin filling timeout**

**Suggestion:**

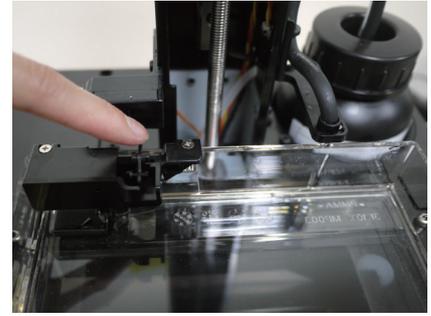
If the resin bottle is not empty, and the NFC tag matches the cartridge, first check if the nozzle cap is securely closed. Then check if the tank level sensor is functioning. Select "INFO">"SENSOR STATUS", and touch the tank level sensor. If the value doesn't switch from 1 to 0 after "L", the sensor is not working.

Then tap the floater to see if it moves smoothly.

If the sensor gets stuck, clean the sensor by following the cleanup procedure in the Product Manual.

Also check the status of the filling pump. Disconnect the transparent filling tube, and select "UTILITIES">"INSTALL RESIN". If you don't feel air releasing from the tube, then the pump is malfunctioning.

Contact the service center after you have checked the status of the printer.



● **Error Code 2001: Resin bottle not found**

**Suggestion:**

Make sure resin bottle is placed correctly and NFC tag is in place under the bottle. If the NFC label is missing, please contact customer service center.



● **Error Code 2002: UV laser module not calibrated**

**Suggestion:**

Contact customer service center directly.

● **Error Code 2003: Resin bottle empty**

**Suggestion:**

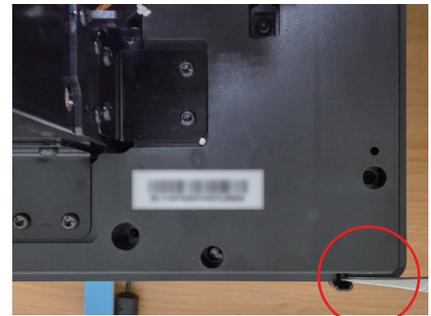
Resin bottle is empty is based on the the reading from the NFC tag. Select "INFO">"RESIN STATUS" to check resin level. When "REMAINING" is shown as "0%", then the resin bottle should be empty. Please install another XYZprinting resin bottle before printing.

● **Error Code 2004: Lid not covered during printing**

**Suggestion:**

Place the lid on the printer before printing. If the lid is placed correctly, please remove the lid, select "INFO">"SENSOR STATUS", tap the lid sensor and see if the status of "C" switches from 0 to 1. If the value doesn't switch accordingly, then the sensor is malfunctioning.

Contact the service center after you have checked the status of the printer.



● **Error Code 2005: Unrecognized resin tag**

**Suggestion:**

Check the record of the resin bottle by selecting "INFO">"RESIN STATUS". If the display shows "UNIDENTIFIED TAG", please change to XYZprinting resin bottle.

● **Error Code 2006: Unable to resolve the file**

**Suggestion:**

Slice the file again with XYZware\_Nobel. Be sure to set "Printer Type" as Nobel 1.0A while slicing the file.

● **Error Code 2007: File too large**

**Suggestion:**

Please select a .3wn file, size no more than 200MB.

● **Error Code 2008: Non-manifold issue is found in the file**

**Suggestion:**

Repair the file with 3D model repairing software (such as netfabb or MakePrintable) and slice the model with XYZware\_Nobel again.

● **Error Code 2020: Printer is busy**

**Suggestion:**

Wait until the printer finishes current task. If the error persists when the printer is idle, please try to restart the printer.