

Work Example — Positioning the Workpiece

RSD-SUNMAX Series
SUNMAX LASER

About this document: This is an English translation of the Japanese original prepared by SUNMAX LASER for reference purposes. In case of any discrepancy, the Japanese original shall prevail. Specifications are subject to change without notice.

Work Example — Positioning the Workpiece

- This document assumes that the laser machine has been set up correctly.
- This document assumes that RDWorksV8, the control software for the RSD-SUNMAX series, is installed.

1. About Positioning the Workpiece

When engraving or cutting, accurate positioning can be critical. If you machine multiple products from the same data, you can prepare and use a positioning jig. When machining a one-off piece, however, positioning becomes especially important. Careful positioning is also required when the shape of the workpiece is fixed and any misalignment of the machining position would ruin the job. Positioning work means correctly setting the origin position of the machining data and the placement angle of the workpiece.

This work example covers machining a one-off piece (or a small lot) when no positioning jig or table position reference is available.

2. Machining Example

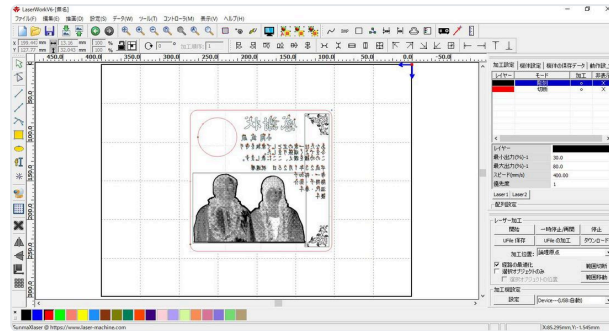
We will machine a crystal glass award plaque like the one shown below. The workpiece is a rounded-corner rectangle with a circular analog clock at the upper right (as viewed). We will reverse-engrave (engrave from the back of) this workpiece. (The holder for the plaque is a separate part.)



3. Creating the Data

Create the machining data. Because this is a reverse engraving, the data is mirrored horizontally. The text and photo were created in separate applications and then imported.

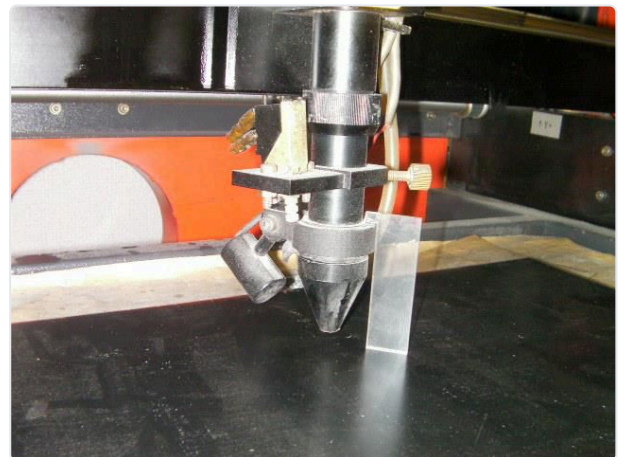
The outline of the workpiece and the outer edge of the clock are drawn on a different layer (the red layer) from the engraving data.



4. Using a Color Board

First, place a color board on the table and adjust the focus.

The color board is made of foamed polystyrene, about 5 mm thick; black is the best color.



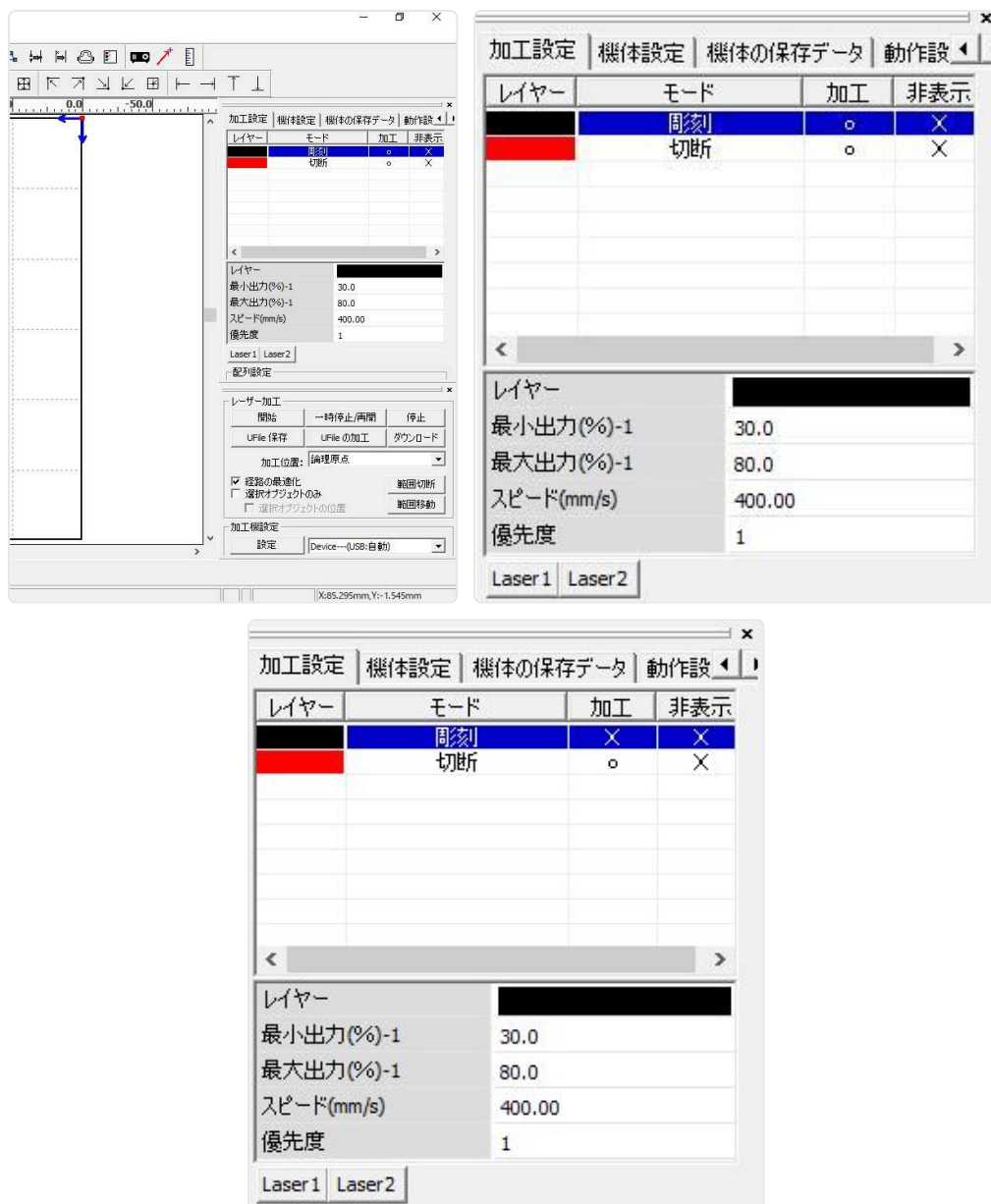
5. Cutting the Outline

In the RDWorksV8 layer list, set every layer other than the workpiece outline layer (in this case, the black layer) not to be processed. Double-click the target layer in the layer list to open the layer dialog.

Be sure to set the workpiece outline layer (the red layer) to "Cut" mode. The speed and power depend on the color board material, but since you only need to see the outline, the basic rule is fast speed and low power. Aim to lightly scribe the surface of the color board. If you engrave deeply or cut through it, positioning becomes difficult.

In the processing settings, change the ○ shown for the engraving layer to ×. Place the mouse cursor on the ○ and double-click it.

Double-click to change the ○ to ×. The ○ has been changed to ×.



Then run the outline job.

This only scribes the surface of the color board.

Caution: After drawing the outline on the color board, do not move the color board. Even a slight shift will make accurate positioning impossible.

6. Placing the Workpiece

Place the workpiece on the color board, aligning it with the drawn outline. Any shift or tilt will cause problems in the finished result, so do this carefully. Focus adjustment is also required.



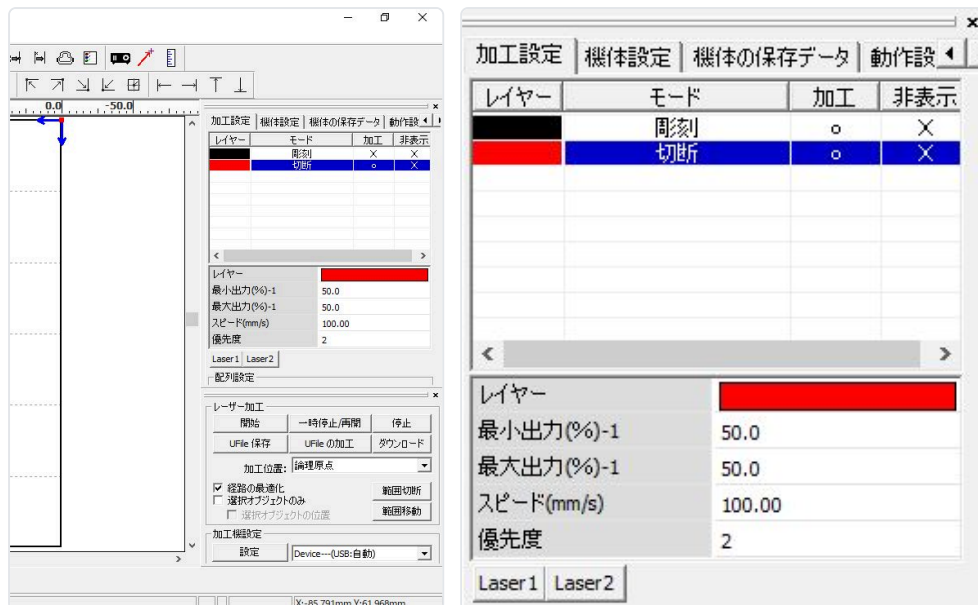
7. Engraving

Clear the check box for the outline cutting data and select the check box for the engraving data.

In the processing settings, change the ☐ shown for the cutting layer to ☒. Place the mouse cursor on the ☐ and double-click it.

Note: The engraving layer must be set to ☐ (enabled) for processing.

Double-click to change the ☐ to ☒. The ☐ has been changed to ☒.



Start the engraving.

