Good Practices on Marking Modular and Polymer Weapons

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Agenda

• Key Challenges
• Current Status of Marking
• Tracing and marking SALW: Good Practices
• Conclusion

BMS7 Outcome:

To request the Secretariat, within existing resources, to develop a good practice document on marking practices for modular and polymer weapons taking into account the views of all Member States and the role of manufacturers.
Key Challenges

• Recent development in manufacturing such as new materials (e.g. polymer, technical plastic, non-metallic) and modularity of SALW poses challenges to marking, record-keeping and tracing of weapons.

• Marking requirements are challenged by polymer/modular weapons
  • unique / identifiable
  • clear / legible
  • permanent / durable
  • not removed / not altered / not obliterated
  • possibly recoverable

• Lack of import markings of modular/polymer weapons as one of the critical challenges to enable effective tracing operations

• Secondary markings are different from import markings and are only “encouraged” in the ITI
Current Status of Marking

- **Polymer weapons** - technical plastics:
  Markings easier to remove than weapons with metal components

- **Modular weapons**:
  Marking Methods:
  - Stamping
  - Casting
  - Mechanical engraving
  - Laser engraving
  - Radio Frequency Identification
  - Electro-chemical methods

- **Recovery of marking** - measures against being obliterated, altered and removed:
  - Recovery of obliterated laser engravings - some techniques may now be used to recover the marking.

Components to be assembled:
- Frame
- Receiver
- Essential components
  - Barrel, slide, cylinder, bolt / breech block
Tracing and marking SALW: Good Practices

MOSAIC 5.30:
- For weapons with frames made from non-metallic materials (e.g. polymers), the marking shall be applied on the embedded steel plate containing the main marking (5.3.3.2)
- Update MOSAIC modules with focus on marking

Polymer weapons:
- Ensure markings at the time of production
- Apply marking to a metal plate permanently embedded in the material of the frame with window
- Promote marking of metal components by importing and end-user states
- A metal plate has some extra space for import/secondary marking

Modular weapons:
- Common practice on marking of essential components to be defined by manufacturer and approved by technical authority (e.g. an expert committee)
Family Approach

- 1 model, different designs and calibers
- Key concern: they look alike
- Risk of confusion between models leads to tracing request based on wrong data

Common Receiver Approach

- 1 model with different calibers and some of the same essential components (i.e. receivers)
- Risk of confusion between models leads to tracing request based on wrong data
States’ practices – 2022 PoA/ITI national reports

- **Argentina**: recognizes all types of marking (laser, polymer, etc.)
- **Bosnia and Herzegovina**: marks to have a minimum size of 2 mm and a minimum depth of 0.2 mm (if placed on non-metal, e.g. polymer)
- **Czech Republic**: for a non-metallic material, the marking is applied to a metal plate that is permanently embedded in the material of the frame or receiver
- **France**: marking must be placed on metal plate that is permanently integrated into the frame material or breech box so that the plate cannot be easily removed
- **Poland**: taking into account metallic and non-metallic materials from which essential SALW components are made, Manufacturer must mark all essential SALW components
- **Switzerland**: non-metallic materials: During manufacture, all essential components must be marked or a metal plate with a marking must be affixed, even if the firearms are assembled
States’ practices - other sources

- **US: marking of privately manufactured firearms**
  - Per amended regulation, 27 CFR 478.92(a)(2), an acceptable method of identifying a PMF is by placing the serial number on a metal plate that is permanently embedded into a polymer frame or receiver, or other method approved by the Director.
  - ATF has long held that placing a serial number directly on the polymer does not meet the specified requirement of 27 CFR 478.92 since marking in this manner would make the serial number “susceptible [to] being readily obliterated, altered or removed.”

- **In the EU**: according to the (EU) 2017/853 Directive by the European Parliament, all firearms and essential components should be marked with a clear, permanent and unique marking and registered in national archives (see paragraphs 6,7 and 8).
Conclusions

• Marking requirements vs effective measure/approach

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Polymer</th>
<th>Modular</th>
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</thead>
<tbody>
<tr>
<td>Unique / identifiable (location of marking)</td>
<td>receiver / frame</td>
<td>receiver / frame / essential components</td>
</tr>
<tr>
<td>Clear / recognizable / legible / readable</td>
<td>window</td>
<td>laser engraving</td>
</tr>
<tr>
<td>Permanent / durable</td>
<td>metal plate / tag</td>
<td>laser engraving</td>
</tr>
<tr>
<td>NOT removed/ altered/ obliterated</td>
<td>embedded</td>
<td>laser engraving</td>
</tr>
<tr>
<td>Possibly recoverable</td>
<td></td>
<td>laser engraving</td>
</tr>
</tbody>
</table>

• Modular weapons:
  • Synthesizing the family approach and the common receiver approach to marking weapons are effective solutions

• Polymer frame:
  • **Metal plate/tag** permanently embedded/inserted into a polymer frame or receiver
  • **Window** to allow to read inscriptions on metallic parts located under a polymer element

• Technical dialogue: Roles of the UN?
  • Establish an expert group (e.g. industries and national experts)
  • Dialogue among licensed and non-licensed manufactures (parts manufacturers authorized by the original/genuine manufacturer)
Special thanks: Technical advice
Mr. Thierry Jacobs
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