

# Guide to Removing Speckles in Binary Images with GIMP

## 1. Open the Image:

- Launch GIMP and open the binary image (File > Open).

## 2. Zoom In:

- Use the Zoom Tool (Z) or Ctrl + Mouse Scroll to zoom in on speckles.

## 3. Use the Pencil Tool:

- Select the Pencil Tool (N) with a small, hard-edged brush.
- Choose the appropriate color (white or black) based on the speckle.
- Paint over the speckle to remove it.

## 4. Use the Select Tool for Larger Speckles:

- Select the speckle with the Rectangle Select or Free Select Tool.
- Fill the selection with white using the Bucket Fill Tool (Shift + B) or Edit > Fill with FG/BG Color.
- Alternatively, press Delete to make the area transparent (ensure the layer has an alpha channel).

## 5. Deselect the Selection:

- Go to Select > None or press Ctrl + Shift + A.

## 6. Save Your Work:

- Save the edited file as a GIMP project (.xcf) for future changes (File > Save As).
- Export the image to a binary format (e.g., PNG) using File > Export As.

Additional Tips:

- Enable a grid for precision (View > Show Grid).
- Snap edits to the grid (View > Snap to Grid).
- Use Select > Feather to soften selection edges if needed.
- Temporarily invert colors (Colors > Invert) to better spot speckles.

This method allows precise removal of speckles while preserving the integrity of the image.