OSAC RESEARCH NEEDS ASSESSMENT FORM

Title of research need:  
Assessment of Examiners’ Toolmark Categorization Accuracy

Keyword(s):  
Toolmarks, firearms, class characteristics, subclass,

Submitting subcommittee(s):  
Firearms and Toolmarks  
Date Approved:  

(If SAC review identifies additional subcommittees, add them to the box above.)

Background Information:

1. Description of research need:

We are unaware of any study that assess the overall firearm and toolmark discipline's ability to correctly/consistently categorize evidence by class characteristics, identify subclass marks.

2. Key bibliographic references relating to this research need:

n/a

3a. In what ways would the research results improve current laboratory capabilities?

Past validation studies have focused on the firearm and toolmark discipline’s overall ability to correctly identify items using individual characteristics. We are unaware of any studies that focused on the discipline to correctly characterize class characteristics and eliminate samples. Additionally, we are unaware of any studies that assess examiner accuracy in recognizing subclass characteristics.

3b. In what ways would the research results improve understanding of the scientific basis for the subcommittee(s)?

Understanding the overall accuracy of class and subclass characteristic categorization will guide the subcommittee with writing our testing and examination standards.

3c. In what ways would the research results improve services to the criminal justice system?

Further studies assessing and documenting the accuracy of examiners will help the justice system assess the overall error rates of the toolmark examinations.

4. Status assessment (I, II, III, or IV):  
III  

Major gap in current knowledge  
Minor gap in current knowledge

Version 1.1 / Date of Issue: 2.09.16 / Issuing Authority: Forensic Science Standards Board (FSSB)
This research need has been identified by one or more subcommittees of OSAC and is being provided as an informational resource to the community.

Approvals:

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<thead>
<tr>
<th>Subcommittee</th>
<th>Approval date:</th>
<th>5/4/2018</th>
</tr>
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(Approval is by majority vote of subcommittee. Once approved, forward to SAC.)

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<tr>
<th>SAC</th>
<th>1. Does the SAC agree with the research need?</th>
<th>Yes</th>
<th>No</th>
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<td>2. Does the SAC agree with the status assessment?</td>
<td>Yes</td>
<td>No</td>
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If no, what is the status assessment of the SAC: 

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(Approval is by majority vote of SAC. Once approved, forward to NIST for posting.)