MODULAR SMALL-ARMS-CONTROL IMPLEMENTATION COMPENDIUM

MOSAIC 05.30

Version 1.3
2026-08-13

Marking and recordkeeping

The Modular Small-arms-control Implementation Compendium
MOSAIC
Good practices for safer societies.

Reference number
MOSAIC 05.30:2026(E)V1.3

© United Nations 2026

This document may not be up to date.
Latest versions of all MOSAIC modules are available on

https://disarmament.unoda.org/en/conventional-arms-initiatives/modular-small-arms-control-implementation-compendium

ACKNOWLEDGEMENTS

This document — one in a series, comprising the Modular Small-arms-control Implementation Compendium (MOSAIC) — was produced by the United Nations in collaboration with a broad and diverse group of experts drawn from governments, international and regional organizations, civil society and the private sector. A full list of contributors to the MOSAIC project is available on our website.

The production of MOSAIC was made possible by the financial support of the governments of Australia, Canada, Germany, Ireland, Norway and Switzerland, as well as by the United Nations Development Programme (UNDP), the United Nations Office for Disarmament Affairs (UNODA), the United Nations Children's Fund (UNICEF) and the United Nations Counter-Terrorism Committee Executive Directorate (CTED).

© United Nations 2026

All rights reserved. This publication may be reproduced for non-profit educational and training purposes without special permission from the copyright holders, provided that the source is acknowledged. The United Nations would appreciate receiving an electronic copy of any publication that uses this document as a source (conventionalarms-unoda@un.org).

This document is not to be sold.

Contents

Page

Foreword ..... **v**
Introduction ..... **vi**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **2**
4 United Nations Framework **2**
5 Marking **2**
5.1 Standards applicable to all markings 2
5.1.1 General 2
5.1.2 Markings at different stages of a weapon's life cycle 3
5.1.3 Items to be marked 3
5.1.4 Marking requirements 4
5.2 Marking at the time of manufacture 4
5.2.1 Small arms and light weapons 4
5.2.2 Security markings on small arms and light weapons 6
5.2.3 Ammunition 7
5.3 Marking at the time of import 8
5.3.1 Content of import markings 8
5.3.2 Location of import markings 8
5.3.3 Method of import marking 9
5.3.4 Exceptions 9
5.4 Marking on transfer from government stocks to permanent civilian use 9
5.4.1 Small arms 9
5.4.2 Content of markings 10
5.4.3 Marking methods 10
5.5 Marking of permanently confiscated weapons 10
5.5.1 General 10
5.5.2 Content of markings 10
5.6 Marking of deactivated weapons 11
5.7 Deterring and counteracting the removal or alteration of markings 11
5.7.1 Criminalization 11
5.7.2 Countermeasures 11
6 Recordkeeping **12**
6.1 General 12
6.2 Records to be kept 12
6.2.1 Small arms and light weapons 12
6.2.2 Parts and components 15

© United Nations 2026 – All rights reserved

6.2.3 Recordkeeping by manufacturers 15
6.2.4 Recordkeeping by commercial entities that sell small arms or ammunition on the domestic market 15
6.2.5 Recordkeeping by private security companies 15
6.3 Keeper(s) of records 15
6.4 Method of recordkeeping 15
6.5 Access to records 15
6.5.1 General 15
6.5.2 Timeframe for information retrieval 16
6.5.3 Defunct companies 16
6.6 Duration of recordkeeping 16
Annex A (informative) **Overview of marking methods 17**
Bibliography 20

© United Nations 2026 – All rights reserved

Foreword

What is MOSAIC?

MOSAIC translates into practice the objectives of key global agreements aiming to prevent the illicit trade, destabilizing accumulation and misuse of small arms and light weapons, including:

- the Programme of Action on the illicit trade in small arms and light weapons
- the International Tracing Instrument
- the Firearms Protocol supplementing the UN Convention against Transnational Organized Crime
- the Arms Trade Treaty.

MOSAIC modules are based on good practices, codes of conduct and standard operating procedures that have been developed at (sub-)regional levels. They were developed by the UN, benefitting from the very best technical advice from experts around the world.

MOSAIC is a completely voluntary toolkit.

MOSAIC supports the achievement of the Sustainable Development Goals, including Goal 16 to promote peaceful, just and inclusive societies and its target 16.4 that includes a significant reduction in illicit arms flows.

Who developed MOSAIC?

Governments often call upon the UN system to provide advice and support on issues related to small arms and light weapons control — including on legislative, programmatic and operational matters.

UN agencies decided that the best way to ensure that the United Nations as a whole could consistently deliver high-quality advice and support in response to such requests, was to develop international guidance on small arms and light weapons control, similar to the standards the UN developed in the areas of mine action (International Mine Action Standards – IMAS); disarmament, demobilization and reintegration (Integrated DDR Standards – IDDRS); and ammunition (International Ammunition Technical Guidelines – IATG).

The compendium is the result of a decade of coordinated work within the UN system, involving 24 partner entities with expertise ranging from development and weapons management to gender and public health. An external expert reference group of over 300 specialists, from NGOs to industry, completed the sturdy process of establishing each module.

Who can use MOSAIC?

MOSAIC can be used by any government or organization. Properly basing small-arms control endeavours on MOSAIC modules, reduces the risk of weapons falling into the hands of criminals, armed groups, terrorists and others who would misuse them.

MOSAIC. Good practices for safer societies.

© United Nations 2026 – All rights reserved

Introduction

The ability to trace illicit small arms light weapons – as well as illicit parts, components and ammunition – back to the point, in space and time, where they passed from the legal to the illicit realm is a prerequisite for taking effective action to prevent further diversions from taking place (MOSAIC 05.31, *Tracing illicit small arms and light weapons*, provides guidance on the tracing process).

Effective tracing operations themselves depend on two prerequisites of their own, namely unique marking and efficient recordkeeping of small arms and light weapons. Only if a weapon is uniquely identifiable, and if readily accessible records of its history of ownership and movement are available, will it be possible to trace it back to its point of diversion.

© United Nations 2026 – All rights reserved

Marking and recordkeeping

1 Scope

This document provides guidance on adequate marking and recordkeeping of small arms, light weapons, their parts, components and ammunition. It covers technical aspects of marking, as well as effective recordkeeping infrastructure, for use at the national level in support of the national tracing system.

This document is intended to help States adopt and implement measures to ensure that small arms and light weapons, their parts, components and ammunition, are adequately marked and to encourage the small arms and light weapons manufacturing industry to assist in developing means of protecting against the removal and alteration of markings.

It provides guidance on different methods of marking, as well as on the types of markings to be applied at the time of manufacture, import, transfer from government stocks to permanent civilian use, permanent confiscation and deactivation.

This document is intended to help States establish or improve their marking and recordkeeping systems so that they are better able to identify, and help other States identify, the source of illicit small arms and light weapons and their ammunition. The general principle used is *prevention* of illicit manufacturing of and trafficking in small arms and light weapons, their parts and components and ammunition.

This module does not provide guidance on tracing. For this, see MOSAIC 05.31, *Tracing illicit small arms and light weapons*.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

MOSAIC 01.20, *Glossary of terms, definitions and abbreviations*

MOSAIC 05.50, *Destruction: Weapons*

ISO 3166-1, *Codes for the representation of names of countries and their subdivisions – Part 1: Country codes*

UN Recommendations on the Transport of Dangerous Goods: Model Regulations

© United Nations 2026 – All rights reserved

3 Terms and definitions

For the purposes of this document, the terms and definitions given in MOSAIC 01.20, *Glossary of terms, definitions and abbreviations*, and the following apply.

In all MOSAIC modules, the words 'shall', 'should', 'may' and 'can' are used to express provisions in accordance with their usage in International Organization for Standardization (ISO) standards.

a) **"shall" indicates a requirement:** It is used to indicate requirements strictly to be followed in order to conform to the document and from which no deviation is permitted.

b) **"should" indicates a recommendation:** It is used to indicate that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required, or that (in the negative form, 'should not') a certain possibility or course of action is deprecated but not prohibited.

c) **"may" indicates permission:** It is used to indicate a course of action permissible within the limits of the document.

d) **"can" indicates possibility and capability:** It is used for statements of possibility and capability, whether material, physical or casual.

4 United Nations Framework

This document provides practical guidance on the implementation of commitments related to the marking and recordkeeping of small arms and light weapons that are contained in United Nations multilateral instruments related to small arms and light weapons control, including the

a) *International Instrument to Enable States to Identify and Trace, in a Timely and Reliable Manner, Illicit Small Arms and Light Weapons* (International Tracing Instrument);

b) *Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, supplementing the United Nations Convention against Transnational Organized Crime* (UN Firearms Protocol); and

c) *United Nations Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects* (UN Programme of Action).

5 Marking

5.1 Standards applicable to all markings

5.1.1 General

All small arms and light weapons shall be marked with a unique identifying mark.

National legislation, regulations or administrative procedures shall define the small arms and light weapons components that are to be controlled and that therefore require markings. Efforts should be undertaken to align such definitions regionally to avoid legal loopholes.

NOTE 1 In many jurisdictions, the primary marking component is the frame and/or receiver. For legal purposes, the primary marking component may be considered to be the small arm or light weapon (see Clause 5.1.3.15.1.3.1).

Small arms and light weapons lacking unique identifying marks shall be considered illicit and quarantined until such time as they are adequately marked.

© United Nations 2026 – All rights reserved

5.1.2 Markings at different stages of a weapon's life cycle

All small arms and light weapons shall be marked at the time of their

a) manufacture;

b) import (unless an import mark was applied at the time of manufacture; see Clause 5.2.1.1 (h) and (i));

c) transfer from government stocks to permanent civilian use;

d) permanent confiscation by the State (unless disposed of through destruction);

e) deactivation.

To ensure the continued traceability of a small arm or light weapon that was already marked with a unique serial number in a previous life-cycle stage, the serial number shall not be modified when additional markings are added.

5.1.3 Items to be marked

5.1.3.1 Small arms and light weapons

Unique identifying marks shall be applied to a designated primary marking component of the small arms or light weapon. This shall be a structural and durable component that is not routinely replaced during maintenance and whose destruction would render the weapon permanently inoperable. For recordkeeping and tracing, the markings on the primary marking component shall be the main reference point for identifying the weapon.

NOTE 1 The frame/receiver is typically the primary marking component. However, what constitutes a frame or receiver may depend on firearms design and national legal definitions. Also, certain weapon families such as the AK and AKM have differing usual marking locations. Where the frame/receiver is not clearly defined or not the usual marking location for a given weapon family, the primary marking component should be a functional equivalent that meets the above marking criteria.

Unique identifying marks should also be applied to other pressure-bearing parts and components of a small arm or light weapon, including the barrel, upper receiver, slide, cylinder, bolt or breech block. Where space is limited, these additional markings may use partial serial numbers, to consist of the last 3 or 4 alphanumeric characters of the full marking.

NOTE 2 The application of such additional marks can assist in the identification, recordkeeping and tracing of illicit small arms and light weapons that have been assembled from the parts and components of a number of different weapons; weapons whose frame or receiver is unmarked or has had its markings removed; as well as illicit shipments of parts and components of small arms and light weapons.

5.1.3.2 Modular small arms and light weapons

For modular weapons, a designated primary marking component shall be marked. This shall be a structural, durable component that is not replaced when changing the configuration of the weapon.

Unique identifying marks should also be applied to other pressure-bearing parts and components of a modular small arm or light weapon. Such components may be marked with the serial number of the weapon to which it is fitted. In such cases, the serial number of the primary component shall be clearly distinguishable from serials numbers on other components to avoid confusion if such components are changed. Where space is limited, partial serial numbers may be used, to consist of the last 3 or 4 alphanumeric characters of the full marking.

5.1.3.3 Ammunition and ammunition packaging

The outer packaging of small arms and light weapons ammunition shall be marked. Individual rounds of small arms and light weapons ammunition may be marked.

© United Nations 2026 – All rights reserved

5.1.4 Marking requirements

All markings shall fulfil the following requirements

a) Markings shall be expressed alphanumerically (i.e. they may consist of both Latin (alphabet) letters and Arabic numerals).

NOTE 1 The International Tracing Instrument and the Firearms Protocol recognise a potential exception to this for States that, before 3 July 2005, already employed a unique, user-friendly marking system using simple geometric symbols in combination with a numeric and/or alphanumeric code permitting for the ready identification by all States of the country of manufacture. In practice, geometric symbols create major challenges for record-keeping and tracing. This document therefore recommends ISO country codes (see Clause 5.2.1.1).

b) Markings shall be applied to an exposed surface of the small arms and light weapons.

c) Markings shall be conspicuous without technical aids or tools.

d) Markings shall be easily recognizable.

e) Markings shall be readable.

f) Markings shall be durable; i.e., resistant, throughout the expected lifetime of the weapon, to normal operational wear and tear in the environment in which the weapon is deployed

g) Markings shall be recoverable; as far as is technically possible.

NOTE 1 Based on the current state of knowledge, stamped markings are the most recoverable method. Laser markings can be recoverable if such markings are applied deeply enough.

5.2 Marking at the time of manufacture

5.2.1 Small arms and light weapons

5.2.1.1 Content

All small arms and light weapons shall, at the time of their manufacture, be marked with identifiable serialised markings and other traceable manufacturing markings.

Manufacturing markings shall at least contain the following information:

a) the country of manufacture (which should be expressed in accordance with ISO 3166-1 alpha-3 or alpha-2, see Clause 2);

b) the name of the manufacturer; and

c) a serial number that uniquely identifies the weapon and is not repeated

   1) among all weapons produced by the manufacturer, or

   2) within a specific type or model produced by that manufacturer.

The following information should also be included in the marking:

d) year of manufacture (this information may be incorporated into the serial number);

e) weapon type/model; and

f) calibre.

The following information should be added to the marking:

 © United Nations 2026 – All rights reserved

g) proof marks (in accordance with the requirements of national or international regulations).

The following information should be included in the manufacturing marking, if known at the time of manufacture:

h) the country to which the weapon is to be exported, (which should be expressed in accordance with ISO 3166-1 alpha-3 or alpha-2, see Clause 2); and

i) the year of export.

NOTE 1 Applying such markings at the time of manufacture avoids the need to re-mark the weapon at the time of import (see Clause 5.3).

The following information may be included in the marking if the weapon is intended for a domestic State entity (military, police, etc.):

j) identity of the domestic State entity for which the weapon is intended.

EXAMPLE: An example of a manufacturing marking as outlined in Clause **Error! Reference source not found.**5.2.1.1 is as follows:

XX	**-**	**XXXX**	**-**	**99**	**-**	**99**	**-**	**99999**	**-**	**99**
Country of manufacture (2-letter ISO country-code)		Manufacturer's name or code		Year of manufacture (2 numbers)		Type/model code		Serial number		Caliber

5.2.1.2 Parts and components to be marked

Manufacturing markings shall be applied to the weapons primary marking component, i.e. typically the frame/receiver (see Clause 5.1.3.1).

Since illicit small arms and light weapons can be assembled from legally manufactured parts and components that have been illicitly trafficked, parts and components that are essential to the operation of a small arm or light weapon (see Clause **Error! Reference source not found.**) should also be marked in accordance with Clause 5.2.1, as applicable, at the time of their manufacture, in order to facilitate their tracing if recovered under illicit circumstances. This includes the

a) barrel; and

b) slide, cylinder, bolt or breech block.

5.2.1.3 Non-metallic frames or receivers

For weapons with frames or receivers made from non-metallic materials (e.g. polymers), the marking shall use one of the following methods:

a) Embedded metal plate: The marking shall be applied to a metal plate permanently embedded in the material of the frame in such a way that

   1) the plate cannot be easily or readily removed;

   2) removing the plate would destroy a portion of the frame;

© United Nations 2026 – All rights reserved

3) when marked, the plate should contain enough empty space to receive at least one import marking of the same character size as the original marking, in accordance with Clause 5.3.

NOTE 1 It is recognized that manufacturers are not able to guarantee that removing the place would permanently destroy a portion of the frame in all cases since this is dependent on the skills of those undertaking to remove the plate, as well as the ability of those undertaking a repair and the resources available to them. Nevertheless, taking this into account, it should be made as difficult as possible to remove the plate without damaging the frame.

b) Window to marked metal component: The marking shall be applied to a structural metal component of the weapon that is visible through an opening (“window”) in the frame or receiver.

5.2.1.4 Method

The stamping method should be used to apply markings to small arms and light weapons at the time of their manufacture (see Annex A).

A stamped marking shall have a depth of at least 0.20mm.

NOTE 1 There is a greater possibility of retrieving erased serial numbers that have been applied to the weapon using the stamping method, due to deformation at the molecular level caused by stamping.

Manufacturers should undertake testing to ensure that the marking protocols adopted result in technically recoverable marks.

5.2.2 Security markings on small arms and light weapons

5.2.2.1 General

In addition to the manufacturing markings outlined in Clause 5.2.1.1, security markings may be applied to small arms and light weapons, in order to provide a back-up in case manufacturing markings are removed or altered.

5.2.2.2 Content

Security markings should contain the same information as manufacturing markings (see Clause 5.2.1.1).

Where space is limited, the use of partial serial numbers is acceptable, to consist of the last 3 or 4 alphanumeric characters of the full marking.

5.2.2.3 Location

Security markings should be hidden by being applied to parts of the weapon that are difficult to manipulate after the weapon has been manufactured and that, if tampered with, would render the weapon unusable.

EXAMPLE Examples of possible locations for security markings include the ejector, breech, extractor, or inside the barrel.

5.2.2.4 Methods

Depending on the component being marked, the most suitable methods for applying security markings at the time of manufacture are

a) mechanical and/or laser engraving;

b) laser perforation directed by computer (laser perforations, covered by a polymer, that can be read as a data matrix under infrared lighting);

c) drilling small holes inside the barrel that can be read with an ultrasonic sensor; or

© United Nations 2026 – All rights reserved

d) radiofrequency identification (RFID) technology (RFID tags embedded in a weapon and readable with an RFID interrogator; e.g. an appropriately equipped cellular phone).

5.2.3 Ammunition

5.2.3.1 Marking of ammunition packaging

The outer packaging of small arms and light weapons ammunition shall be marked at the time of manufacture.

Small arms and light weapons ammunition should be packaged and marked in accordance with the United Nations *Recommendations on the Transport of Dangerous Goods: Model Regulations*.

All small arms and light weapons ammunition packaging units – from the largest to the smallest – should be marked in order to facilitate tracing. Markings should include the following information:

a) country of manufacture (which should be expressed in accordance with ISO 3166-1 alpha-3 or alpha-2, see Clause 2);

b) name of the manufacturer;

c) lot or batch number unique to the

   1) manufacturer, or

   2) type of ammunition produced by the manufacturer;

d) year of manufacture (this information may be incorporated into the lot or batch number);

e) calibre;

f) type;

g) consignor (when known at the time of packaging);

h) consignee (when known at the time of packaging and when an entire lot or batch of ammunition is being shipped to a single recipient), and

i) date of consignment (when known at the time of packaging).

If not known at the time of packaging, the information set out in points (g), (h) and (i) above should be marked on the outermost packaging of ammunition prior to shipment.

Where possible and known, the smallest feasible packaging unit of small arms and light weapons ammunition may be marked with end-user information.

5.2.3.2 Marking of individual rounds of ammunition

Individual rounds of small arms and light weapons ammunition may also be marked in order to facilitate their tracing if recovered under illicit circumstances. Information that may be marked on individual cartridge cases includes the

a) country of manufacture (which should be expressed in accordance with ISO 3166-1, see Clause 2);

b) name of the manufacturer;

c) lot or batch number that uniquely identifies the batch and is not repeated

© United Nations 2026 – All rights reserved

1) among all batches produced by the manufacturer, or

2) within a specific type of ammunition produced by the manufacturer;

d) calibre; and

e) type.

5.3 Marking at the time of import

Small arms and light weapons shall be marked at the time of their import with import markings.

5.3.1 Content of import markings

5.3.1.1 Adequately marked weapons

If imported weapons have adequate manufacturing markings in accordance with Clause 5.2.1.1 a), b) and c), then additional markings shall be applied to them at the time of their import to identify the

a) country of import; and

b) year of import.

5.3.1.2 Inadequately marked weapons

If imported weapons do not have adequate manufacturing markings in accordance with Clause 5.2.1.1 a), b) and c), then additional markings shall be applied to them at the time of their import, containing the following information:

a) The country of import (which should be expressed in accordance with ISO 3166-1 alpha-3 or alpha-2, see Clause 2);

b) The year of import; and

c) A serial number unique in relation to a) and b) above.

NOTE 1 Import markings make tracing operations more efficient by allowing a tracing request to be sent directly to the last known country of legal import.

EXAMPLE An example of an import marking as outlined in this Clause is as follows:

XX	**-**	**99**	**-**	**999999**
Country of import (2-letter ISO country-code)		Year of import (2 numbers)		Serial number (if weapon is inadequately marked)

5.3.2 Location of import markings

5.3.2.1 General

Import markings shall be applied to the weapon’s primary marking component (see Clause 5.1.3.1), i.e., typically the frame/receiver), In addition, import markings may be applied to other essential parts (e.g. barrel, slide, cylinder, bolt or breech block).

 © United Nations 2026 – All rights reserved

Import markings should be applied adjacent to the weapon's existing markings but should be visibly distinguishable from the existing markings. If existing markings contain a unique serial number, it shall not be modified.

5.3.2.2 Non-metallic frames

For weapons with frames made from non-metallic materials (e.g. polymers), the import mark should be applied on the embedded steel plate containing the manufacturing marking (see Clause 5.2.1.3).

If it is not possible to apply the import marking to the embedded steel plate (e.g. an embedded steel plate is not present or does not contain sufficient empty space), the import marking should be applied directly to the non-metallic frame.

When an import marking is applied directly to a non-metallic frame,

a) it should be applied to a part of the frame that is least likely to suffer from wear and tear during the course of normal operational use; and

b) the same import marking shall also be applied to at least one essential metallic component of the weapon (e.g. barrel, slide, cylinder, bolt, or breech block).

5.3.3 Method of import marking

If import markings are applied at the time of manufacture, the marking technique used for manufacturing markings should also be used to apply the import markings, in accordance with Clause **Error! Reference source not found.**5.2.1.1.

If import markings are applied at the time of import, mechanical or laser engraving may be used.

Import markings applied by means of mechanical or laser engraving should have a depth of at least

a) 0.10mm when applied to metal; and

b) 0.20mm when applied to non-metallic materials (e.g. polymers).

5.3.4 Exceptions

Import markings need not be applied to small arms or light weapons that are being

a) temporarily imported for verifiable, lawful purposes (e.g. hunting, sport shooting, evaluation, exhibitions or repairs);

b) imported following a temporary export for verifiable, lawful purposes; or

c) permanently imported as museum artifacts.

5.4 Marking on transfer from government stocks to permanent civilian use

5.4.1 Small arms

Small arms that are permanently transferred from government stocks to civilian use shall be marked.

Small arms in State stockpiles that are surplus to national requirements should be destroyed in accordance with MOSAIC 05.50, *Destruction: Weapons*, or may be disposed of by other means authorized by the State. Their transfer from government stocks to permanent civilian use should not take place if there is a clear risk that this would have a negative impact on internal security.

© United Nations 2026 – All rights reserved

NOTE 1 Light weapons in State stockpiles that are surplus to national requirements should be destroyed in accordance with MOSAIC 05.50, *Destruction: Weapons*, or may be disposed of by other means authorized by the State. They shall not be transferred from government stocks to permanent civilian use (for further guidance, see MOSAIC 03.30, *National controls over the access of civilians to the small arms and light weapons*).

5.4.2 Content of markings

5.4.2.1 Adequately marked weapons

If small arms are transferred from government stocks to permanent civilian use and already possess adequate manufacturing markings in accordance with Clause **Error! Reference source not found.**5.2.1.1 a), b) and c), then additional markings shall be applied to them, at the time of their transfer, identifying

a) the State transferring the weapons (which should be expressed in accordance with ISO 3166-1 alpha-3 or alpha-2, see Clause 2); and

b) the year of transfer.

5.4.2.2 Inadequately marked weapons

If small arms are transferred from government stocks to permanent civilian use, and do not possess adequate manufacturing markings in accordance with Clause 5.2.1.1 a), b) and c), then markings shall be applied to them, at the time of their transfer, containing the following information:

a) The State transferring the weapons;

b) The year of transfer; and

c) A serial number unique in relation to a) and b) above.

5.4.3 Marking methods

Mechanical or laser engraving may be used to mark weapons at the time of their transfer from government stocks to permanent civilian use (see Annex 1).

5.5 Marking of permanently confiscated weapons

5.5.1 General

Small arms and light weapons that are permanently confiscated by the State shall be marked as such at the time of their confiscation. And exception may be made if confiscated weapons are to be destroyed in the near future.

NOTE 1 Small arms and light weapons that are permanently confiscated by the State due to, for example, their having been illicitly manufactured or trafficked, should be disposed of through destruction in accordance with MOSAIC 05.50, *Destruction: Weapons*.

5.5.2 Content of markings

5.5.2.1 Adequately marked weapons

If permanently confiscated small arms and light weapons already possess adequate manufacturing markings in accordance with Clause 5.2.1.1 a), b) and c), then additional markings shall be applied to them at the time of their confiscation to identify the

a) confiscating State; and

b) year of confiscation.

 © United Nations 2026 – All rights reserved

5.5.2.2 Inadequately marked weapons

If permanently confiscated small arms and light weapons do not possess adequate manufacturing markings in accordance with Clause 5.2.1.1 a), b) and c), then additional markings shall be applied to them at the time of their confiscation, containing the following information:

a) The confiscating State (which should be expressed in accordance with ISO 3166-1 alpha-3 or alpha-2, see Clause 2);

b) The year of confiscation; and

c) A serial number unique in relation to a) and b) above.

5.6 Marking of deactivated weapons

Small arms and light weapons shall be marked at the time of their deactivation (see MOSAIC Module 05.55 *Permanent deactivation of small arms and light weapons*, Clause 8.1). Additional markings shall be applied to identify

a) the State in which the deactivation took place (which should be expressed in accordance with ISO 3166-1 alpha-3 or alpha-2, see Clause 2);

b) the year of deactivation;

c) a marking indicating that the weapon has been deactivated; and

d) the State verification authority.

5.7 Deterring and counteracting the removal or alteration of markings

5.7.1 Criminalization

Only a competent State authority may authorize the removal or alteration of markings on small arms and light weapons. Weapons that have their markings removed or altered following authorization by a competent State authority shall be remarked and recorded in accordance with this document. The records of such weapons shall include the old and the new markings.

NOTE 1 Some government entities might, as part of their mandated tasks, routinely alter markings. E.g., armourers might be tasked to alter markings to match or associate replacement components with a weapon. There should be written guidance for such alterations of markings.

The removal or alteration of markings on a small arm or light weapon without prior authorization from a competent State authority shall be considered a criminal offence.

A person, natural or legal, who is in possession of a small arm or light weapon whose markings have been removed or altered without prior authorization from a competent State authority shall be guilty of a criminal offence.

A small arm or light weapon that has had markings removed or altered without prior authorization from a competent State authority shall be considered illicit.

5.7.2 Countermeasures

National authorities should regularly engage with SALW manufacturers to promote the integration, at the manufacturing stage, of measures that prevent the removal or alteration of markings, including technologies that allow markings to be recovered or verified after unauthorised modification or damage.

© United Nations 2026 – All rights reserved

6 Recordkeeping

6.1 General

For the purposes of recordkeeping, the unique serialized markings on the frame or receiver shall be the main reference point for identifying a weapon for the purposes of recordkeeping and tracing.If the frame or receiver of a weapon to be recorded is not marked, unique serialized markings that appear on other essential components of the weapon (e.g. barrel, slide, cylinder, bolt or breech block) shall be recorded, along with an indication of the part on which the markings appear.

NOTE 1 Small arms, particularly older models, can bear numbers, in addition to serial numbers, that are not unique (e.g. assembly numbers, patent numbers and patent use numbers). Care should be taken to distinguish these non-unique numbers from unique serial numbers when recording the details of a weapon.

NOTE 2 Some manufacturers add additional unique number markings, e.g., to capture data relating to an export. Care should be taken to distinguish these markings from the serial number.

6.2 Records to be kept

6.2.1 Small arms and light weapons

For each individual small arm and light weapon under the jurisdiction of a State, records of the following information, where applicable in each instance, shall be maintained.

6.2.1.1 All weapons

a) country of manufacture;

b) name of manufacturer;

c) serial number;

d) year of manufacture;

e) weapon type/model;

f) calibre;

g) location of markings on the weapon (e.g. on the frame/receiver, barrel, etc.); and

h) ownership information (names, addresses and license numbers of owners, as well as dates of ownership, up until the point that the weapon leaves the jurisdiction of the State, e.g. through export, destruction, etc.).

The above records shall be kept for all small arms and light weapons, in addition to the records set out in Clauses 6.2.1.2 – 6.2.1.7, as applicable.

6.2.1.2 Exported weapons

Records shall be kept for all exported weapons. In addition to the recordkeeping requirements set out in Clause 6.2.1.1, records shall contain the

a) export authorization number (designated by the exporting State);

b) import authorization number (designated by the importing State);

c) transit authorization number(s) (designated by the transit State(s), if applicable);

d) date of export;

© United Nations 2026 – All rights reserved

e) owner of the weapon prior to export;

f) country to which the weapon has been exported;

g) entity in receipt of the export (e.g. details of the government agency, wholesaler, retailer, etc.);

h) end-user certificate number/identification (issued by the recipient State);

i) end user;

j) broker(s); and

k) transport agent(s) and/or forwarding agencies.

6.2.1.3 Imported weapons

Records shall be kept for all imported weapons. In addition to the recordkeeping requirements set out in Clause 6.2.1.1, records shall contain the

a) import authorization number (designated by the importing State);

b) issuing agency

c) export authorization number (designated by the exporting State);

d) transit authorization number(s) (designated by the transit State(s), if applicable);

e) import marking (see Clause 5.3);

f) date of import;

g) country from which the weapon has been imported;

h) owner of the weapon prior to import;

i) entity in receipt of the import (e.g. details of the government agency, wholesaler, retailer, etc.);

j) end-user certificate number/identification (issued by the importing State);

k) end user;

l) broker(s); and

m) transport agent(s) and/or forwarding agencies.

6.2.1.4 Weapons transferred from government stocks to permanent civilian use

Records shall be kept for all weapons transferred from government stocks to permanent civilian use. In addition to the recordkeeping requirements set out in Clause 6.2.1.1, records shall contain the

a) date of transfer;

b) transferring government entity;

c) transfer serial number (see Clause 5.4.2.2); and

d) recipient of transfer.

© United Nations 2026 – All rights reserved

6.2.1.5 Permanently confiscated or seized weapons

Records shall be kept for permanently confiscated weapons not destined for destruction. In addition to the recordkeeping requirements set out in Clause 6.2.1.1, records shall contain the

a) date of confiscation;

b) confiscating entity;

c) grounds for confiscation;

d) confiscation serial number (see Clause 5.5.2.2); and

e) method of disposal other than destruction.

Records shall also be kept for small arms and light weapons or their ammunition that have been seized on suspicion of having been manufactured without a licence or authorization (see MOSAIC Module 03.10. *National controls over the manufacture of small arms and light weapons*, Clause 5.4.3.2.2)

6.2.1.6 Deactivated weapons

Records shall be kept for all deactivated weapons. In addition to the recordkeeping requirements set out in Clause 6.2.1.1, records shall contain the

a) date of deactivation;

b) method of deactivation;

c) entity that carried out the deactivation;

d) entity that verified the deactivation;

NOTE 1 The entity that verifies the deactivation shall be different from and independent of the entity that carried out the deactivation.

e) deactivation verification certificate number; and

f) owner of the deactivated weapon at the time of deactivation (in jurisdictions that require licences for deactivated weapons).

6.2.1.7 Weapons destined for destruction

Records shall be kept for all weapons destined for destruction. In addition to the recordkeeping requirements set out in Clause 6.2.1.1, records shall contain the

a) Date of import (if the weapon bears an import marking);

b) date of destruction;

c) location of destruction;

d) method of destruction;

e) entity that carried out the destruction;

f) entity that verified the destruction; and

NOTE 1 The entity that verifies the destruction shall be different from and independent of the entity that carried out the destruction.

© United Nations 2026 – All rights reserved

g) destruction verification certificate number.

NOTE 2 For further guidance, see MOSAIC 05.50, *Destruction: Weapons*.

6.2.2 Parts and components

Records shall be maintained of all marked parts and components (see Clause **Error! Reference source not found.**) of unassembled and disassembled small arms and light weapons under the jurisdiction of the State. Such records shall contain the same information as set out in Clause 6.2.1, where such information is applicable to parts and components.

6.2.3 Recordkeeping by manufacturers

Laws, regulations or administrative procedures shall require manufacturers to maintain records of all small arms and light weapons, their parts, components and/or ammunition that they manufacture. For detailed guidance on records to be kept by manufacturers, see MOSAIC 03.10, *National controls over the manufacture of small arms and light weapons*, Clause 7.3.

6.2.4 Recordkeeping by commercial entities that sell small arms or ammunition on the domestic market

Laws, regulations or administrative procedures shall require commercial entities that sell small arms or ammunition on the domestic market to keep records of all small arms and ammunition delivered to them, in stock, and sold. For detailed guidance, see MOSAIC 03.30, *National regulation of civilian access to small arms and light weapons*.

6.2.5 Recordkeeping by private security companies

Laws, regulations or administrative procedures shall require private security companies to keep records of all small arms in stock. For detailed guidance, see MOSAIC 03.30, *National regulation of civilian access to small arms and light weapons*.

6.3 Keeper(s) of records

The above records of all small arms and light weapons under the jurisdiction of a State should be maintained in a centralized database administered by a competent State authority.

Should it not be possible to maintain records in a centralized manner, records may be maintained in a decentralized manner, e.g. by administrative sub-units of the State and/or by relevant non-governmental actors including manufacturers, wholesalers, retailers, brokers, transport agents, etc.

Regardless of whether records are maintained in a centralized or in a decentralized manner, they shall be accessible to competent State authorities in accordance with Clause 6.5.

6.4 Method of recordkeeping

Records should be maintained in electronic format with adequate access permissions in place.

Records shall be backed up so as to prevent data loss in the case of technical failure, theft, fire, etc.

6.5 Access to records

6.5.1 General

Competent State authorities, including the National Focal Point(s) on tracing, shall have full access to all records relating to small arms and light weapons held under the jurisdiction of the State, regardless of whether they are maintained in a centralized or in a decentralized manner.

© United Nations 2026 – All rights reserved

The holders of records relating to small arms and light weapons, regardless of whether they are governmental or non-governmental entities, shall provide timely responses to requests for information submitted by competent State authorities, in accordance with Clause 6.5.2.

6.5.2 Timeframe for information retrieval

Records shall be maintained in such a manner that allows a competent State authority, following a request, to receive accurate and comprehensive information related to the history of a small arms and light weapons in a timely manner.

6.5.3 Defunct companies

Records held by companies that are going out of business shall be transferred to and maintained by the National Authority on small arms and light weapons (see MOSAIC 03.40) or, where one does not yet exist, to a designated competent State authority.

6.6 Duration of recordkeeping

Records relating to the manufacture of small arms and light weapons (see Clause 6.2.1.1) shall be maintained for at least 30 years and should be maintained indefinitely.

All other records, including those relating to the import and export of small arms and light weapons, shall be maintained for at least 20 years, and should be maintained indefinitely.

For electronic recordkeeping systems, records shall be maintained indefinitely except where data protection laws impose time limits, e.g., where these records identify living people.

© United Nations 2026 – All rights reserved

Annex A
(informative)

Overview of marking methods

A.1 Stamping

Stamping is the most commonly used technique for marking metal. It involves marking the metal part of the firearm by applying pressure on a mould or matrix bearing the marking to be engraved (indenting), inducing a permanent plastic deformation of the crystalline structure of the material. When the stamping technique is used the crystalline structure of the material that is stamped can actually be altered to a depth six times greater than that of the stamp itself. If someone erases the stamped marking on the surface of the weapon, there can still be a legible trace of the marking in the metal itself. These changes in the physical properties of the material can then be used to help restore the markings if they are erased at the surface. Erased stamped markings can be retrieved in about 1/3 of cases thanks to the deep deformations of the metallic structure.

Applying a marking using a stamping procedure requires a flat surface. If the surface is uneven or is made of very hard material, a more sophisticated micro-percussion process is used (sometimes computer-guided). This process, also called pin stamping can be used both for plastic and metal surfaces. Characters can be applied at a rate of 1 to 5 characters per second from 1 to 80mm size and at different depths. The potential fragility of some parts can limit the use of this process.

Stamping cannot be utilized on plastic and composite materials that are increasingly being used in the manufacture of new generation weapons. In addition, due to its primary applicability to unhardened metals, low-tech stamping machinery is also largely unsuitable for the application of post-production markings. When the parts and components of a firearm have already been manufactured, marking is usually carried out with a technique other than stamping to avoid any damage to the manufactured part.

A.2 Casting

The casting method adds markings directly to the moulds used to manufacture weapon parts. Casting is also used for plastic and composite materials (injection moulds) on which stamping would be impractical. This method remains in limited use, mainly because of the small surface areas available on some weapon parts. Casting is not suitable for marking serial numbers, which need to be unique for each weapon.

A.3 Mechanical engraving

This technique for marking firearms is fairly widely used. Marking is undertaken by removing metal through direct contact with the material. It can also be achieved through Electrical Discharge Machining where the surface layer is heated and vaporized by a continuous electrical discharge. Hardened materials can be marked using this method when traditional techniques such as stamping would be ineffective. However, there can be physical limitations when engraving information on certain surfaces and materials, such as composite materials. This method is also difficult as far as accessibility and resistance of the parts to be marked are concerned, especially if markings are required once the weapon has been assembled.

A.4 Laser engraving

© United Nations 2026 – All rights reserved

Laser (Light Amplification by Stimulated Emission of Radiation) permits marking of all kinds of surfaces through burning by oxidization and has the advantage of requiring no physical contact with the surface to be marked. It also enables marking of areas inaccessible to other marking procedures, as well as marking of fragile parts where attempts to remove the mark would render the weapon inoperable. It can be used for composite materials or plastics as well as hardened metals that cannot be marked by classical methods such as stamping. Lasers can mark miniscule surfaces with precision, for example surfaces smaller than 1mm2 and can contain information either in matrix (data matrix) or bar code format. It is also the most practical method to mark logos, text and numbers on a confined space. Although it is challenging to recover laser engravings that have been obliterated, some techniques may now be used to recover the marking.

In contrast to stamping and mechanical engraving, laser engraving is considerably more time- and resource-efficient. Further, laser marks can be applied to virtually all materials and at any stage of the production process, including at post-production stages. Computer-operated lasers can also be used to mark individual rounds of ammunition and the laser marking process can be integrated into the packaging machinery for ammunition. The ammunition can be marked in the cartridge's groove just prior to being packaged.

Laser marking can be reinforced by sensitizing the surface of the weapon component to be marked to a certain wavelength by using a special product. Information is then marked on the weapon with a laser. The marking is then covered with a layer of paint or a galvanizing product which renders the marking invisible to the naked eye. However, the marking is visible when viewed under certain lighting (i.e. infrared or ultraviolet) according to the wavelength for which the surface has been sensitized.

A.5 Radio Frequency Identification

Radio Frequency Identification (RFID) uses an electronic chip embedded in a weapon that carries information about the weapon. These electronic chips can be read from a certain distance using an RFID reader and, if needed, information on the chip can be modified.

A.6 Electro-chemical methods

With electro-chemical methods, an applicator moistened with an electrolyte solution that is connected to an electrical source is placed on a stencil bearing the marking. The stencil is then placed on the surface to be marked. The depth of the marking is regulated with the strength of the electrical current. This method is used on fragile parts of a firearm or certain types of ammunition that will not allow deeper markings. The disadvantage of this type of marking is that if the marking is obliterated, it is unlikely that it could be recovered. In addition, this type of marking is only possible on conductive materials.

A.7 Micro-stamping (ammunition)

Micro-stamping allows for the marking of a weapon's make, model and serial number (or other identifying information) onto a round of ammunition each time a weapon is fired. Markings are applied to the primer and cartridge case of the round of ammunition by laser engravings on the tip of the firing pin and on the breech face, respectively. Spent cartridges are thus imprinted with identifying information of the weapon that fired it.

A.8 Other methods

Additional marking methods currently used in other sectors are being studied for potential use in marking firearms. Chemical tracers can be added to metal and plastics used for the production of

© United Nations 2026 – All rights reserved

firearms components and ammunition powder. Crystallographic and radioactive elements can also be used to mark weapons and ammunition powder. Colorimetric methods permit the use of tracers that are composed of a set of colour layers, to which a fluorescent layer is added for detection. The observed colour sequence represents a unique numeric code for each manufacturer.

© United Nations 2026 – All rights reserved

Bibliography

United Nations

1. UN. *Report of the Group of Governmental Experts established pursuant to General Assembly resolution 56/24 V of 24 December 2001, entitled "The illicit trade in small arms and light weapons in all its aspects*." UN document A/58/138. New York: United Nations, 11 July 2003.

2. UN. *Report of the Secretary-General on Problems arising from the accumulation of conventional ammunition stockpiles in surplus*. UN Document A/62/166. New York: United Nations, 27 July 2007.

3. UN. *Recommendations on the Transport of Dangerous Goods: Model Regulations*. 16th Revised Edition. New York and Geneva: United Nations, 2009.

4. UN. *Implementation of the International Tracing Instrument – Guidelines for National Reporting*.

5. UNIDIR. *The Scope and Implications of a Tracing Mechanism for Small Arms and Light Weapons*. Geneva: United Nations Institute for Disarmament Research and Small Arms Survey, 2003.

6. UNIDIR. GRAND-CLEMENT, S. and KONDOR, R. *Exploring the Technical Feasibility of Marking Small Ammunition*. Geneva: United Nations Institute for Disarmament Research, 2022.

7. UNIDIR. PERSI PAOLI, G. *Comparative Analysis of Post-Manufacture Marking Instruments and Practices for Small Arms and Light Weapons*. Geneva: United Nations Institute for Disarmament Research, 2009.

8. UNODC. *Legislative Guides for the Implementation of the United Nations Convention Against Transnational Organized Crime and the Protocols Thereto*. New York: United Nations, 2004.

Regional and Sub-regional Organizations

9. OAS. *Draft Proposed Model Legislation on the Marking and Tracing of Firearms and Ammunition*. OAS document OEA/Ser.L/XXII.6.1—GE/CIFTA-CICAD/doc.3/06. Washington, DC: Organization of American States, 12 January 2006.

10. OAS. Model Regulations for the Control of the International Movement of Firearms, Their Parts, Components and Ammunition

© United Nations 2026 – All rights reserved

11. OSCE. *Best Practice Guide on Marking, Record-keeping and Traceability of Small Arms and Light Weapons*. FSC. GAL/64/03/Rev. 2. Vienna: Organization for Security and Co-operation in Europe, 19 September 2003.

12. OSCE. *Best Practice Guide on National Procedures for Stockpile Management and Security*. FSC. GAL/14/03/Rev. 2. Vienna: Organization for Security and Co-operation in Europe, 19 September 2003.

13. OSCE. *OSCE Handbook of Best Practices on Conventional Ammunition*. FSC.DEL/73/07/Rev.1/Corr.1. Vienna: Organization for Security and Co-operation in Europe, 25 October 2007.

14. RECSA. *Best Practice Guidelines for the Implementation of the Nairobi Declaration and the Nairobi Protocol on Small Arms and Light Weapons*. Nairobi: Regional Centre on Small Arms and Light Weapons, 2005.

15. SADC. *Standard Operating Procedures for the implementation of the SADC Protocol on the Control of Firearms, Ammunition and other related materials*. Harare: Secretariat of the Southern African Regional Police Chiefs Cooperation Organization (SARPCCO), 2008.

16. SEESAC. RMDS/G 03.40, *Marking and Tracing of SALW*. 4th ed. Belgrade: South Eastern and Eastern Europe Clearinghouse for the Control of Small Arms and Light Weapons, 20 July 2006.

Additional Sources

17. ANDERS, H. Following the lethal trail: identifying the source of illicit ammunition. In PÉZARD, S. and ANDERS, H. (eds). *Targeting Ammunition: a primer*. Geneva: Small Arms Survey, 2006, p. 207-27.

18. ANDERS, H. Scope for international minimum standards on tracing illicit SALW ammunition. Note d'analyse. Brussels: GRIP, 2005.

19. BERKOL, I. *Draft Convention on marking, registration and tracing of small arms and light weapons*. Brussels: GRIP, Report 2004/4.

20. BERKOL, I. Marking and Tracing Small Arms and Light Weapons: Improving transparency and control. Brussels: GRIP, 2001.

21. CONTROL ARMS. *Tracking Lethal Tools: Marking and Tracing Arms and Ammunition*. London: Control Arms, 2005.

© United Nations 2026 – All rights reserved

22. MARTINOT, P. *Les munitions au cœur des conflits: état des lieux et perspectives*. Brussels: GRIP, Report 2008/3.

23. MARTINOT, P. and BERKOL, I. *The traceability of ammunition*. Brussels: GRIP, Report 2008/9.

24. McDONALD, G. Connecting the dots: the international tracing instrument. In *Small Arms Survey 2006: Unfinished Business*. Oxford: Oxford University Press, 2006, p. 95–117.

25. PERSI PAOLI, G. *The Method Behind the Mark: A Review of Firearms Marking Technologies*. Issue Brief No. 1. Geneva: Small Arms Survey, December 2010.

26. WFSA. *Draft Report of the Informal Workshop on 'Firearms Marking: Model Standards and Common Serial Number Codes*.' Olbia: World Forum on the Future of Sport Shooting Activities, 2000.

© United Nations 2026 – All rights reserved