

Ford 5-Finger Analysis

Introduction

This document describes the steps to analyze a Ford 5-Finger plaque using the Surface Machine Systems, LLC Automatic Scratch Visualization software version 2.7.10.

Requirements

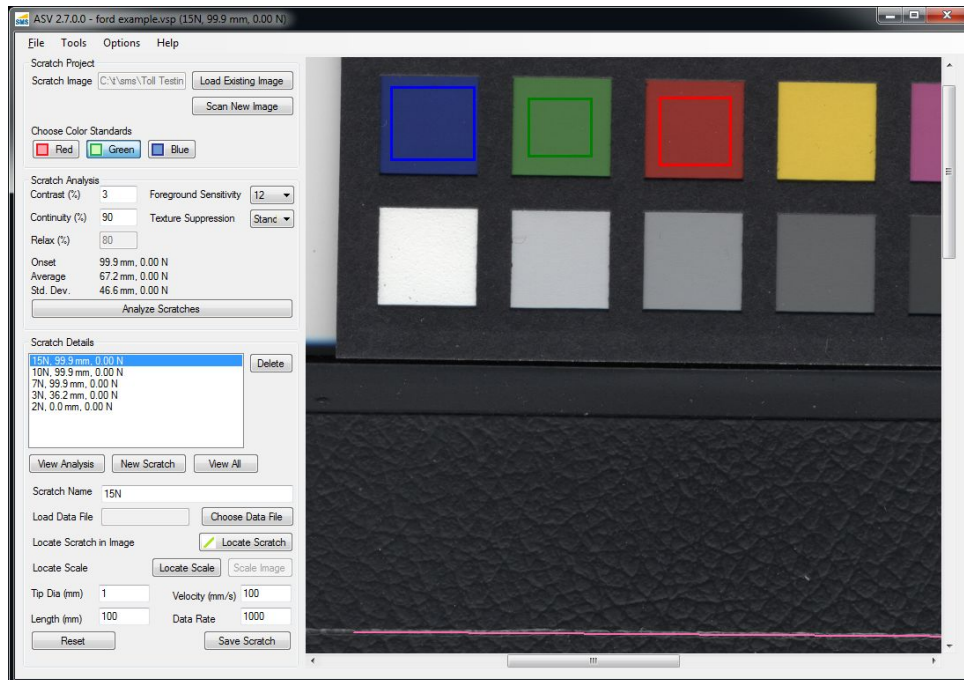
- A textured plaque with one or more constant-load marks created by the Ford 5-Finger instrument, or another constant-load-capable device, such as the Ericson scratch tester or the Surface Machine Systems Scratch 3, Scratch 3.5, Scratch 4, Scratch 4W, or Scratch 5 devices.
- A flatbed scanner.
- A color correction card.
- A Windows PC running SMS ASV 2.7.10 or compatible software from <http://www.surfacemachines.com/swdist/#asv>.

Steps

1. Acquire an Image

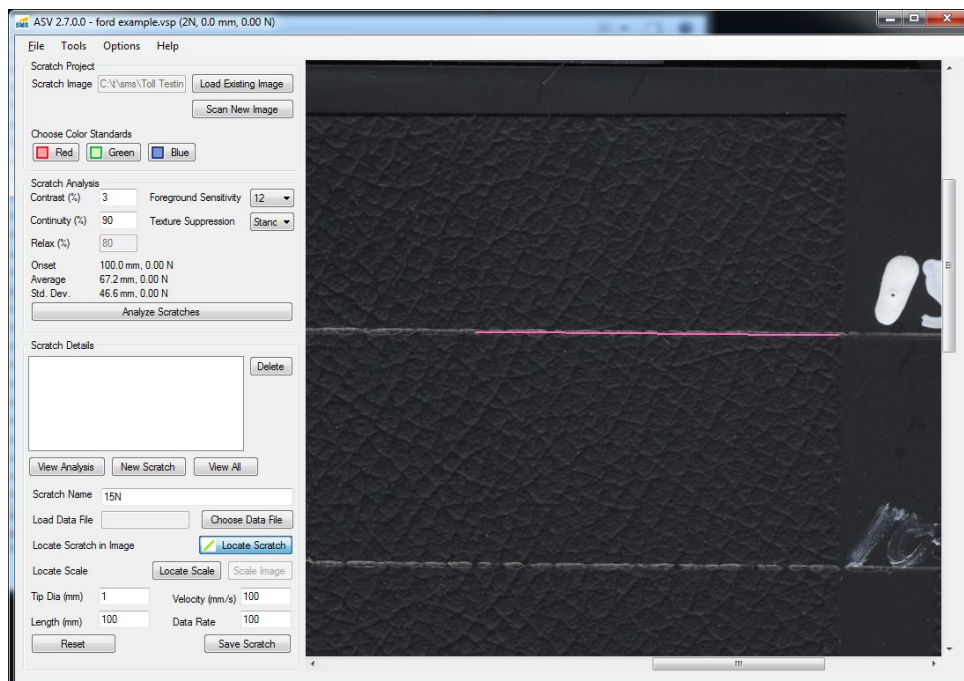
- 1.1. Click “Load Existing Image” or “Scan New Image”.
- 1.2. Images should be scanned at 300 DPI, 24-bit RGB color, with the color-correction card near the test plaque. The plaque should lie flat on the scanner, and should not be propped up or angled as a result of the color-correction card or any features of the sample.

2. Select the Color Calibration Swatches

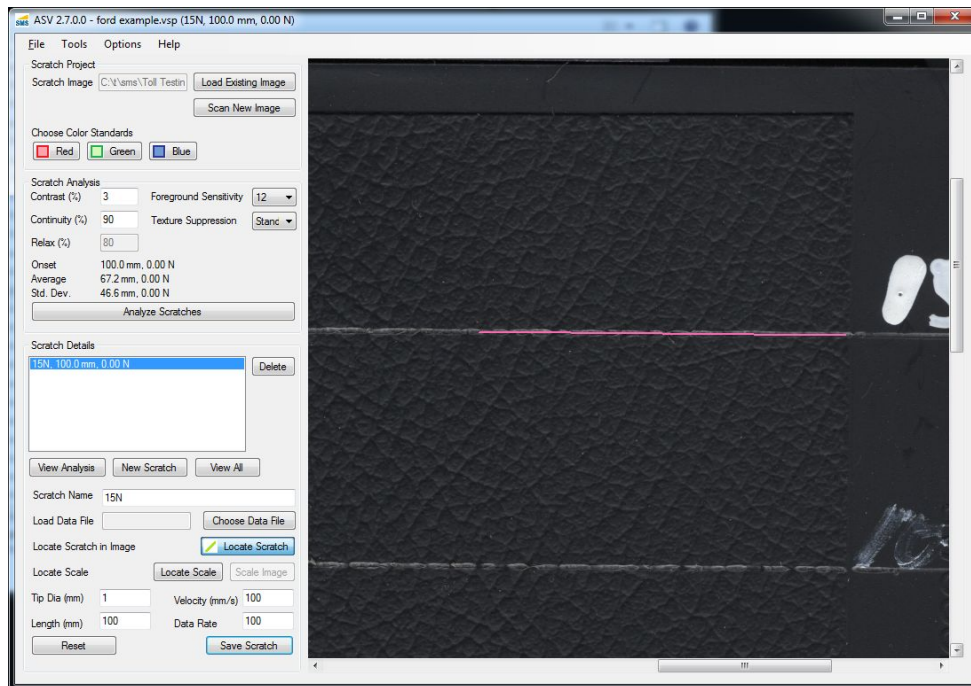


3. Select the Scratches or Marks

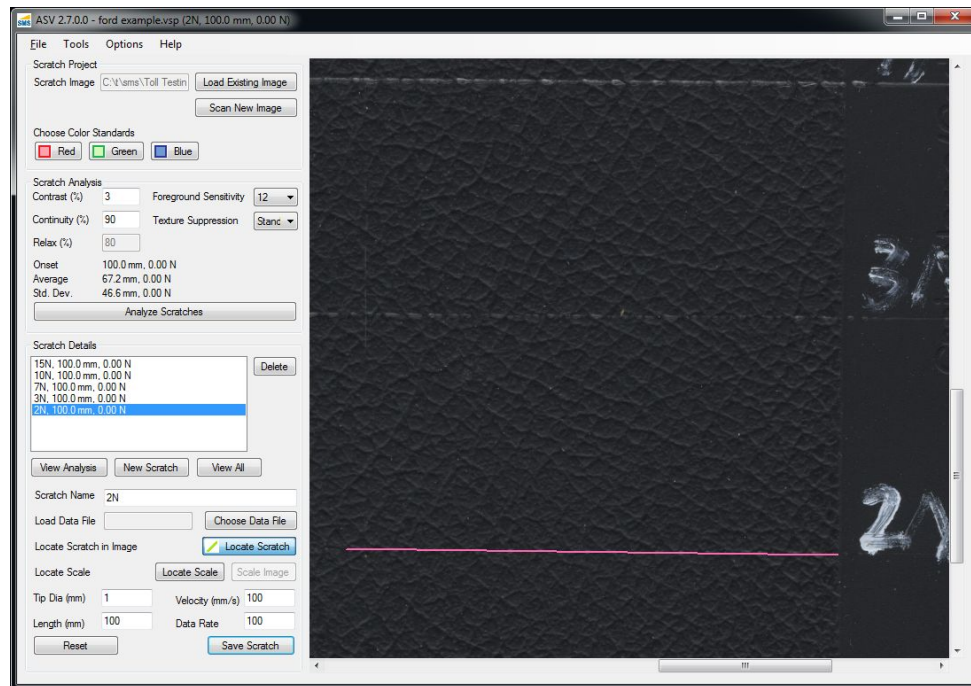
- 3.1. Under "Scratch Details", click "New Scratch".
- 3.2. In the "Scratch Name" textbox, give the mark a descriptive name, such as "15N".
- 3.3. If a data file is available, click "Choose Data File" and select the file using Windows Explorer.
- 3.4. Click "Locate Scratch" to use the Mark Scratch Locator tool.



- 3.5. Click and drag the Mark Scratch Locator tool from the right-hand edge of the scratch to the left, along the scratch. You do not have to mark the entire scratch.
- 3.6. In the textbox next to "Length (mm)", enter the length of the scratch in millimeters.
- 3.7. Click "Save Scratch".

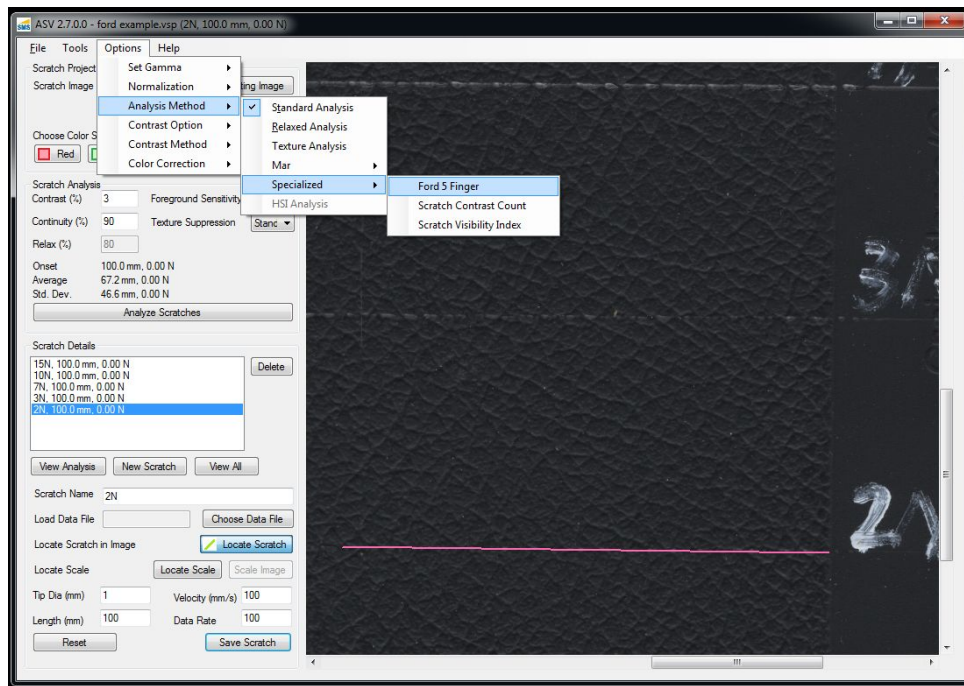


- 3.8. Repeat this process for each scratch or mark on the sample.



4. Analyze Scratches

- 4.1. Under “Options”, “Analysis Method”, “Specialized”, choose the option “Ford 5 Finger”.



- 4.2. Choose a “Foreground Sensitivity” and “Texture Suppression” level. The defaults of 5 and “Standard” should work for most plaques. Please note that these parameters change the visibility criteria for the test. It may be necessary to find a usable (but not perfect) balance of settings to cover a wide range of texture types.
- 4.3. Click “Analyze Scratches” button on the left.

5. Review Analysis

- 5.1. An overview of the analysis will be given in the “Scratch Details” box. After each scratch name will be a length in mm. This gives the total calculated visible length of each scratch or mark.
- 5.2. You can look at the specific analysis by selecting the scratch in “Scratch Details” box, then clicking the “View Analysis” button. This will launch the Data Viewer, and the Scratch Image Viewer.

