

MonoPrinter.com

# MonoWare Printing File Prep. (MNF file format)

Rev. 1.0



## Revision History

Rev. 1.0	12-13-2018	Initial draft

This manual explains how to prepare MNF format file for Mono3. MNF file format contains slice images along with printing parameters.

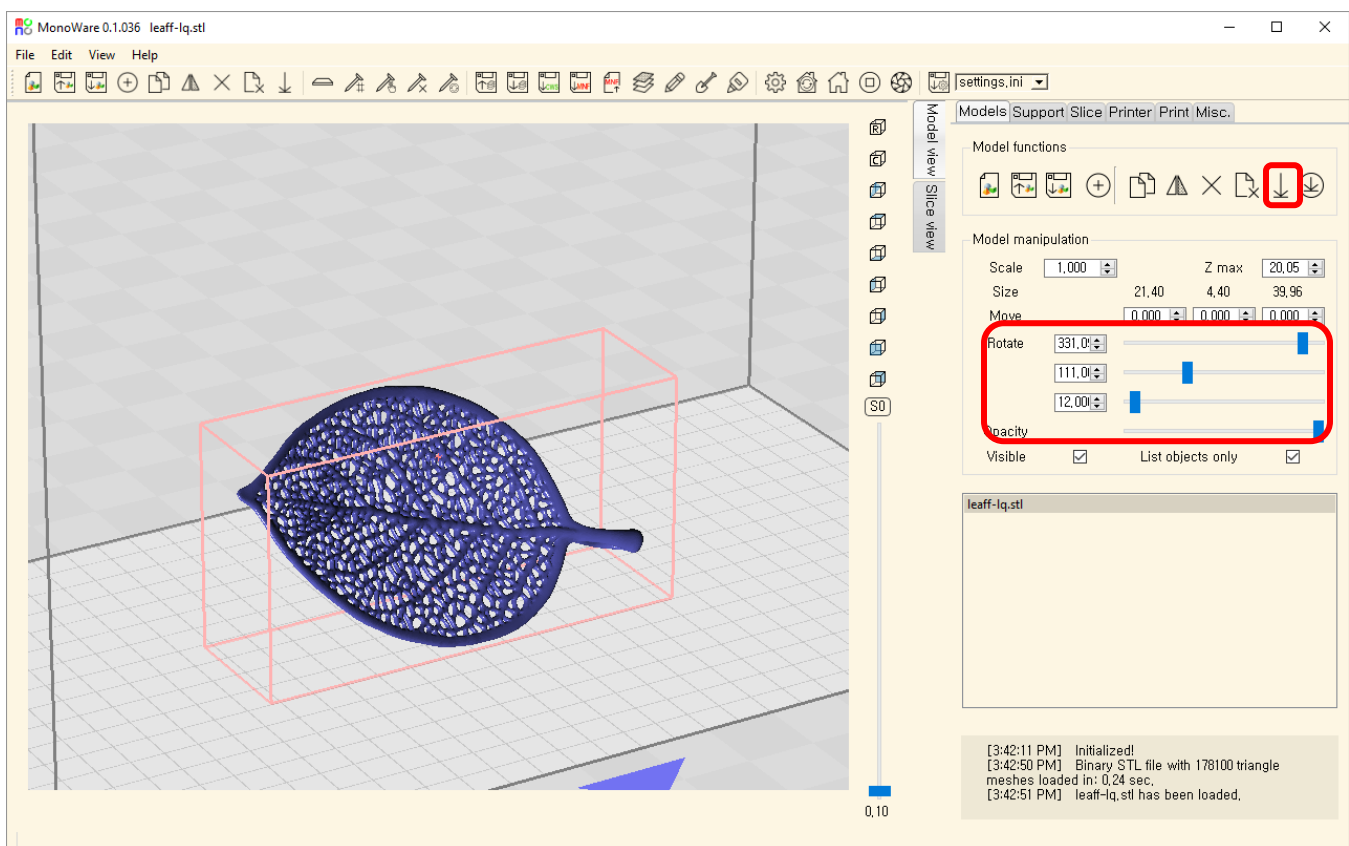
Please read thoroughly and contact us if you have any further questions or suggestions at [info@monoprinter.com](mailto:info@monoprinter.com)



## 1. Brief steps to generate MNF file formats

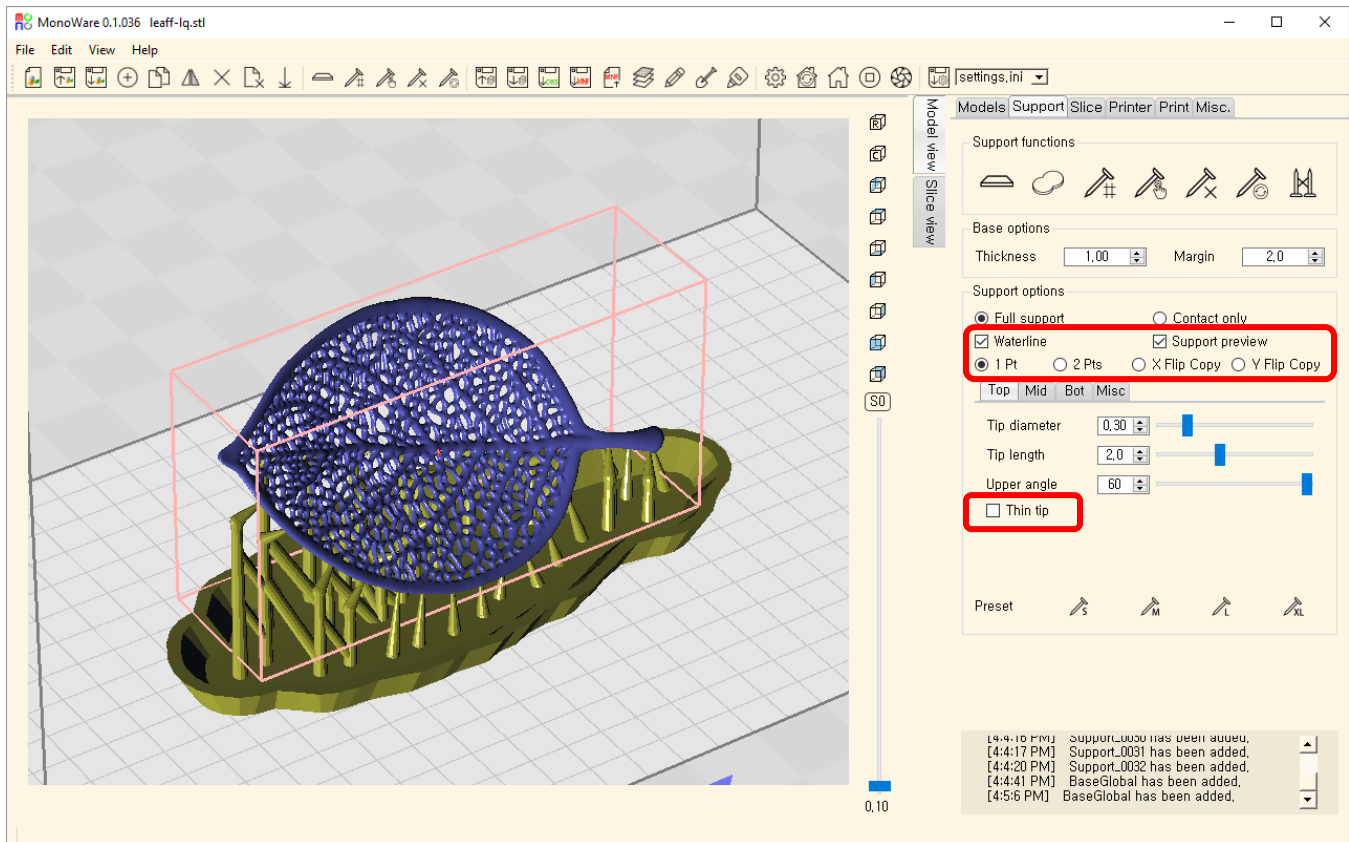
- A. [Models] Import models
- B. [Models] Adjust proper rotation of the model in order to obtain clean surface of interest, and to minimize a number of supports
- C. [Support] Generate supports
- D. [Slice] Make slices with a correct slice height (25, 50, or 100 microns)
- E. [Print] Check printing recipe (exposure time and lift distance) and then use a refresh button to update the printing parameter into slice list
- F. [Slice] Double check if each slice's exposure and lift is correct by moving a slider under slice view window
- G. [Slice] Export slices and printing parameter into an MNF file

## 2. Import models and adjust rotation



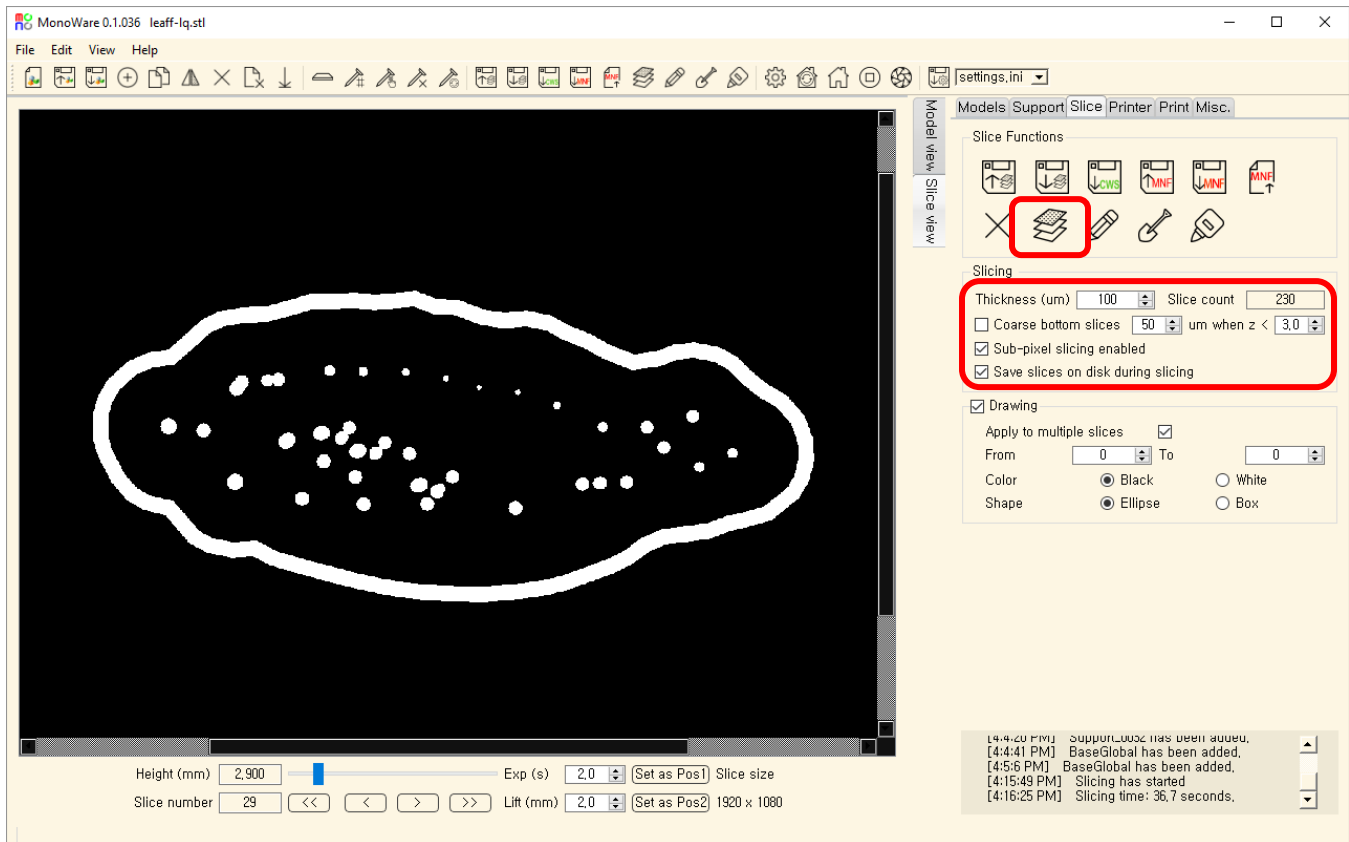
- Import a model and rotate it using rotation sliders
- Good practice of the rotation is that each slice has a smaller area rather than a large one to minimize the stiction force during printing.
- 45 degrees rotation is usually preferred.
- You also need to consider which surface is important. Even if the supports are removed carefully, there remains shallow marks on where supports existed.
- Move models by about 3mm along z-axis before starting support generation.

### 3. Generate supports



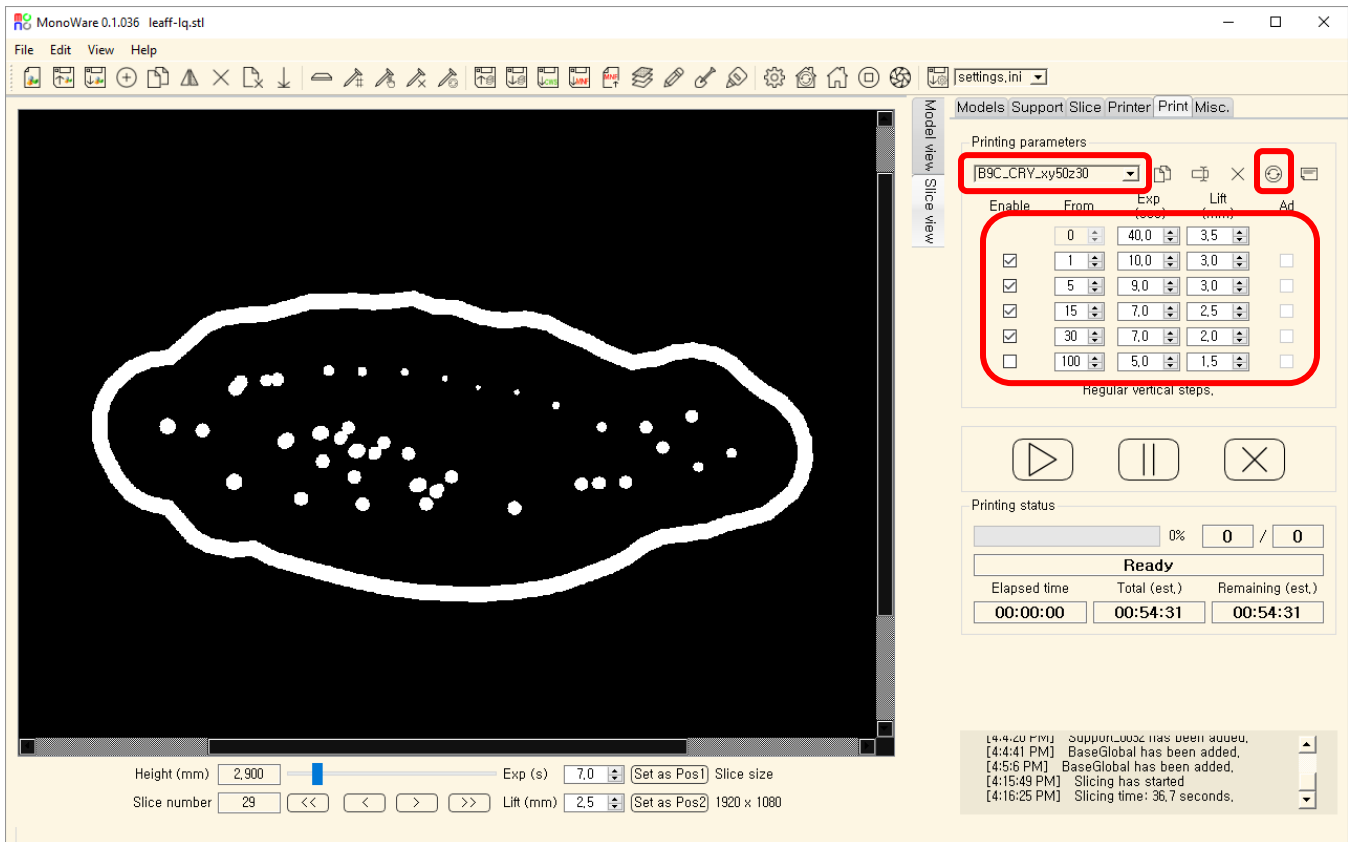
- Use single or two click support generation tools for small or jewelry models
- Use grid support generation first and then modify/add supports for large or figure models
- Use waterline and/or support preview features to see where supports are needed and generated
- For symmetrical models, you can use X/Y flip copy checked to automatically generate symmetric supports
- After support generation, use support linkers and base to complete this procedure.
- Thin tip is useful for very small and fragile models like wire jewelry. The tip diameter of 0.3mm or smaller and thin tip checked will generate very small support tips, so that support removal process will be easier and final prints will be cleaner than using normal supports.
- Use slice preview slider and preview modes (S1, S2, XR) to investigate further

## 4. Make slices



- Set a correct slice height (25, 50, or 100 microns)
- Turn on sub-pixel slicing option to obtain smooth boundaries
- Turn on 'save slices on disk' option if you're going to have >1000 slice counts. Without this option, all slice images are stored on main memory, so the performance will depend on how many GB your computer has.
- After slicing, inspect all slices carefully if there is any wrongly sliced part.

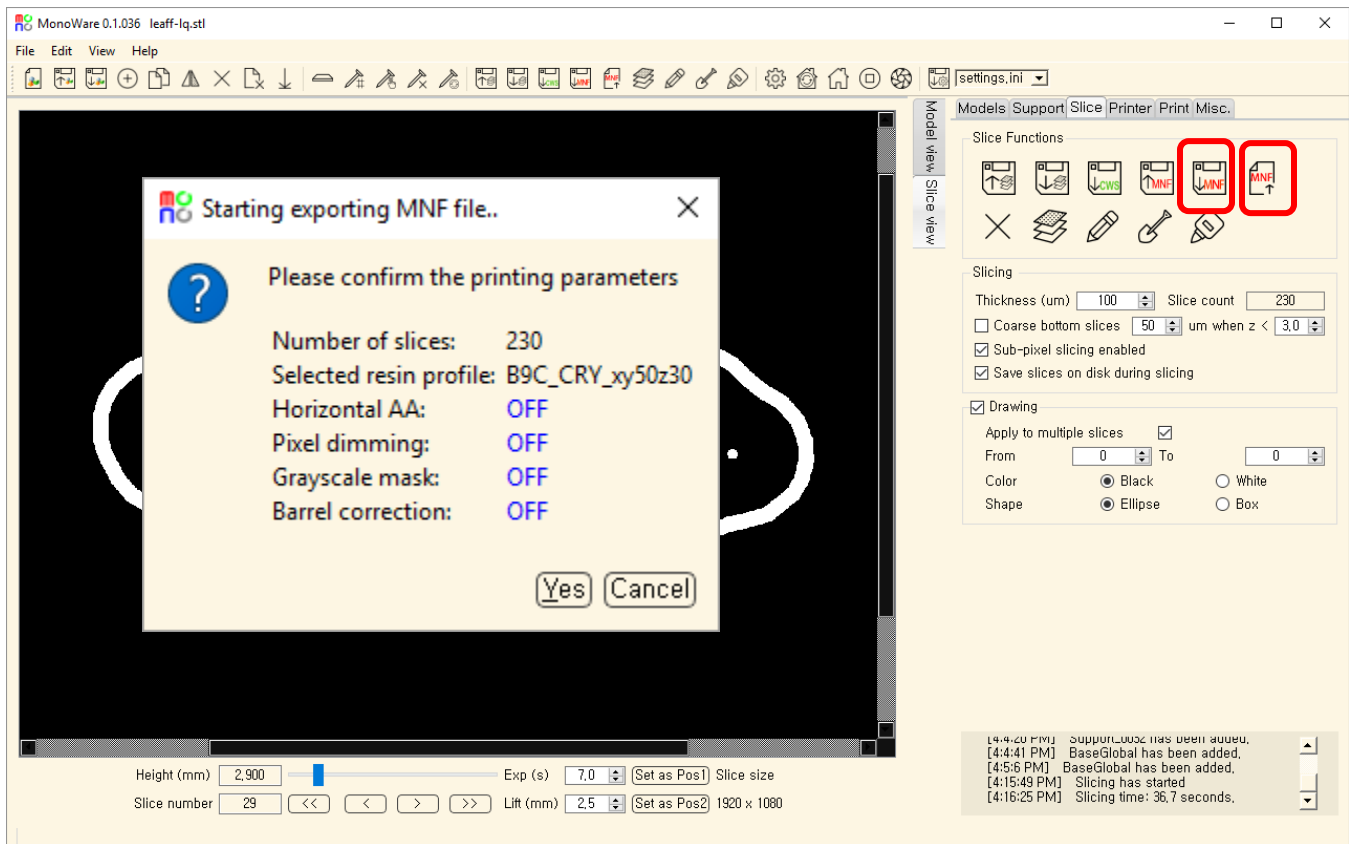
## 5. Update a correct printing recipe



- After slicing is done, you need to check each slice has correct printing parameters like exposure time and lift distance.
- Please select your material and slicing condition on printing parameter drop box.
- If there is no proper one, you may want to use existing one and modify it after you actually print the model.
- If you change the printing parameter, refresh the parameter to generated slices.
- You will see the exposure and lift distance are updated after refreshing.



## 6. Export MNF file format



- Return to the 'Slice' tab and start exporting slices and parameters to MNF file.
- Before saving the MNF file, MonoWare will pop up if all information is correct
- 'Barrel correction' will be ignored even if it's ON since all barrel correction will be done within the printer (Mono3).
- After MNF file generation, you can copy it into a USB stick and bring it into the printer, or you can send it wirelessly if you're connected to the printer.

## 7. Import MNF file and modify printing parameters

- You can import MNF files back into MonoWare to modify printing parameters.
- In this case, changing exposure and lift distance is possible. However since it does not involve original 3D models, you need to import original models if you want to change model scale, position, or rotation.

