
Technical Procedure for Footwear Impression Searches

1.0 Purpose – This procedure describes the options available to the Forensic Scientist in Latent Evidence for searching questioned footwear impressions.

2.0 Scope – This procedure applies to the use of the Solemate FPX system and other on-line footwear outsole searches.

2.1 Latent Evidence analysts shall automatically include a Solemate FPX search, regardless of the presence of a search request on the Request for Examination of Physical Evidence in cases of Armed Robbery or where physical injury or attempted physical injury has occurred (ex: Assault, Rape, Homicide, etc).

3.0 Definitions

- **Solemate FPX:** Computerized system/outsole database designed for the searching of questioned shoeprint images.

4.0 Equipment, Materials and Reagents

4.1 Equipment and Materials

- Computer loaded with Solemate FPX
- Portable electronic storage device
- Internet access

4.2 Reagents- N/A

5.0 Procedure

5.1 Solemate FPX

5.1.1 Open Solemate FPX from the desktop.

5.1.2 Click “Search”

5.1.3 Search box will appear on screen.

5.1.4 If known, populate the “Field” and “Action” drop-down boxes with any brand, logo, and/or lettering visible in the impression. If multiple areas of branding, logos, or lettering appear the user can click “Add” to generate additional rows.

5.1.5 Click the “Add” button and choose “Shape” from the “Field” drop-down. The shape coding box will appear.

5.1.5.1 Choose an appropriate outsole design element by clicking the box. This will add the coding choice to the master search list. User may then right-click on the element box and designate the location of the outsole design element within the overall outsole, if known.

5.1.5.2 Continue to use the “Add” button to encode outsole design elements until completed.

Note: The following buttons and their functionality are also present:

- **Clear all** – Clears all search rows from the box.
- **Delete** – Deletes the highlighted row.
- **Move up** – Moves the highlighted row up in search priority. Priority is designated from the top down.
- **Move down** – Moves the highlighted row down in search priority.

5.1.5.3 When all coding options have been added, ensure that the row displaying the lowest number of total outsoles is highlighted and click “Display Results.”

5.1.6 Search results will automatically populate in a new box.

5.1.7 Visually scroll through search results.

5.1.7.1 Potential matches may be viewed in more detail by clicking on the thumbnail.

5.1.7.2 Alternate views of the outsole and the upper of the shoe may be viewed by scrolling through the drop-down list in the upper left of the expanded outsole box.

5.1.8 When correct outsole is located, right-click the selection in the “Display Results” box and chose “Add to Short List.” A new short list box will appear at the top of the display.

5.1.9 Click “Reports” on the taskbar.

5.1.10 Ensure that the “Check All” radio button is selected.

5.1.11 Click “Generate Report.” Save and/or print the report to PDF for inclusion in the Case Records Object Repository. All Solemate FPX potential matches shall be saved in the CROR.

5.2 On-line and other Footwear Searches: Forensic scientists may utilize on-line searches, communication with footwear manufacturers, and professional contacts to assist them in identifying a questioned outsole design. All searches shall be documented in the FA worksheet to include the websites/retailers searched and/or the individuals consulted with. Any potential matches shall be documented to include a pdf image of the outsole and the location (website) searched. The documentation shall be retained in the CROR.

5.3 Standards and Controls – N/A

5.4 Calibration – N/A

5.5 Sampling – N/A

5.6 Calculations – N/A

5.7 Uncertainty of Measurement – N/A

6.0 Limitations - N/A

7.0 Safety – N/A

8.0 References

Ashley, W. "What Shoe Was That? The Use of Computerised Image Database to Assist in Identification." *Forensic Science International*. (1996): 7-20.

Mikkonen, S., V. Suominen and P. Heinonen. "Use of Footwear Impressions in Crime Scene Investigations Assisted by Computerised Footwear Collection System." *Forensic Science International*. (1996): 67-79.

Solemate FPX User's Manual located on the computer desktop.

9.0 Records – N/A

10.0 Attachments – Letter Template

Revision History		
Effective Date	Version Number	Reason
09/17/2012	1	Original Document
10/31/2013	2	Added issuing authority to header 2.0/3.0/5.2 – Removed procedure for Crimeshoe.com as this footwear search service no longer exists
04/07/2017	3	2.1 – Added automatic SICAR search for specific classes of cases. Removed Digital mention from header.
02/01/2019	4	Updated document title and issuing authority Changed SICAR to Solemate FPX. Corrected instructions to correspond with Solemate FPX. Removed FBI Footwear Database searches. Added the ability to search on-line retail outlets for outsoles.

Attachment

March 24, 2011

Questioned Documents
Laboratory Division
Federal Bureau of Investigation
2501 Investigation Parkway
Quantico, VA 22135

Ref: SBI Laboratory # *R2011-01234*
Victim: *First National Bank*
Crime: *Armed Robbery*

Dear Sir,

Based on the information submitted to the NC State Crime Laboratory by the *Reidsville Police Department* on *March 22, 2011*, an *armed robbery* was committed at the *First National Bank in Reidsville, NC*.

Submitted under separate cover by email are images of *four (4) questioned footwear impressions taken from the floor in front of the counter*. Please attempt to determine the brand and model of shoe that could have made the questioned impression.

Any assistance you can provide in the matter is greatly appreciated.

Sincerely,

S/A (Name)
Forensic Scientist
Latent Evidence Section
N.C. State Crime Laboratory
919-662-4500, ext ()