

Footwear and Tire Make/Model Determinations

Table of Contents

1	INTRODUCTION	2
2	SCOPE	2
3	EQUIPMENT	2
4	PROCEDURE	3
4.1	Conclusions	4
5	LIMITATIONS	4
6	SAFETY	4
7	REFERENCES.....	4
8	REVISION HISTORY	5

Footwear and Tire Make/Model Determinations

1 INTRODUCTION

This procedure is intended to be utilized by trained personnel to ensure consistency and transparency of methods employed during footwear and tire make/model examinations of evidence received in the Questioned Documents Unit (QDU).

2 SCOPE

These procedures will be used by trained QDU personnel, including examiners and analysts, to determine the make and model associated with, or to learn more about, an item of footwear/tire evidence, including both questioned and known items.

These procedures may be used by examiners and analysts to determine the make/model of the source of an impression made using features on the footwear item outsole or tire tread. These procedures may also be used to determine the make/model of a footwear item/tire using features on the footwear item upper or tire sidewall.

Examiners and analysts may conduct other footwear/tire examinations to associate additional product information outside of make and model. However, these examinations must be approved by the technical leader, unit chief, or designee, and will be evaluated on a case-by-case basis. Additional discussion with the contributor may also be required to decide whether QDU personnel will conduct the requested examinations. All substantive communications will be recorded in the communication log.

The outcome of these procedures can assist law enforcement with generating investigative leads and an examiner when conducting comparative footwear/tire examinations.

3 EQUIPMENT

- Bluestar NFD footwear database [including Alaskan Reference Collection (ARC) and National Footwear Reference Collection (NFRC)]
- Everspy EverASM footwear database (including EverSole reference collection)
- FBI Sole Searcher II footwear database
- Foster + Freeman SoleMate FPX footwear database (including SoleMate reference collection)
- Internet
- Other Reference Materials
- Other Resources
- Tire Business
- Tread Design Guide
- Webster Groves High School footwear database (including Payless-Walmart reference collection)

4 PROCEDURE

- A. Visually examine the evidence (or reproductions of the evidence) to identify design features within the impression(s) or printed/molded into the evidence that are suitable to search. These design features include geometric shapes, logos, and text.
- B. Search the laboratory reference materials to locate reference footwear items/tires with corresponding design features
 - o QDU personnel may use other resources to associate a make and/or model with an impression (or evidence item) to include:
 - Site visits to local retailers
 - Contact with manufacturers or retailers
 - Contact with colleagues
 - Discipline-specific online forums (e.g., the SWGTREAD Forum available at <http://forum.swgtread.org>).
 - o Prior to sharing images and information associated with evidence items, QDU personnel will contact the contributor to obtain consent to do so.
 - Any substantive communications will be recorded on the communication log.
- C. Compare the features observed in the impression (or evidence item) to the features observed on the reference footwear items/tires in the laboratory reference materials using side-by-side comparison, superimposition, or both.
- D. Record the details of the search(es) performed in the examination record. At a minimum, record the following details:
 - The item(s) [or appropriate designator(s)], impression(s), or pattern(s) search
 - The laboratory reference materials searched
 - The date(s) searched
 - The name(s) or initials of the individual(s) where performed the search(es)
 - The outcome(s) of the search(es) (i.e., association or no association)
- E. If a make (with or without the model) is associated after conducting a search of the laboratory reference materials, record, at a minimum:
 - The make
 - The model (if known)
 - The relevant reference number (or URL, when appropriate) for the record associated with the reference materials
 - An appropriate image of the associated reference footwear item/tire
- F. The examiner will report the results of the make/model determination under the 'Results of Examinations' section of a Laboratory Report or within an Investigative Lead, Intelligence, or Information (i3) product.
 - o The results will include at a minimum:
 - The evidence item(s) (or appropriate designation) searched
 - An image of the associated reference footwear item/tire

4.1 Conclusions

- Association
 - A search of the laboratory reference materials resulted in associating the impression (or evidence item) with a make of footwear/tire and possibly a footwear/tire model.
 - It should be noted that there may be other makes and/or models of footwear/tires that could also be associated with the evidence.
- No Association
 - A search of the laboratory reference materials resulted in not associating the impression (or evidence item) with a make of footwear/tire.

For footwear/tire examination procedures beyond those detailed in these procedures, refer to [IMPRS-300 Footwear and Tire Evidence Examinations](#).

5 LIMITATIONS

- The laboratory reference materials are not comprehensive.
- The methods required to search the laboratory reference materials require manual input and subjective judgments, which may prevent QDU personnel from associating a record despite its presence in the laboratory reference materials.
- Some features associated with footwear and tires are common to multiple makes and models (i.e., generic) and thus don't provide discrimination potential such that the requested product information cannot be associated with the evidence item.
- The examinations may be limited by one or more of the following factors:
 - The condition or age of the evidence item
 - The quality of the detail of the source item's features as reproduced in the impression
 - The quantity of the source item's features as reproduced in the impression
 - The improper placement of the scale in images depicting an impression
 - Processing of the evidence prior to submission
 - The way that the evidence item was recovered
 - The way that the evidence item was packaged
 - The way that the impression was photographed
 - The absence of original evidence items

6 SAFETY

Standard precautions should be followed for the handling of chemical and biological materials. Chemical and biological materials that are hazardous or potentially hazardous will be maintained and examined in specifically designated areas within QDU space. QDU personnel may refer to the [FBI Laboratory Safety Manual](#) for additional guidance.

7 REFERENCES

Bluestar NFD User Guide

IMPRS-301-07: Footwear and Tire Make/Model Determinations	Page 4 of 5	Issue Date: 01/14/2022
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8 REVISION HISTORY

Revision	Issued	Changes
07	01/14/2022	Document updated to new technical template. Section 4, step E – Added ability to issue results via an i3 product.