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**Inspection of ammunition**



### **Warning**

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## Foreword

Ageing, unstable and excess conventional ammunition stockpiles pose the dual risks of **accidental explosions at munition sites** and **diversion to illicit markets**.

The humanitarian impact of ammunition-storage-area explosions, particularly in populated areas, has resulted in death, injury, environmental damage, displacement and disruption of livelihoods in over 100 countries. Accidental ammunition warehouse detonations count among the heaviest explosions ever recorded.

Diversion from ammunition stockpiles has fuelled armed conflict, terrorism, organized crime and violence, and contributes to the manufacture of improvised explosive devices. Much of the ammunition circulating among armed non-State actors has been illicitly diverted from government forces.<sup>1</sup> In recognition of these dual threats of explosion and diversion, the General Assembly requested the United Nations to develop **guidelines for adequate ammunition management**.<sup>2</sup> Finalized in 2011, the International Ammunition Technical Guidelines (IATG) provide voluntary, practical, modular guidance to support national authorities (and other stakeholders) in safely and securely managing conventional ammunition stockpiles. The UN SaferGuard Programme was simultaneously established as the corresponding knowledge-management platform to oversee and disseminate the IATG.

The IATG also ensure that the United Nations entities consistently deliver high-quality advice and support – from mine action to counter-terrorism, from child protection to disarmament, from crime reduction to development.

The IATG consist of 12 volumes that provide practical guidance for ‘through-life management’ approach to ammunition management. The IATG can be applied at the guidelines’ **basic, intermediate, or advanced levels**, making the IATG relevant for all situations by taking into account the diversity in capacities and resources available. Interested States and other stakeholders can **utilize the IATG for the development of national standards and standing operating procedures**.

The IATG are reviewed and updated at a minimum every five years, to reflect evolving ammunition stockpile-management norms and practices, and to incorporate changes due to changing international regulations and requirements. The review is undertaken by the UN SaferGuard Technical Review Board composed of national technical experts with the support of a corresponding Strategic Coordination Group comprised of expert organizations applying the IATG in practice.

The latest version of each IATG module can be found at [www.un.org/disarmament/ammunition](http://www.un.org/disarmament/ammunition).

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<sup>1</sup> S/2008/258.

<sup>2</sup> See also the urgent need to address poorly-maintained stockpiles as formulated by the United Nations Secretary-General in his Agenda for Disarmament, *Securing Our Common Future* (2018).

## Introduction

This IATG module introduces recommended procedures for the inspection of generic types of ammunition. Such inspections may be required; 1) where ammunition has been damaged; 2) where faults and defects in the ammunition type are suspected; 3) as part of a routine inspection or surveillance programme; 4) as a 'Safe to Move' inspection. This IATG module should be consulted in parallel with IATG 07.10 *Surveillance and in-service proof*, which provides more useful information on the rationale for a surveillance regime and the impact of climatic and environmental conditions on ammunition shelf life.

## Inspection of ammunition

### 1 Scope

This IATG module describes the recommended procedures for the inspection of generic types of ammunition. Such inspections may be required; 1) where ammunition has been damaged; 2) where faults and defects in the ammunition type are suspected; 3) as part of a routine inspection or surveillance programme;<sup>3</sup> 4) as a 'Safe to Move' inspection for ammunition that has been involved in an explosion.

### 2 Normative references

A list of normative references is given in Annex A. These documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

A further list of informative references is given in Annex B in the form of a bibliography, which lists documents that contain additional information related to the contents of this IATG module.

### 3 Terms and definitions

For the purposes of this module the following terms and definitions, as well as the more comprehensive list given in IATG 01.40 *Glossary of terms, definitions and abbreviations*, shall apply.

In all modules of the International Ammunition Technical Guidelines, the words 'shall', 'should', 'may' and 'can' are used to express provisions in accordance with their usage in 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 Types of inspection

There may be three types of ammunition inspection:

- a) Routine, as part of a planned inspection or surveillance programme in the ammunition processing area of an explosives facility. Routine tasks can include:
  - i) initial acceptance from the manufacturer;
  - ii) preparation of the ammunition for in-service proof firing;

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<sup>3</sup> Also see IATG 07.10 *Surveillance and in-service proof*.



- iii) prior to issue, including fractioning of the contents of containers;
- iv) on receipt of ammunition from unit storage (Returned Ammunition Group task); or
- v) special inspection to confirm condition or quality. This may also be a type of Technical Inspection.

A simple inspection checklist is at Annex C for information.

- b) Technical, where faults or defects in the ammunition type are suspected. This should usually either; 1) take place in the ammunition processing area of an explosives facility; or 2) during the investigation of an ammunition accident in the field;<sup>4</sup> or
- c) 'Safe to Move' (STM), where ammunition has been damaged or subjected to unusual external forces and stimuli (such as an explosion within an ammunition storage area), or where ammunition is to be returned from units to ammunition depots.

All ammunition processing (inspection) operations, with the exception of those undertaken as an EOD task, shall only take place in a building approved for the purpose, IATG 05.20 *Types of buildings for explosives facilities* and 06.50 *Special safety precautions (storage and operations)*.

## 5 Safety during processing

A risk assessment shall be carried out prior to starting any ammunition processing activity; visual inspection shall count as a processing activity. This should be in accordance with the guidelines contained within IATG 02.10 *Introduction to risk management principles and processes* and the specific requirements of this IATG.

The minimum information of the hazardous properties of the explosive article for processing should be available for the individual carrying out the risk assessment:

- a) design drawings;
- b) previous processing technical instructions for the type of explosive article;
- c) sensitiveness data;<sup>5</sup>
- d) chemical stability information;<sup>6</sup>
- e) hazard classification codes;<sup>7</sup> and
- f) health hazards.<sup>8</sup>

Any risk assessment should start from the perspective of remote processing or testing wherever possible, but if this is considered not to be necessary, or reasonably practicable, then established and tested processes should be used. The risk assessment should direct the selection of the most appropriate tools, equipment and processing to be used. Examples are shown in Table 1:

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<sup>4</sup> See IATG 11.10 *Ammunition accidents and incidents*.

<sup>5</sup> This should be available from an Explosives Hazard Data Sheet, which is available from the manufacturer.

<sup>6</sup> This should be available from the records maintained in accordance with IATG 07.10 *Surveillance and in-service proof*.

<sup>7</sup> This should be available from the records initiated under IATG 03.10 *Inventory management*.

<sup>8</sup> See Footnote 6.

Findings	Details	Appropriate tools, equipment or process
Explosive dust risk	Bare, exposed explosive will be present during the process; hence explosive dust may be present.	<ul style="list-style-type: none"> <li>▪ Category B Ammunition Process Building required.<sup>9</sup></li> </ul>
Low sensitiveness <sup>10</sup>	The hazard data sheet suggests that the explosive is very vulnerable to initiation by static electricity.	<ul style="list-style-type: none"> <li>▪ Anti static measures required.</li> <li>▪ Non-sparking tools.</li> <li>▪ Anti-static floor.</li> <li>▪ Personal earthing equipment.</li> </ul>
Explosion risk	Disassembly requires high force to gain access to munition, hence the risk of explosion.	<ul style="list-style-type: none"> <li>▪ Remote process needed.</li> <li>▪ Operator protected behind armoured screen.</li> </ul>
Irritant fumes	The re-painting process requires the use of paint that produces irritant fumes.	<ul style="list-style-type: none"> <li>▪ Protective face masks to be worn.</li> </ul>

Table 1: Example risk assessment findings

The findings of the risk assessment should be formally recorded, and other documentation amended as necessary, for example:

- a) the explosive limits licence<sup>11</sup> may require a temporary reduction in permitted net explosive quantity (NEQ) during the period of the processing task; or
- b) standard inspection and repair instructions (I&RI) may require amendment.

All processes used for the inspection and repair of ammunition shall be covered by an inspection and repair instruction (I&RI) (see Annex D to IATG 07.30 *Ammunition processing operations – Safety, risk reduction and mitigation*).

## 6 Condition classification of ammunition (LEVELS 2 AND 3)<sup>12</sup>

All ammunition and explosives should be classified<sup>13</sup> or reclassified as to their condition, during any inspection process. The ammunition condition is used to define the degree of serviceability of the ammunition and the degree of any constraints imposed on its use.

National authorities should be aware that the declared ammunition ‘shelf life’ is an indication of the performance capability of the ammunition and not necessarily just its safety or stability in storage; only physical inspection and ammunition surveillance can determine this.

National authorities should therefore develop a system that allows the condition of the ammunition to be clearly defined, as it is only in this way that safe storage conditions may be maintained, and subsequent disposal or destruction can be prioritised.

<sup>9</sup> See Clause 4 of IATG 05.40 *Safety standards for electrical installations* for definition of building electrical categories.

<sup>10</sup> This is not the same as sensitivity. See definitions in IATG 01.40 *Glossary of terms, definitions and abbreviations*.

<sup>11</sup> See IATG 02.30 *Licensing of explosives facilities*.

<sup>12</sup> Also included in IATG 03.10 *Inventory management*.

<sup>13</sup> Best ammunition management practice further recommends that ammunition should also be classified by their Dangerous Goods Classification and UN Serial Number, Hazard Division, Compatibility Group and Hazard Classification Code. (See IATG 01.50 *UN Explosive hazard classification system and codes* for further details).

## 6.1 Ammunition condition groups and codes

The following groupings and codes at Table 2 could be used as a means of classifying the condition of ammunition stocks:

Condition Type Code	Condition Sub-Type Code	Ammunition Status
<b>A</b>		▪ <b>Serviceable stocks available for use.</b>
	A1	▪ Available for issue.
	A2	▪ Available for issue, but subject to a minor constraint.
	A3	▪ Available for issue subject to national technical authority approval.
<b>B</b>		▪ <b>Stocks banned from use pending a technical investigation.</b>
	B1	▪ Banned for use but cleared for routine storage and movement.
	B2	▪ Banned for issue and use, and not cleared for movement.
	B3	▪ Awaiting manufacturer's quality assurance reports.
	B4	▪ Shelf life expired.
<b>C</b>		▪ <b>Stocks unavailable for use pending technical inspection, repair, modification or test</b>
	C1	▪ Minor processing or repair only required.
	C2	▪ Major processing or repair required.
	C3	▪ Awaiting inspection only ex-unit.
	C4	▪ Manufacturers processing or repair awaited.
	C5	▪ Force regeneration processing required.
<b>D</b>		▪ <b>Stocks for disposal.</b>
	D1	▪ Surplus, but serviceable stocks.
	D2	▪ Unserviceable stocks.
	D3	▪ Surplus, serviceable or unserviceable, for demilitarization

**Table 2: Ammunition condition classification groups**

When ammunition is subject to inspection and surveillance<sup>14</sup>, which should be good stockpile management practice, it is inevitable that defects will be found. These defects shall determine within which 'Condition Type' the ammunition item is placed, the Effect Code allocated to it, and how it is categorised according to Table 3:

Defect Type	Effect Code	Ammunition Status
Critical	1	▪ Defects affecting safety in storage, handling, transportation or use.
Major	2	▪ Defects that affect the performance of the ammunition and that require remedial action to be taken.
Minor	3	▪ Defects that do not affect the safety or performance of the ammunition, but are of such a nature that the ammunition should not be issued prior to remedial action having been taken.

<sup>14</sup> The economical surveillance of ammunition and accurate assessment of the quality, within known confidence levels, is achieved by taking a relatively small, random sample from a large bulk quantity.

Defect Type	Effect Code	Ammunition Status
Insignificant	4	<ul style="list-style-type: none"> <li>▪ Any defect that does not fall into any of these categories, but which could conceivably deteriorate into one of them if no remedial action is taken.</li> </ul>
Technical	N/A	<ul style="list-style-type: none"> <li>▪ Any defect that requires further technical investigation.</li> </ul>

**Table 3: Types of ammunition defect**

Therefore, it is possible that ammunition classified as B4, (shelf life expired), is not an urgent priority for disposal as further technical investigation may well extend its shelf life, and hence it would be re-classified as A for a further period of time.

## 7 Markings

After any ammunition processing the ammunition (if required) and the packaging shall be clearly marked in accordance with the requirements of IATG 06.40 *Ammunition packaging and marking*. The marking shall identify the work that has been carried out on the ammunition, and the classification code allocated as a result of that work. Additional process markings as at Table 4 may be used:

Marking	Meaning
<b>A</b>	To be added before the components' lot/batch number or BKI if the components are replaced but the batching of the ammunition is unaffected.
<b>R</b>	To be added before the lot/batch number or BKI.
<b>REP</b>	The ammunition container holds ammunition that has been subjected to one of the following: <ul style="list-style-type: none"> <li>▪ Maintenance to improve the quality of the ammunition</li> <li>▪ Modification of the ammunition or ammunition container.</li> <li>▪ 100% inspection.</li> <li>▪ Preparation for disposal.</li> </ul>
<b>INSP</b>	The ammunition has been subjected to a type of inspection as at Clause 4.
<b>PKD</b>	The ammunition container holds ammunition that has been fractioned for issue or rounds or components have been removed for a repair task.
<b>DES</b>	The ammunition or container has been subjected to a desiccant change.
<b>COND</b>	Any ammunition that is NOT classified as Condition A1 is to be marked on the packaging with COND followed by the condition code.
<b>US/T</b>	Ammunition that has been ultra-sonic tested.
<b>TESTED</b>	Ammunition that has been either: <ul style="list-style-type: none"> <li>▪ Heat tested;</li> <li>▪ Moisture tested;</li> <li>▪ Acidity tested; or</li> <li>▪ Plasticity tested.</li> </ul>
<b>FAILED TEST</b>	Ammunition that has failed the prescribed test.

**Table 4: Additional process markings**

## 8 Seals

All packages containing ammunition or components that have been opened should be sealed with Sealfast or Linen Labels marked with the monogram of the ammunition unit carrying out the task. The national authority should authorise ammunition units to undertake such tasks and provide a list of unique monograms for each unit.

Ammunition that has been sealed by the manufacturer or an authorised ammunition unit should be assumed to have contents within as described on the packaging. This means that unnecessary opening of packaging and resealing is not necessary during stock checks of ammunition.

## 9 Common inspection points (LEVEL 2)

### 9.1 Lot / Batch Numbers

Lot and/or batch numbers are to be checked against the lot and/or batch numbers on the ammunition packaging.

### 9.2 Rust identification

Rust levels often represent a useful indicator of the overall condition of ammunition. Table 5 provides an example system that may be used to compare ammunition serviceability against visible rust.

Rust Level (R <sub>L</sub> )		% of Rust on Surface Area	Serviceability Assessment	Recommended Action
Code	Summary			
R <sub>L</sub> = 1	Little visible rust levels	<5	Serviceable	None
R <sub>L</sub> = 2	Medium rust levels	>5	Serviceable	Expend at Training
R <sub>L</sub> = 3	Heavy rust levels	>10	Limited Serviceability	Repair Request In-Service Proof
R <sub>L</sub> = 4	Very heavy rust levels	>40	Unserviceable	Destroy

Table 5: Rust identification levels

### 9.3 Fuze covers

Fuze covers are designed to protect the fuze during processing and, if they are not inherent to the standard packaging, they shall be placed over the fuze immediately as the projectile is removed from its packaging

### 9.4 Fuze plugs

Fuze plugs usually have their bases coated with varnish and do not require over-painting. Plugs that are found unvarnished or with chipped varnish shall be painted with a Lacquer Shellac Lead Free or similar substance.

### 9.5 Gauging

The following dimensions shall be checked by gauging, using specialist gauges designed, manufactured and maintained for the task:

- a) cartridge case diameter;

- b) cartridge case engagement in chamber. This shall be done by inserting the cartridge case into a purpose designed chamber gauge, and then passing a steel rule across the base of the cartridge in two directions at right angles to one another. The depth of cap below the face of the chamber gauge shall then be, measured and be within design limits;
- c) exploder cavity depth;
- d) fuze cavity depth;
- e) primer engagement in cartridge case. As for 9.5b above; and
- f) projectile diameter.

### 9.6 Luting<sup>15</sup>

Luting may be applied to fuze threads before the fuze is inserted into the shell or mortar bomb. This provides a moisture seal and assists in locking the fuze in place.

### 9.7 Torque

The correct torque shall be applied to screw-threaded components when they are inserted into ammunition to ensure that; 1) all threads are engaged and the component is correctly fitted; 2) the components cannot be removed by hand; and 3) they do not become loose during transit or use.

Few components require the use of a specific torque level, so components shall be inserted using an approved tool to a level where they cannot be removed by hand.

## 10 Specific to type inspection points

Specific inspection points for generic ammunition types are at the following Annexes as shown in Table 6:

Generic Ammunition Type	Annex
Burning Fuses	D
Cartridges Propelling	E
Cartridges Signal	F
Charges Propelling	G
Cord Detonating	H
Demolition Charges	J
Detonators	K
Exploder Pellets	L
Explosives Bulk	M
Free Flight Rockets (<70mm)	N
Fuzes and Gaines	P
Grenades Hand	Q
Igniters	R
Mines (Blast)	S
Mines (Fragmentation)	T

<sup>15</sup> Luting is a mouldable substance to seal a space or to secure two components together.

Generic Ammunition Type	Annex
Mortar Bomb Augmenting Cartridges	U
Mortar Bomb (HE)	V
Mortar Bomb (Smoke and Illum)	W
Mortar Bomb Primary Cartridges	X
Primers and Tubes	Y
Pyrotechnics	Z
Rockets Anti-Tank	AA
Shell HE (Base Fuzed)	AB
Shell HE (Nose Fuzed or Plugged)	AC
Shell (Smoke and Illum)	AD
Shot (APFSDS, APDS and Practice DS)	AE
Small Arms Ammunition	AF
Tank Ammunition (Separate) (APFSDS, HESH)	AG
Tank Ammunition (Fixed) (APFSDS, HE)	AG

Table 6: List of annexes for generic ammunition inspection points

## 11 Safe to Move (STM) inspections

Ammunition should usually be required as being certified as safe to move (STM), with the provision of an appropriate STM certificate, written or verbal declaration:

- a) when being routinely transported in accordance with the requirements of IATG 08.10 *Transport of ammunition*;
- b) during routine EOD operations (which fall beyond the scope of this IATG); or
- c) during EOD clearance operations after ammunition storage area explosions. (See IATG 11.20 *EOD clearance of ammunition storage area explosions*).

### 11.1 STM certification – post explosion hazards (LEVEL 3)

The certification of ammunition that has been involved in an explosion will be complicated by some, or even all, of the following hazards:

- A) ammunition may have been projected some distance from the explosion site, (e.g. there have been examples of free flight rockets travelling up to 20km). If the ammunition has been stored in a fuzed state, then it is very possible that the forces imparted to the ammunition during the explosion are similar to the forces required to arm the fuze. Normal evidence of firing such as driving band engravement etc will NOT be present. Therefore, all fuzed ammunition, either within or at any distance from the explosion site, shall be regarded as unexploded ordnance (UXO) and dealt with appropriately;
- B) the explosive content of ammunition natures may be either partially or fully burnt out. If partially burnt out, then there will be the normal hazards presented by exposed explosive. Additionally, there may be the hazards associated with melted explosives re-crystallising and forming undesirable, more sensitive isomers e.g. TNT;
- C) ammunition may have been broken open leading to exposed explosives, electrical leads or sensitive components; and/or

- D) propellant may not have burnt during the explosion and fires, therefore exposed propellant may be present. This may spontaneously ignite during EOD clearance operations or subsequent movement; such ignition will be dependent on the chemical condition of the propellant and the ambient temperature.

The decision as to whether ammunition is STM post explosion shall only be taken by an individual deemed by the clearance organization to be a Level 5 Ammunition Inspector<sup>16</sup> or an IMAS EOD Level 3+ Operator (Depot Explosions).<sup>17,18</sup> Due consideration should be given to the external stimuli experienced by the fuze during 'kick out' from the explosion(s). The movement by hand of fuzed ammunition post-explosion shall only be permitted if:

- a) the Level 5 Ammunition Inspector or an IMAS EOD Level 3+ Operator (Depot Explosions) has personal knowledge of the fuze design and modus operandi, access to the technical drawings and is certain that the fuze could not have been armed by the external stimuli it has experienced (for example an Electronic Time Fuze); or
- b) should there be any doubts then diagnostic techniques such as X-Ray shall be used to determine the fuze condition of a statistically representative sample.

Notwithstanding the competence level of the individuals determining which type of ammunition is safe to move post explosion, a formal risk assessment for each clearance operation shall be carried out in accordance with IATG 02.10 *Introduction to risk management principles and processes*. This is because once the STM decision has been taken the ammunition will be moved and handled by staff at a lower competence level; it is a duty of care issue. The risk assessment shall include an evaluation of the types of fuzing systems and explosives that may present particular hazards for the clearance operation.

## 12 Documentation

National authorities should implement an effective documentation system that can be used to task ammunition inspection and repair programmes and then identify the action taken during the programme. One method may be to use a combination of:

- a) Ammunition Surveillance and Repair Task Order (ASRTO);
- b) Fault report;
- c) Job Card; and
- d) ASRTO Adjustment Form, (used after the task to provide information for the accountant to adjust the ammunition account with records of new condition codes etc).

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<sup>16</sup> See IATG 01.90 *Ammunition management personnel competences*.

<sup>17</sup> See Clause 4.2d to IMAS 09.30 *EOD*. Second Edition Amendment 5.

<sup>18</sup> The Level 3+ (EOD) replaces the previous called out Level 4 designation. IMAS 09.30 now specifies the EOD Level 3+ qualification for specialist EOD operators who have been trained in areas that address specific hazards; the skills that are not routinely required in mine action (e.g., planning, supervision and conduct of EOD clearance of post explosion ammunition depots).



## Annex A (normative) References

The following normative documents contain provisions, which, through reference in this text, constitute provisions of this module. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this module are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO maintain registers of currently valid ISO or EN:

- a) IATG 01.40 *Glossary of terms, definitions and abbreviations*. UNODA;
- b) IATG 01.50 *UN Explosive hazard classification system and codes*. UNODA;
- c) IATG 01.90 *Ammunition management personnel competences*. UNODA;
- d) IATG 02.10 *Introduction to risk management principles and processes*. UNODA;
- e) IATG 03.10 *Inventory management*. UNODA;
- f) IATG 03.20 *Lotting and batching*. UNODA;
- g) IATG 05.20 *Types of buildings for explosives facilities*. UNODA;
- h) IATG 06.40 *Ammunition packaging and marking*. UNODA;
- i) IATG 06.50 *Special safety precautions (storage and operations)*. UNODA;
- j) IATG 07.10 *Surveillance and in-service proof*. UNODA;
- k) IATG 07.30 *Ammunition processing operations – safety, risk reduction and mitigation*, UNODA;
- l) IATG 08.10 *Transport of ammunition*. UNODA;
- m) IATG 11.10 *Ammunition accidents and incidents*. UNODA;
- n) IATG 11.20 *Clearance of ammunition storage area explosions*. UNODA; and
- o) IMAS 09.30 *EOD*. Second Edition, Amendment 5. UNMAS. October 2014. [www.mineactionstandards.org](http://www.mineactionstandards.org).

The latest version/edition of these references should be used. The UN Office for Disarmament Affairs (UNODA) holds copies of all references<sup>19</sup> used in this guideline and these can be found at: [www.un.org/disarmament/un-safeguard/references](http://www.un.org/disarmament/un-safeguard/references). A register of the latest version/edition of the International Ammunition Technical Guidelines is maintained by UNODA, and can be read on the IATG website: [www.un.org/disarmament/ammunition](http://www.un.org/disarmament/ammunition). National authorities, employers and other interested bodies and organisations should obtain copies before commencing conventional ammunition stockpile management programmes.

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<sup>19</sup> Where copyright permits.

## **Annex B** **(informative)** **References**

The following informative documents contain provisions, which should also be consulted to provide further background information to the contents of this module:<sup>20</sup>

- A) Ammunition and Explosive Regulations, *Volume 3 - Technical Information Surveillance and Repair, Pamphlet 41 – Inspection and Repair of Ammunition*. MOD. UK. July 2005; and
- B) Joint Service Publication 762, *Through Life Munitions Management*. MOD. UK. 2005.

The latest version/edition of these references should be used. The UN Office for Disarmament Affairs (UNODA) holds copies of all references<sup>21</sup> used in this guideline and these can be found at: [www.un.org/disarmament/un-safeguard/references](http://www.un.org/disarmament/un-safeguard/references). A register of the latest version/edition of the International Ammunition Technical Guidelines is maintained by UNODA, and can be read on the IATG website: [www.un.org/disarmament/ammunition](http://www.un.org/disarmament/ammunition). National authorities, employers and other interested bodies and organisations should obtain copies before commencing conventional ammunition stockpile management programmes.

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<sup>20</sup> Data from many of these publications has been used to develop this IATG.

<sup>21</sup> Where copyright permits.

## **Annex C** (informative) **Guidance on physical inspection of ammunition (LEVEL 2)**

### **C.1 Introduction**

The physical (visual) inspection of ammunition is an important component in ensuring the overall safety of the ammunition stockpile. It should be carried out by trained ammunition technical staff who are conversant with the design principles of the ammunition and its modus operandi. This Annex summarises Inspection Points that should be addressed during the physical inspection of ammunition.

### **C.2 Inspection of ammunition packaging**

It is important that the ammunition packaging is inspected as part of the routine surveillance/inspection /in-service proof as the packaging is a means of: 1) accurately identifying the ammunition; and 2) protecting the ammunition during storage and transport. The following inspection points should be used:

- A) the packaging should be marked with the correct details of the ammunition;<sup>22</sup>
- B) the metal fitments should be free from oxidation (rust);
- C) the package should be intact with minimal external damage; and
- D) the seals are intact.

### **C.3 Inspection of ammunition**

Table C.1 contains inspection points to be checked for the main generic types of ammunition.

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<sup>22</sup> See IATG 06.40 *Ammunition packaging and marking*.

Generic Type	Determine Rust Level <sup>23</sup>	Correct Markings	Percussion Cap / Primer	Undamaged Cartridge Case	Round/Shell Secure in Cartridge Case	Round/Shell/Munition Body Undamaged	Undamaged Primary and Secondary Cartridges	Undamaged Fins	Undamaged Fuze (if Fuzed)	No Exudation of Explosive/Pyrotechnic Filling	Propellant Uncongealed and Well Distributed	No Discolouration of Charge Container	No Foreign Items In Charge Container	Safety Pin/Wire Secure (if Fuzed)	Fuze Cavity Clear and Clean (if Unfuzed)	Explosive Charge Intact and Unbroken	Good Plasticity (If Applicable)	Wax on Fuze Body (Pyrotechnic Time Fuzes)	No Segment Rotation (Mechanical Time Fuzes)	Ignition System Undamaged	Nose Cap Intact	Base Cap Intact	Any Safety clip/cover/cap serviceable and correctly fitted
Small Arms Ammunition	X	X	X	X	X	X																	
Mortar Ammunition	X	X	X			X	X	X	X	X					X								X
Artillery Ammunition (Fixed)	X	X	X	X	X	X			X	X					X								X
Artillery Ammunition (SL)	X	X	X			X			X	X					X								X
Artillery Propelling Charges		X									X	X	X										X
Fuzes	X	X				X				X				X				X	X				X
Grenades	X	X				X				X				X	X								X

<sup>23</sup> See Table 5, Clause 9.2.

Generic Type	Determine Rust Level <sup>23</sup>	Correct Markings	Percussion Cap / Primer	Undamaged Cartridge Case	Round/Shell Secure in Cartridge Case	Round/Shell/Munition Body Undamaged	Undamaged Primary and Secondary Cartridges	Undamaged Fins	Undamaged Fuze (if Fuzed)	No Exudation of Explosive/Pyrotechnic Filling	Propellant Uncongealed and Well Distributed	No Discolouration of Charge Container	No Foreign Items In Charge Container	Safety Pin/Wire Secure (if Fuzed)	Fuze Cavity Clear and Clean (If Unfuzed)	Explosive Charge Intact and Unbroken	Good Plasticity (If Applicable)	Wax on Fuze Body (Pyrotechnic Time Fuzes)	No Segment Rotation (Mechanical Time Fuzes)	Ignition System Undamaged	Nose Cap Intact	Base Cap Intact	Any Safety clip/cover/cap serviceable and correctly fitted
Anti-Tank Mines	X	X				X			X	X				X	X								X
Pyrotechnics	X	X	X			X				X													X
Demolition Charges		X								X		X	X		X	X	X						X
Rockets and Missiles	X	X				X		X	X	X										X	X	X	X

Table C.1: Inspection points

**Annex D**  
(normative)  
**Specific to type inspection points – Burning fuses**

<b>Burning Fuses</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>24</sup></b>	<b>Condition Code<sup>25</sup></b>
1. Damp, discoloured or frayed	1.1 Sentence	2	D
2. Perished, brittle, split, kinked or distorted	2.1 Sentence	1	D
3. Ends unsealed	3.1 Cut off 300mm and seal	3	NC <sup>26</sup>
4. Physical condition of the fuse is below standard but does not warrant an unserviceable sentence.	4.1 Sentence for special proof	3	C2

<sup>24</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>25</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<sup>26</sup> No Change

**Annex E**  
(normative)  
**Specific to type inspection points – Cartridges propelling**

<b>Cartridges Propelling</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>27</sup></b>	<b>Condition Code<sup>28</sup></b>
<b>1. Cartridge Clip</b>			
1.1 Missing	1.1 Fit new clip	1	NC <sup>29</sup>
1.2 Missing	1.2 Repair	4	NC
1.3 Damaged	1.3 Replace	4	NC
1.4 Corroded (Light)	1.4 Clean	4	NC
1.5 Corroded (Heavy)	1.5 Replace	3	NC
1.6 Colour identification on one arm missing or requires restoring	1.6 Repaint	3	NC
<b>2. Cartridge Case (QF Separate)</b>			
2.1 Corroded (Light)	2.1 Clean	4	NC
2.2 Corroded (Heavy)	2.2 Replace	3	NC
2.3 Discolouration	2.3 Report	4	NC
2.4 Flaking or Pitting	2.4 Replace case	2	NC
2.5 Cracked or Split (Up to 6mm from Mouth)	2.5 Nil	4	NC
2.6 Cracked or Split (Over 6mm from Mouth)	2.6 Replace case	2	NC

<sup>27</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>28</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<sup>29</sup> No Change

<b>Cartridges Propelling</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>27</sup></b>	<b>Condition Code<sup>28</sup></b>
2.7 Slight Dent	2.7.1 Chamber Gauge (Pass)	4	NC
	2.7.2 Chamber Gauge (Fail) – Replace case	2	NC
2.8 Severe Dent	2.8 Replace case	2	NC
2.9 Chamber Gauge	2.9.1 Pass – Acceptable	4	NC
	2.9.2 Fail – Rub down – Regauge – Pass	4	NC
	2.9.2 Fail – Rub down – Regauge - Fail	2	NC
2.10 Rim Damage (Slight)	2.10.1 Chamber Gauge (Pass)	4	NC
	1.10.2 Chamber Gauge (Fail) – Replace case	2	NC
2.11 Rim Damage (Severe)	2.11 Replace case	2	NC
2.12 Bell Mouthed	2.12.1 Chamber Gauge (Pass)	4	NC
	2.12.2 Chamber Gauge (Fail) – Replace case	2	NC
2.13 Primer Hole Thread Damage	2.13 Damaged beyond repair – Replace case	3	NC
<b>3. Cartridge Case (QF Fixed)</b>			
3.1 Corroded (Light)	3.1 Clean	4	NC
3.2 Corroded (Heavy)	3.2 Sentence	2	D
3.3 Discolouration	3.3 Report	4	NC
3.4 Flaking or Pitting	3.4 Sentence	2	D
3.5 Cracked or Split (Up to 6mm from Mouth)	3.5 Nil	4	NC
3.6 Cracked or Split (Over 6mm from Mouth)	3.6 Replace case	2	D
3.7 Slight Dent	3.7.1 Chamber Gauge (Pass)	4	NC
	3.7.2 Chamber Gauge (Fail) – Sentence	2	D
3.8 Severe Dent	3.8 Sentence	2	D



<b>Cartridges Propelling</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>27</sup></b>	<b>Condition Code<sup>28</sup></b>
3.9 Chamber Gauge	3.9.1 Pass – Acceptable	4	NC
	3.9.2 Fail – Rub down – Regauge – Pass	2	NC
	3.9.2 Fail – Rub down – Regauge - Fail	2	D
3.10 Rim Damage (Slight)	3.10.1 Chamber Gauge (Pass)	4	NC
	3.10.2 Chamber Gauge (Fail) – Replace case	2	NC
3.10 Rim Damage (Severe)	3.10 Replace case	2	NC
3.11 Bell Mouthed	3.11.1 Chamber Gauge (Pass)	4	NC
	3.11.2 Chamber Gauge (Fail) – Replace case	2	NC
3.12 Primer Hole Thread Damage	3.12 Damaged beyond repair – Replace case	3	NC
<b>4. Propellant Charge – QF Fixed</b>			
4.1 Missing	4.1 Sentence	2	B1
4.2 Incorrect Amount (Approx)	4.2 Sentence	2	D
4.3 Broken Propellant Sticks (>10%)	4.3 Sentence	2	D
4.4 Exuding	4.4 Segregate for Propellant Testing	2	D
4.5 Discoloured	4.5 Segregate for Propellant Testing	2	D
4.6 Damp	4.6 Segregate for Propellant Testing	2	D
4.7 Contaminated with Luting or Grot	4.7 Sentence	4	D
<b>5. Propellant Charge Bags – QF Fixed</b>			
5.1 Missing	5.1 Sentence	2	C2
5.2 Split or Damaged	5.2.1 No apparent loss – Repair using waterproof tape adhesive	3	NC
	5.2.2 Apparent loss - Sentence	2	C2
5.3 Damp	5.3 Sentence	2	C2

<b>Cartridges Propelling</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>27</sup></b>	<b>Condition Code<sup>28</sup></b>
5.4 Inspection point	5.4.1 Incorrectly positioned – Rectify	4	NC
	5.4.2 Foil incorrectly placed (where applicable) - Sentence	2	C2
<b>6. Closing Cup or Lid</b>			
6.1 Missing or damaged	6.1 Replace	3	NC
6.2 Loose	6.2 Secure	3	NC
6.3 Cloth Disc	6.3.1 Missing – Replace	3 or 4	NC
	6.3.2 Loose - Secure	3 or 4	NC
6.4 Sleeve	6.4 Loose - Secure	2	NC
6.5 Holder Charge	6.5.1 Damaged – Sentence	2	C2
	6.5.2 Loose - Secure	3	NC

**Annex F**  
(normative)  
**Specific to type inspection points – Cartridges signal**

<b>Cartridges Signal</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>30</sup></b>	<b>Condition Code<sup>31</sup></b>
<b>1. Cap</b>			
1.1 Misfired or damaged	1.1 Sentence for local disposal	1	D
1.2 Corroded or missing	1.2 Sentence	2	D
<b>2. Cartridge Case including Cartridge Head</b>			
2.1 Dented	2.1.1 Superficial – Cartridge will load and is not perforated – Acceptable	4	NC
	2.2.2 Other than 2.1.1 - Sentence	2	D
2.2 Split, torn, pierced, corroded, swollen or damp	2.2 Sentence	2	D
2.3 Cartridge head loose or distorted	2.3 Sentence	1	D
<b>3. Closing Cup or Disc</b>			
3.1 Missing, loose or damp	3.1 Sentence	2	D
3.2 Corroded	3.2.2 Light – Acceptable	2	D
	3.2.2 Heavy or moderate - Sentence		

<sup>30</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>31</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

**Annex G**  
(normative)  
**Specific to type inspection points – Charges propelling**

<b>Charges Propelling</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>32</sup></b>	<b>Condition Code<sup>33</sup></b>
<b>1. Charge Bag – Gunpowder Igniter</b>			
1.1 Torn or split	1.1 Sentence	1	D
1.2 Damp or caked	1.2 Sentence	3	D
1.3 Insecure	1.3 Secure	4	NC
1.4 Missing	1.4 Sentence	2	D
<b>2. Charge Bag</b>			
2.1 Exudation from propellant	2.1 Segregate batch and request Stability Test		
2.2 Torn or split	2.2.1 No propellant lost – Tape or sew secure	3	NC
	2.2.2 Propellant lost - Sentence	2	D
2.3 Damp, wet or rotted	2.3 Sentence	2	D
2.4 Propellant sticks broken >10%	2.4 Sentence	2	D
2.5 Tapes	2.5.1 Loose – Secure	4	NC
	2.5.2 Missing – Fit new tape	4	NC
<b>3. Combustible Cartridge Cases</b>			
3.1 Broken	3.1 Sentence	2	D

<sup>32</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>33</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Charges Propelling</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>32</sup></b>	<b>Condition Code<sup>33</sup></b>
3.2 Cracked or split	3.2.1 <38mm in length – Repair with waterproof tape	3	NC
	3.2.2 >38mm in length - Sentence	2	D
3.3 Cap or end cover loose or separated	3.3.1 If practicable secure and seal with waterproof table	2	NC
	3.3.2 If not practicable - sentence	2	C2
3.4 Tape cotton medium	3.4.1 Loose – Secure	4	NC
	3.4.2 Missing – Fit new tape	4	NC
3.5 Lacquer coating or equivalent	3.5 Damaged – Re-lacquer	4	NC
<b>4. Increment Propelling Charge</b>			
4.1 Torn or split	4.1.1 No propellant lost – Tape secure	3	NC
	4.1.2 Propellant lost - Sentence	2	D
4.2 Damp, wet or rotted	4.2 Sentence	2	D
4.3 Propellant	4.3.1 Damp – Sentence	3	D
	4.3.2 Broken >10% - Sentence	2	D
	4.3.2 Exuding – Sentence	2	D
	4.3.4 Missing - Sentence	2	D

**Annex H**  
(normative)  
**Specific to type inspection points – Cord detonating**

<b>Cord Detonating</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>34</sup></b>	<b>Condition Code<sup>35</sup></b>
1. Leakage of HE Core	1.1.1 Cut out affected portion to 300mm either side	1	NC
	1.1.2 Reseal ends and join if possible		
	1.1.3 If defect can not be localised - Sentence	1	NC D
2. Damp, Discoloured, Split, Kinked, Unsealed or Loss of Flexibility	1.2.1 If repairable then 1.1.1 and 1.1.2 above	2	NC
	1.2.2 If defect can not be localised - Sentence	2	D

<sup>34</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>35</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

**Annex J**  
(normative)  
**Specific to type inspection points – Demolition charges**

<b>Demolition Charges</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>36</sup></b>	<b>Condition Code<sup>37</sup></b>
<b>1. Plasticising Agent</b>			
1.1 May be present in droplets or an oily substance	1.1.1 Test for explosive – Positive – Sentence	1	B1
	1.1.2 Test for explosive – Negative - Acceptable	1	NC
1.2 May be present in pools	1.2.1 Test for explosive – Positive – Sentence	1	B1
	1.2.2 Test for explosive – Negative – Pools form when tilted through 90 degrees - Sentence	1	B1
<b>2. Body</b>			
2.1 Paint damaged	2.1 Clean and repaint	4	NC
2.2 Contamination	2.2.1 Test for explosive – Positive – Sentence	1	B1
	2.2.2 Test for explosive – Negative - Acceptable		
2.3 Cracked, pierced or spilt	2.3 Sentence	1	D
2.4 Corroded	2.4.1 Light or moderate – Clean and repaint	3	NC
	2.4.2 Heavy - Sentence	2	D
<b>3. Transit Cap</b>			
3.1 Missing	3.1 Replace	3	NC
3.2 Set fast	3.2 Sentence	2	D

<sup>36</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>37</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Demolition Charges</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>36</sup></b>	<b>Condition Code<sup>37</sup></b>
3.3 Corroded	3.3.1 Light or moderate – Clean and repaint 3.3.2 Heavy - Sentence	4 3	NC D
<b>4. Discs or Washers</b>			
4.1 Missing, damaged or distorted	4.1 Replace	3	NC
<b>5. Detonator Cavity</b>			
5.1 Obstructed	5.1 If not easily cleared - Sentence	2	D



## Annex K (normative) Specific to type inspection points – Detonators

Detonators			
Inspection Point	Action	Effect Code <sup>38</sup>	Condition Code <sup>39</sup>
<b>1. Tube</b>			
1.1 Corroded, dented, split or distorted	1.1 Sentence	1	D
<b>2. Filling</b>			
2.1 Yellow staining or crystalline deposit on surfaces of those detonators filled with ASA composition	2.1 If clearly visible as a continuous film on surfaces - Sentence	1	D
2.2 Loose	2.2 Sentence	1	D
2.3 Damp or contaminated	2.3 Sentence	2	D
<b>3. Cavity</b>			
3.1 Obstructed	3.1 If not easily and safely removed - sentence	2	D
<b>4. Electrical Leads</b>			
4.1 Missing	4.1 Sentence	2	D
4.2 Insulation perished	4.2 Sentence	2	D
4.3 Insulation stripped	4.3 Remove damaged portion - If insufficient cable left - Sentence	2	D
4.4 Broken	4.4 Remove damaged portion - If insufficient cable left - Sentence	2	D
<b>5. Plug Conducting Rubber</b>			
5.1 Missing	5.1 Fit new plug	3	NC
5.2 Perished	5.2 Replace	3	NC

<sup>38</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>39</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Detonators</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>38</sup></b>	<b>Condition Code<sup>39</sup></b>
<b>6. Neoprene Plug or Rubber Sleeve</b>			
6.1 Missing, loose or perished	6.1 Sentence	2	D
<b>7. Cover Polythene</b>			
7.1 Missing or distorted	7.1 Fit new cover	4	NC
<b>8. Crimp</b>			
8.1 Insufficient or excessive	8.1 Sentence	2	D
<b>9. Shorting Clip or Dust Cover</b>			
9.1 Missing	9.1 Replace with new	3	NC

**Annex L**  
(normative)  
**Specific to type inspection points – Exploder pellets**

<b>Exploder Pellets</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>40</sup></b>	<b>Condition Code<sup>41</sup></b>
<b>1. In Pellet Form</b>			
1.1 Damp or Distorted	1.1 Sentence	2	D
1.2 Crumbling or Broken	1.2 Sentence	1	D
1.3 Paper Wrapping Damaged and Filling Exposed	1.3 Sentence	1	D
1.4 Contaminated or Exuding	1.4 Sentence	1	D
<b>2. Canned</b>			
2.1 Lifting Becket Missing or Unserviceable	2.1 Fit new becket	3	NC
2.2 Felt Disc – Missing or Damaged	2.2 Fit new felt disc	2	NC
2.3 Felt Disc - Loose	2.3 Secure	2	NC
2.4 Corroded, Dented or Damaged	2.4 Sentence	2	D
2.5 Split	2.5 Sentence	1	D
2.6 Under or Oversize	2.6 Sentence	2	D
2.7 Loose Closing Disc	2.7 Sentence	1	D
<b>3. In Bag Form</b>			
3.1 Damp	3.1 Sentence	2	D
3.2 Split, Torn or Perished	3.2 Sentence	1	D

<sup>40</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>41</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

**Annex M**  
(normative)  
**Specific to type inspection points – Explosives bulk**

<b>Explosives bulk</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>42</sup></b>	<b>Condition Code<sup>43</sup></b>
<b>1. Sheet Explosive</b>			
1.1 Exuding	1.1.1 Test for RDX – Present - Sentence	1	D
	1.1.2 Test for RDX – Not Confirmed - Acceptable	4	NC
1.2 Split, Broken or Adhesion between Sheets	1.2 Acceptable	4	NC
1.3 Brittle or Hard	1.3 Sentence	2	D
<b>2. Plastic Explosive</b>			
2.1 Exuding	2.1.1 Test for Presence of Explosive – Present - Sentence	1	D
	2.1.2 Test for Presence of Explosive - Confirmed - Acceptable	4	NC
2.2 Wrapper – Missing or Torn	2.2 Fit new wrapper	3	NC
2.3 Broken Cartridge	2.3 Remake Cartridge	3	NC
2.4 Staining from Wrapper	2.4 Acceptable	4	NC
2.5 Loose Explosive forced through Wrapper	2.5 Acceptable	4	NC
2.6 Loss of Plasticity	2.6.1 Plasticity Test – Pass – Acceptable	4	NC
	2.6.2 Plasticity Test – Fail – Submit Defect Report		

<sup>42</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>43</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

**Annex N**  
(normative)  
**Specific to type inspection points – Fuzes and gains**

<b>Fuzes and Gains</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>44</sup></b>	<b>Condition Code<sup>45</sup></b>
<b>1. General</b>			
1.1 Fuze or magazine threads damaged	1.1.1 Not affecting insertion - Acceptable	4	NC
	1.1.2 Affecting insertion - Sentence	2	D
1.2 Booster or gaine threads damaged	1.2.1 Not affecting insertion - Acceptable	4	NC
	1.2.2 Affecting insertion - Sentence	2	D
<b>2. Percussion DA and Graze Fuze</b>			
2.1 Safety cap	2.1.1 Missing or damaged - Replace	3	NC
	2.1.2 Set fast - Sentence	2	D
	2.1.3 Spring - Missing, broken or loose - Replace Cap	3	NC
	2.1.4 Corroded – Light – Clean	3	NC
	2.1.5 Corroded – Heavy or moderate - Sentence	2	NC
2.2 Safety pin or clip	2.2.1 Missing or broken – Sentence	1	D
	2.2.2 Corroded – Sentence	2	D
	2.2.3 Set fast – Manipulate gently to loosen, but do NOT remove	2	NC
	2.2.4 Not taped to fuze in forward position - Rectify	4	NC
2.3 Striker cover	2.3 Missing, dented, split or perforated - Sentence	2	D

<sup>44</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>45</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Fuzes and Gains</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>44</sup></b>	<b>Condition Code<sup>45</sup></b>
2.4 Corroded	2.4.1 Cracked - Sentence	2	D
	2.4.2 Light or Moderate - Acceptable	4	NC
	2.4.3 Heavy - Sentence	2	D
2.5 Guide bush, head fairing, body magazine or bottom cap	2.5.1 Cracked - Sentence	2	D
	2.5.2 Corroded - Light - Acceptable	4	NC
	2.5.3 Corroded - Moderate – Sentence	2	D
	2.5.4 Corroded - Heavy - Sentence	1	D
2.6 Guide bush, head fairing or nose cap	2.6 Loose - Sentence	1	D
2.7 Set screw	2.7 Missing - Replace	3	NC
2.8 Magazine or magazine bottom cap loose	2.8 Hand tighten - Sentence		
2.9 Closing disc	2.9.1 Loose, pierced, split or cracked – Sentence	2	D
	2.9.2 Dented - Acceptable		
2.10 Head loose in ogive, ogive loose in body	2.10 Sentence	2	D
2.11 Setting sleeve retainer	2.11 Missing or damaged - Sentence	2	D
2.12 Head or ogive body or booster	2.12 Cracked - Sentence	1	D
2.13 Metal peeling or flaked	2.13 sentence	1	D
<b>3. Mechanical Time Fuze</b>			
3.1 Safety cap	3.1.1 Missing - Replace	3	NC
	3.1.2 Set fast - Sentence	2	D
	3.1.3 Spring - Missing, broken or loose - Replace Cap	3	NC
3.2 Head closing disc	3.2.1 Corroded – Sentence	2	D
	3.2.2 Pierced or perforated - Sentence	2	C2

<b>Fuzes and Gains</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>44</sup></b>	<b>Condition Code<sup>45</sup></b>
3.3 Head, nose, locking ring, body or dome	3.3.1 Cracked – Sentence	2	D
	3.3.2 Corroded – Light – Acceptable	4	NC
	3.3.3 Corroded – Medium to Heavy - Sentence	2	D
3.4 Nose, head loose in dome or locking ring loose in body	3.4 Sentence	1	D
3.5 Gaine	3.5 Loose - Secure	1	NC
3.6 Base plug	3.6.1 Loose - Secure	2	ND
	3.6.2 Protruding and set fast – Sentence	2	D
	3.6.3 Closing disc – Corroded, loose, missing, perforated or split - Sentence	2	D
3.7 Magazine or gaine cap	3.7 Loose – Tighten - Sentence	2	C1
3.8 Set or securing screw	3.8 Loose or missing – replace or secure	2	NC
3.9 Fuze set at other than SAFE	3.9 Rest to SAFE position	3	NC
<b>4. Fuze Nose Proximity or Electronic Time</b>			
4.1 Setter contacts	4.1.1 Missing – Sentence	1	D
	4.1.2 Damaged – Sentence	1	D
	4.1.3 Corroded - Sentence	1	D
4.2 Head or base corroded	4.2.1 Light – Acceptable	4	NC
	4.2.2 Heavy or medium - Sentence	2	D
4.3 Safety pin	4.3 Missing - sentence	1	D
4.4 Fuze set at other than SAFE	4.4 Reset to SAFE position	3	NC

**Annex P**  
(normative)  
**Specific to type inspection points – Grenades hand**

<b>Grenades Hand</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>46</sup></b>	<b>Condition Code<sup>47</sup></b>
<b>1. Detonator</b>			
1.1 Fitted	1.1.1 Call for Supervisor and do nothing until advised by Process Manager or an Ammunition Inspector 1.1.2 Detonator removed 1.1.3 Detonator set fast – Sentence and dispose of soonest	1 1	NC D
<b>2. Body</b>			
2.1 Contamination in area of Fuze or Plug joint	2.1.1 Test for explosive – Not Confirmed – Clean 2.1.2 Test for explosive – Confirmed - Clean	3 1	NC NC
2.2 Corroded	2.2.1 Light or Moderate – Clean 2.2.2 Heavy - Sentence	3 2	NC D
2.3 Split, cracked, pierced or perforated	2.3 Sentence	1	D
<b>3. Fuze Well</b>			
3.1 Obstructed	3.1.1 Easily cleared – Remove obstruction 3.1.2 Not easily cleared - Sentence	3 2	NC D
3.2 Corrosion	3.1 Corroded, damaged or undersize threads – Sentence	1	D
<b>4. Striker Mechanism Assembly (When designed to be fixed)</b>			

<sup>46</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>47</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.



<b>Grenades Hand</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>46</sup></b>	<b>Condition Code<sup>47</sup></b>
4.1 Missing	4.1 Sentence	2	D
4.2 Loose	4.2 Secure	2	NC
<b>5. Striker Mechanism Assembly (When designed to be removed)</b>			
5.1 Missing	5.1 Replace	2	C
5.2 Set fast	5.2 Sentence	2	D
5.3 Threads	5.3 Damaged or distorted - Sentence	2	S
<b>6. Striker Mechanism Assembly (Ring Pull)</b>			
6.1 Missing or damaged	6.1 Replace	2	C
<b>7. Striker Mechanism Assembly (Pin Safety)</b>			
7.1 Missing, corroded or damaged	7.1 Replace	1	NC
7.2 Set fast	7.2 Sentence	2	D
<b>8. Striker Mechanism Assembly (Housing)</b>			
8.1 Loose	8.1 Secure	2	NC
<b>9. Striker Mechanism Assembly (Pin Hinge Sleeve)</b>			
9.1 Missing	9.1 Fit new striker mechanism assembly	2	NC
9.2 Corroded	9.2.1 Light or Moderate – Clean	3	NC
	2.2.2 Heavy - Sentence	2	D
<b>10. Striker Mechanism Assembly (Spring)</b>			
10.1 Missing, weakened or corroded	10.1 Fit new striker mechanism assembly	2	NC
<b>11. Striker Mechanism Assembly (Striker)</b>			
11.1 Missing, weakened or corroded	11.1 Fit new striker mechanism assembly	2	NC

<b>Grenades Hand</b>				
<b>Inspection Point</b>		<b>Action</b>	<b>Effect Code<sup>46</sup></b>	<b>Condition Code<sup>47</sup></b>
<b>12. Cap or Plug</b>				
12.1	Loose	12.1 Sentence	2	D

**Annex Q**  
(normative)  
**Specific to type inspection points – Igniters**

<b>Igniters</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>48</sup></b>	<b>Condition Code<sup>49</sup></b>
1. Missing	1.1 Sentence	2	D
2. Loose	2.1 Igniter cup not fitted correctly - Sentence	1	D
3. Igniter Cup or Flash Tube	3.1 Missing, split or broken - Sentence	1	D

<sup>48</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>49</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

## Annex R (normative) Specific to type inspection points – Mines

Mines			
Inspection Point	Action	Effect Code <sup>50</sup>	Condition Code <sup>51</sup>
<b>1. Body including Base</b>			
1.1 Cracked, pierced or split	1.1 Sentence	1	D
1.2 Dented	1.2.1 Damage does not affect correct assembly or functioning	4	NC
	1.2.2 Damage does affect correct assembly or functioning	2	D
1.3 Corroded	1.3.1 Light or Moderate – Clean and Repaint	4	NC
	1.3.2 Heavy - Sentence	2	D
1.4 Contamination	1.1.1 Test for explosive – Not Confirmed – Clean	3	NC
	1.1.2 Test for explosive – Confirmed - Sentence	1	C2
<b>2. Becket or Cord Lifting</b>	2.1.1 Missing, broken or rotted - Replace	1	NC
<b>3. Detonator Well or Channel</b>			
3.1 Obstructed	3.1.1 Remove obstruction	3	NC
	3.1.2 Obstruction set fast - Sentence	1	D
3.2 Corroded	3.2.1 Superficial and allows detonator fitting	4	NC
	3.2.2 Other than 3.2.1 - Sentence	1	D
<b>4. Exploder or Pellet</b>			
4.1 Crumbling or broken	4.1.1 Remove pellet completely – Clean – Sentence	1	C2
	4.1.2 If whole or part can not be removed - Sentence	1	D

<sup>50</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>51</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Mines</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>50</sup></b>	<b>Condition Code<sup>51</sup></b>
4.2 Missing	4.2 Sentence	1	C2
<b>5. Detector Ring</b>			
5.1 Missing	5.1 Replace	3	NC
5.2 Corroded	5.2.1 Light or Moderate – Clean and Repaint	3	NC
	5.2.2 Heavy - Sentence	3	NC
<b>6. Transit Plug</b>			
6.1 Missing, broken or damaged threads	6.1 Replace	3	NC
<b>7. Safety Clips</b>			
7.1 Missing or broken	7.1 Replace	3	NC
<b>8. Sealing Rings</b>			
8.1 Missing or broken	8.1 Replace	3	NC
<b>9. Dust, Transit or Waterproof Covers</b>			
9.1 Missing	9.1 Replace	3	NC
9.2 Missing, split, pierced or perished (waterproof covers only)	9.2 Sentence	2	D
<b>10. Fuze Well</b>			
	10.1.1 Gauge – Fail – Clean – Regauge – Pass	3	NC
	10.1.2 Gauge – Fail – Clean – Regauge – Fail - Sentence	2	D
<b>11. Base Plug</b>			
11.1 Loose	11.1 Secure using luting or equivalent	3	NC
11.2 Missing	11.2 Replace	3	NC

**Annex S**  
(normative)  
**Specific to type inspection points – Mortar bomb augmenting cartridges**

<b>Mortar Bomb Augmenting Cartridges</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>52</sup></b>	<b>Condition Code<sup>53</sup></b>
<b>1. In Bulk</b>			
1.1 Split or Broken	1.1.1 Clear ammunition container of loose propellant – Sentence	1	D
1.2 Dented	1.2.1 Undamaged after reshaping – Acceptable	4	NC
	1.2.2 Damaged after reshaping – Unacceptable	2	D
<b>2. Fitted to Bombs</b>			
1.1 Split or Broken	1.1.1 Clear ammunition container of loose propellant	1	
	1.1.2 Cartridge – Sentence	1	D
	1.1.3 Bomb Body - Sentence	2	C2

<sup>52</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>53</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

**Annex T**  
(normative)  
**Specific to type inspection points – Mortar bomb (HE and Practice)**

<b>Mortar Bomb (HE and Practice)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>54</sup></b>	<b>Condition Code<sup>55</sup></b>
<b>1. Body – External</b>			
1.1 Contamination in area of Fuze or Plug joint	1.1.1 Test for explosive – Not Confirmed – Clean	3	NC
	1.1.2 Test for explosive – Confirmed - Sentence	1	C2
1.2 Varnish Damaged	1.2 Clean and re-varnish	3	NC
1.3 Corroded	1.3.1 Light or Moderate – Clean	3	NC
	1.3.2 Heavy - Sentence	2	D
1.4 Damaged	1.4.1 Body not weakened – Gauge – Pass	4	NC
	1.4.2 Body not weakened – Gauge – Fail – Sentence	1	D
	1.4.3 Body weakened - Sentence	!	D
1.5 Identification Groove	1.5 Missing - Sentence	1	D
<b>2. Obturating Ring</b>			
2.1 Missing, split oversize or broken	2.1 Sentence	1	D
2.2 Gauge	2.2.1 Pass - Acceptable	3	NC
	2.2.2 Fail – Remove paint high spots – Re-gauge - Pass	3	NC
	2.2.3 Fail – Try other obturating rings – Re-gauge - Pass	3	NC
	2.2.4 Fail – Try other obturating rings – Re-gauge – Fail - Sentence	2	D

<sup>54</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>55</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Mortar Bomb (HE and Practice)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>54</sup></b>	<b>Condition Code<sup>55</sup></b>
<b>3. Straightness Gauging</b>			
3.1 Fail	3.1.1 Due to condition of Tail Unit – Replace Tail Unit	2	NC
	3.1.2 Not due to condition of Tail Unit - Sentence	2	D
<b>4. Adaptor Nose</b>			
4.1 Loose or not fully home	4.1 Secure using Luting or equivalent	3	NC
4.2 Set Fast or Protruding	4.2 Sentence	2	D
4.3 Corroded	4.3.1 Light or Moderate – Clean	3	NC
	4.3.2 Heavy - Sentence	2	D
<b>5. Replacement Component Required</b>			
5.1 Fuze, primary cartridge or augmenting cartridges	5.1 Sentence	1	C2
<b>6. Tail Unit</b>			
6.1 Missing, incorrect or broken	6.1 Replace	2	NC
6.2 Corroded	6.2.1 Light or Moderate – Clean	3	NC
	6.2.2 Heavy - Sentence	2	D
6.3 Loose or not fully home	6.3.1 Loose – Secure	2	NC
	6.3.2 Set fast – Sentence	2	D
	6.3.3 Damaged Tail threads – Replace	2	NC
	6.3.4 Adaptor tail or spigot threads damaged - Sentence	2	D
6.4 Misaligned	6.4.1 Replace – Gauge – Pass – Acceptable	2	NC
	6.4.2 Replace – Gauge – Fail - Sentence	2	D
6.5 Fins	6.5.1 Missing or loose – Replace Tail Unit	2	NC
	6.5.2 Damaged – Replace Tail Unit – Gauge – Pass – Acceptable	4	NC
	6.5.2 Damaged – Replace Tail Unit – Gauge – Fail - Sentence	2	D



<b>Mortar Bomb (HE and Practice)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>54</sup></b>	<b>Condition Code<sup>55</sup></b>
6.6 Grub Screw	6.6.1 Missing – Replace	2	NC
	6.6.2 Loose - Secure	3	NC
6.7 Adaptor Spigot Tail	6.7.1 Missing – Replace	2	NC
	6.7.2 Loose - Secure	3	NC
<b>7. Tail Accessories</b>			
7.1 Cap Retaining Primary Cartridge	7.1.1 Missing, cracked or loose – Replace	2	NC
	7.1.2 Corroded, moderate or heavy - Replace	2	NC
7.2 Projector Assembly Cartridge	7.2.1 Missing or incomplete – Replace	1	NC
	7.2.2 Distorted, broken or cracked – Replace	1	NC
	7.2.3 Strap Carrying missing or damaged – replace	1	NC
	7.2.4 Cup Assembly missing, broken or perished	1	NC
	7.2.5 Tape adhesive or rubber band missing - Replace	3	NC
<b>8. Fuze or Plug/Shell Joint</b>			
8.1 Fuze damaged	8.1.1 Safety and efficient functioning OK – Acceptable	4	NC
	8.1.2 Safe for handling, movement and storage – Sentence	2	C2
	8.1.3 Unsafe for handling, movement or storage - Sentence	1	D
8.2 Fuze or plug not fully tightened	8.2.1 Fuze threads damaged – Sentence	2	C2
	8.2.2 Plug threads damaged – Sentence	4	NC
	8.2.3 Fuze threads damaged – Reset using tap cleaning fluid	2	NC
	8.2.4 Fuze intrusion outside limits – Sentence	2	C2
	8.2.5 Plug intrusion outside limits – Replace	3	NC
	8.2.6 Depth of cavity below limit and not adjustable by removal of discs - Sentence	1	D

<b>Mortar Bomb (HE and Practice)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>54</sup></b>	<b>Condition Code<sup>55</sup></b>
8.3 Fuze or plug set fast	8.3.1 Fuze visually serviceable – Acceptable	4	NC
	8.3.2 Fuze not visually serviceable – Deal with as per 8.11 8.13		
	8.3.3 Plug set fast - Acceptable	4	NC
8.4 Luting	8.4.1 Missing – Apply luting or equivalent	3	NC
	8.4.2 Insufficient – Remove and replace	3	NC
8.5 Fuze Hole Threads	8.5.1 Corroded - Light or Moderate – Clean	3	NC
	8.5.2 Corroded - Heavy – Sentence	2	D
	8.5.3 Damaged – Reset using tap cleaning fluid	2	NC
	8.5.4 Test for explosive – Not Confirmed – Clean	1	NC
	8.5.5 Test for explosive – Confirmed - Sentence	1	D
<b>9. Cavity</b>			
9.1 Brown liquid and ammonia smell present	9.1.1 Ammonium Nitrate confirmed – Sentence	1	D
	9.1.2 Ammonium Nitrate not confirmed – Sentence as exudation in early stage	2	D
9.2 Corroded	9.2.1 Light – Clean	3	NC
	9.2.2 Moderate or heavy - sentence	2	D
9.3 Collar Paper	9.3.1 Missing, damp or contaminated - Replace	3	NC
9.4 Exploder	9.4.1 Undamaged	4	A1/NC
	9.4.2 Damaged - Replace	1	NC
	9.4.3 Set fast and not damaged – Acceptable	4	NC
	9.4.4 Set fast and damaged - Replace	1	NC
9.5 Runnels or smears of HE filling	9.5 Clean		
9.6 Exudation	9.6.1 Test for explosive – Not Confirmed – Clean	3	NC
	9.6.2 Test for explosive – Confirmed - Sentence	1	D

<b>Mortar Bomb (HE and Practice)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>54</sup></b>	<b>Condition Code<sup>55</sup></b>
7.5 Paper Tube – Loose, damaged or Damp	7.5 Replace	3	NC
7.6 Cavity Damaged	7.6.1 Light – Repair	3	NC
	7.6.2 Heavy or moderate – Sentence	1	D
7.7 Cavity Damp	7.7.1 Remove exploder, paper tube and other inert items – Dry	2	D
	7.7.2 Replace items if necessary		
7.8 Cavity Swollen	7.8.1 Fuze still fits – Acceptable		
	7.8.2 Insertion of Fuze affected - Sentence	2	D
7.9 Cloth paper, felt, discs or glaze board	7.9 Missing, damaged or stained - Replace	2	NC
1.10 Outside Limits	7.10 Adjust by insertion or removal of discs	2	NC

**Annex U**  
(normative)  
**Specific to type inspection points – Mortar bomb (smoke and illuminating)**

<b>Mortar Bomb (smoke and illuminating)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>56</sup></b>	<b>Condition Code<sup>57</sup></b>
<b>1. Bomb Body</b>			
1.1 Filling – White Phosphorus only	1.1 Leaking – Immerse in water and dispose of soonest	1	D
1.2 Varnish Damaged	1.2 Clean and re-varnish	3	NC
1.3 Corroded	1.3 Clean	3	NC
1.4 Front or rear body loose	1.4 Sentence	1	D
1.5 Shear Pins	1.5.1 Missing or broken – Sentence	1	D
	1.5.2 Corroded – Moderate or Heavy - Sentence	1	D
1.6 Damaged	1.6.1 Body not weakened – Gauge – Pass	4	NC
	1.6.2 Body not weakened – Gauge – Fail – Sentence	1	D
	1.6.3 Body weakened - Sentence	!	D
1.7 Closing Lid of Illuminating Bomb	7.1.1 Missing – Sentence	2	D
	7.1.2 Contents appear serviceable – Secure lid using resin cement	3	NC
	7.1.2 Contents appear unserviceable - Sentence	2	D
<b>2. Fuze and Bomb Joint</b>			

<sup>56</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>57</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Mortar Bomb (smoke and illuminating)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>56</sup></b>	<b>Condition Code<sup>57</sup></b>
2.1 Fuze damaged	2.1.1 Safety and efficient functioning OK – Acceptable	4	NC
	2.1.2 Safe for handling, movement and storage – Sentence	2	C2
	2.1.3 Unsafe for handling, movement or storage - Sentence	1	D
2.2 Fuze not fully tightened	2.2.1 Fuze threads damaged – Sentence	2	C2
	2.2.2 Fuze threads damaged – Reset using tap cleaning fluid	2	NC
	2.2.3 Fuze intrusion outside limits – Sentence	2	C2
	2.2.4 Depth of cavity below limit and not adjustable by removal of discs - Sentence	1	D
2.3 Fuze set fast	2.3.1 Fuze visually serviceable – Acceptable	4	NC
	2.3.2 Corrosion - Sentence	2	D
2.4 Luting	2.4.1 Missing – Apply luting or equivalent	3	NC
	2.4.2 Insufficient – Remove and replace	3	NC
2.5 Fuze Hole Threads	2.5.1 Corroded - Light or Moderate – Clean	3	NC
	2.5.2 Corroded - Heavy – Sentence	2	D
	2.5.3 Damaged – Reset using tap cleaning fluid	2	NC
	2.5.4 Test for explosive – Not Confirmed – Clean	3	NC
	2.5.5 Test for explosive – Confirmed - Sentence	2	D
<b>3. Cavity</b>			
3.1 Corroded	3.1.1 Light – Clean	3	NC
	3.1.2 Moderate or heavy - sentence	2	D
3.2 Cavity Damaged	3.2.1 Light – Repair	3	NC
	3.2.2 Heavy or moderate – Sentence	1	D
3.3 Cavity Damp	3.3.1 Remove exploder, paper tube and other inert items – Dry	2	D
	3.3.2 Replace items if necessary		

<b>Mortar Bomb (smoke and illuminating)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>56</sup></b>	<b>Condition Code<sup>57</sup></b>
3.4 Cloth paper, felt, discs or glaze board	3.4 Missing, damaged or stained - Replace	2	NC
3.5 Outside Limits	3.5 Adjust by insertion or removal of discs	2	NC
<b>4. Adaptor Nose</b>			
4.1 Loose or not fully home	4.1.1 For White Phosphorus – Immerse in water and dispose of immediately	1	D
	4.1.2 Secure using Luting or equivalent	3	NC
4.2 Set Fast or Protruding	4.2 Sentence	2	C1
4.3 Corroded	4.3.1 Light or Moderate – Clean	3	NC
	4.3.2 Heavy - Sentence	2	D
<b>5. Obturating Ring</b>			
5.1 Missing, split oversize or broken	5.1 Replace and gauge	3	NC
5.2 Gauge	5.2.1 Pass - Acceptable	3	NC
	5.2.2 Fail – Remove paint high spots – Re-gauge - Pass	3	NC
	5.2.3 Fail – Try other obturating rings – Re-gauge - Pass	3	NC
	5.2.4 Fail – Try other obturating rings – Re-gauge – Fail - Sentence	2	D
<b>6. Tail Unit</b>			
6.1 Missing, incorrect or broken	6.1 Replace	2	NC
6.2 Corroded	6.2.1 Light or Moderate – Clean	3	NC
	6.2.2 Heavy - Sentence	2	D
6.3 Loose or not fully home	6.3.1 Loose – Secure	3	NC
	6.3.2 Set fast – Sentence	2	D
	6.3.3 Damaged Tail threads – Replace	3	NC
	6.3.4 Adaptor tail or spigot threads damaged - Sentence	2	D

<b>Mortar Bomb (smoke and illuminating)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>56</sup></b>	<b>Condition Code<sup>57</sup></b>
6.4 Polythene Washer	6.4 Missing or loose - Replace	3	D
6.5 Celluloid Disc	6.5 Missing or perforated - Sentence	2	D
6.6 Misaligned	6.6.1 Gauge – Pass – Acceptable	2	NC
	6.6.2 Gauge – Fail - Sentence	1	D
6.7 Fins	6.7.1 Missing or loose – Replace Tail Unit	2	NC
	6.7.2 Superficial Damage – Gauge – Pass – Acceptable	4	NC
	6.7.2 Superficial Damage – Gauge – Fail - Sentence	2	D
6.8 Grub Screw	6.8. Missing or Loose – Replace	3	NC
6.9 Adaptor Spigot Tail	6.9.1 Missing – Replace	2	NC
	6.9.2 Loose or Bent - Sentence	2	D
<b>7. Straightness Gauging</b>			
7.1 Fail	3.1.1 Replace Tail Unit - Re-gauge - Pass		
	3.1.2 Replace Tail Unit - Re-gauge – Fail - Sentence	2	NC
		2	D
<b>8. Tail Accessories</b>			
8.1 Cap Retaining Primary Cartridge	8.1.1 Missing or cracked – Replace	1	NC
	8.1.2 Loose - Secure	2	NC
	8.1.3 Corroded, moderate or heavy - Replace	2	NC
8.2 Projector Assembly Cartridge	8.2.1 Missing or incomplete – Replace	1	NC
	8.2.2 Distorted, broken or cracked – Replace	1	NC
	8.2.3 Strap Carrying missing or damaged – Replace	3	NC
	8.2.4 Cup Assembly missing, broken or perished - Replace	3	NC
	8.2.5 Tape adhesive or rubber band missing - Replace	3	NC

<b>Mortar Bomb (smoke and illuminating)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>56</sup></b>	<b>Condition Code<sup>57</sup></b>
<b>5. Replacement Component Required</b>			
5.1 Fuze, primary cartridge or augmenting cartridges	5.1 Sentence	2	C2



**Annex V**  
(normative)  
**Specific to type inspection points – Mortar bomb (primary cartridges)**

<b>Mortar Bomb (Primary Cartridges)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>58</sup></b>	<b>Condition Code<sup>59</sup></b>
<b>1. Percussion Cap</b>			
1.1 Misfired or damaged	1.1 Handle with extreme care and remove for disposal	1	D
1.2 Proud of case	1.2 Sentence	1	D
1.3 Corroded	1.3.1 Light – Acceptable	4	NC
	1.3.2 Moderate or heavy - sentence	2	D
1.4 Annulus ring missing	1.4 Sentence	2	D
<b>2. Striker Clip</b>			
2.1 Missing	2.1 Sentence	2	D
2.2 Striker missing	2.2 Sentence	2	D
<b>3. Body</b>			
3.1 Corroded	3.1.1 Light – Acceptable	4	NC
	3.1.2 Moderate or heavy - sentence	2	D
<b>4. Base</b>			
4.1 Loose	4.1 Sentence	1	C2
4.2 Screw threads	4.2 Damaged - Sentence	2	D

<sup>58</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>59</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Mortar Bomb (Primary Cartridges)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>58</sup></b>	<b>Condition Code<sup>59</sup></b>
4.3 Corroded	4.3.1 Light – Acceptable	4	NC
	4.3.2 Moderate or heavy - sentence	2	D
<b>5. Brass Head or Cover</b>			
5.1 Corroded	5.1.1 Light – Acceptable	4	NC
	5.1.2 Moderate or heavy - sentence	2	D
5.2 Dented, split, perforated or cracked	5.2 Sentence	2	D
<b>6. Tube (Aluminium)</b>			
6.1 Corroded	6.1.1 Light – Acceptable	4	NC
	6.1.2 Moderate or heavy – sentence	2	D
6.2 Bent	6.2 Sentence	2	D
<b>7. Container Magazine (Aluminium)</b>			
7.1 Bent	7.1 Sentence	2	D
7.2 Loose	7.2 Sentence	1	D
7.3 Split or Cracked	7.3 Sentence	1	D
7.4 Corroded	7.4.1 Light – Acceptable	4	NC
	7.4.2 Moderate or heavy – sentence	2	D
<b>8. Paper Case</b>			
8.1 Missing or loose	8.1 Sentence	2	D
8.2 Pierced, perforated or distorted	8.2 Sentence	3	D

**Annex W**  
(normative)  
**Specific to type inspection points – Primers and tubes**

<b>Primers and Tubes</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>60</sup></b>	<b>Condition Code<sup>61</sup></b>
<b>1. Percussion Cap, Obturator Cup, Cap Holder or Firing Plug</b>			
1.1 Misfired, damaged or proud	1.1 Sentence	1	D
2.1 Sunken or missing	1.2 Sentence	2	D
2.3 Corroded	2.3.1 Light or Moderate – Clean	4	NC
	2.3.2 Heavy - Sentence	2	D
<b>2. Insulating Cup or Plug</b>			
2.1 Missing, loose, cracked, split or proud	2.1 Sentence	2	D
2.2 Sunken	2.2 Acceptable	4	NC
<b>3. Contact Piece or Plug</b>			
3.1 Missing, loose, cracked, split, proud or sunken.	3.1 Sentence	2	D
3.2 Corroded	3.2.1 Light or Moderate – Clean	4	NC
	3.2.2 Heavy - Sentence	2	D
<b>4. Body</b>			
4.1 Threads	4.1 Damaged and primer will not seat correctly - Sentence	2	D
4.2 Corroded	4.2.1 Light or Moderate – Clean	4	NC
	4.2.2 Heavy - Sentence	2	D

<sup>60</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>61</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Primers and Tubes</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>60</sup></b>	<b>Condition Code<sup>61</sup></b>
<b>5. Tube</b>			
5.1 Split or cracked	5.1 Sentence	1	D
5.2 Dented	5.2 Sentence	2	D
5.3 Corroded	5.3.1 Light or Moderate – Clean	4	NC
	5.3.2 Heavy - Sentence	2	D
5.4 Mouth not belled	5.4 Acceptable	4	NC
<b>6. Magazine or Sleeve</b>			
6.1 Loose, split or cracked	6.1 Sentence	1	D
6.2 Dented or bent	6.2 Sentence	2	D
6.3 Corroded	6.3.1 Light or Moderate – Acceptable		
	6.3.2 Heavy - Sentence	2	D
6.4 Envelope or capsule liner	6.4 Damp, pierced or perforated - Sentence	2	D
6.5 Dome	6.5.1 Missing or loose – Liner not perforated – Acceptable		
	6.5.2 Missing or loose – Liner perforated - Sentence	4	NC
6.6 Distance or Locating Sleeve	6.6.1 Pierced or perforated – Acceptable		
	6.6.2 Missing - Sentence	1	D
6.7 Brass closing disc	6.7.1 Missing or loose - Sentence	1	D
	6.7.2 Light or Moderate – Acceptable		
	6.7.3 Heavy - Sentence	1	D
<b>7. Cork or Paper Closing Disc or Plug</b>			
7.1 Missing, broken or loose	7.1 Sentence	1	D
<b>8. Celluloid Closing Cup</b>			
8.1 Missing, broken or loose	8.1 Sentence	1	C2

<b>Primers and Tubes</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>60</sup></b>	<b>Condition Code<sup>61</sup></b>
<b>9. Inner or Lower Celluloid Cup</b>			
9.1 Missing, broken or loose	9.1 Sentence	2	D
<b>10. Gauge</b>			
10.1 High to gauge	10.1.1 Remove from cartridge case and try in alternative rounds 10.1.2 Any primer that can not be fitted to a cartridge case - Sentence	2	D
10.2 Low to gauge	10.2.1 Remove from cartridge case and try in alternative rounds 10.2.2 Any primer that can not be fitted to a cartridge case, try brass shim washers 10.2.3 Any primer that still can not be fitted to a cartridge case - Sentence	2	D
<b>11. Primer or Tube Contaminated</b>			
11.1 Oil contamination	11.1 Sentence	2	D
<b>12. Rubber Sealing Rings</b>			
12.1 Deterioration due to brass contact	12.1 Fit new sealing ring. Do NOT use luting or lubricants	3	NC

**Annex X**  
(normative)  
**Specific to type inspection points – Pyrotechnics**

<b>Pyrotechnics</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>62</sup></b>	<b>Condition Code<sup>63</sup></b>
<b>1. Flares</b>			
1.1 Gas generation has occurred causing bulging body or split seams	1.1.1 Bulged – Sentence 1.1.2 Split seams - Sentence	3 2	C1 D2
<b>2. Smoke Generators</b>			
2.1 Body corroded	2.1.1 Light or Moderate – Clean 2.1.2 Heavy - Sentence	3 2	NC D
2.2 Body damaged	2.2.1 Superficial – Acceptable 2.2.2 Other than superficial - sentence	4 2	NC D
2.3 Seams	2.3 Open - Sentence	2	D
2.4 Electrical Leads	2.4 Missing, loose or insulation perished - Sentence	2	D

<sup>62</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>63</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

**Annex Y**  
(normative)  
**Specific to type inspection points – Rockets (anti-tank)**

<b>Rockets (Anti-Tank)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>64</sup></b>	<b>Condition Code<sup>65</sup></b>
<b>1. In Launcher (e.g. 66mm HEAT)</b>			
1.1 Tube Outer - Cracked	1.1 Sentence	1	D
1.2 Tube Outer - Incomplete	1.2 Sentence	1	D
1.3 Anti-Extension Rivets Missing or Broken	1.3 Sentence for Modification	1	C2
1.4 Rear Sight – Damaged, Missing or Incorrect	1.4 Sentence	2	D
1.5 Trigger Assembly Rubber Cover – Damaged, Missing or Loose	1.5 Sentence	3	D
1.6 Trigger Safety Mechanism – Damaged, Missing or Loose	1.6 Sentence	1	D
1.7 Detent Lever Assembly, Rubber Cover - Damaged	1.7 Sentence	3	D
1.8 Rear Cover – Damaged or Missing	1.8 Sentence	3	D
1.9 Tube Inner – Rear End Corroded	1.9 Sentence	2	D
1.10 Safety Pin - Missing	1.10 Fit new pin	1	NC
1.11 Rear Sight Cover - Missing	1.11 Sentence	3	D
1.12 Round Locking Tab - Missing	1.12 Sentence	2	D
1.13 Sling including Front Cover – Missing or Incomplete	1.13 Replace	2	NC
1.14 Safe to Arm Lever – Not Set to Safe	1.14 Set to SAFE	2	NC

<sup>64</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>65</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Rockets (Anti-Tank)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>64</sup></b>	<b>Condition Code<sup>65</sup></b>
1.15 End Cap - Missing	1.15 Replace	4	NC
1.16 End Cap - Loose	1.16 Secure	4	NC
1.17 Shoulder Rest - Missing	1.17 Segregate and Sentence	3	C2
1.18 Shoulder Cap – Retained Correctly	1.18 Remove end cap and secure safely	4	NC
1.19 Eject Grommet with Safety Pin - Missing	1.19 Segregate and Sentence	3	C2
1.20 Eject Grommet with Safety Pin - Insecure	1.20 Secure Grommet	4	NC
1.21 Cocking Handle – Missing, Broken or Unserviceable	1.21 Segregate and Sentence	3	C2
1.22 Cocking Handle - Insecure	1.22 Secure	4	NC
1.23 Launch Tube – Dented or Damaged	1.23 Sentence	2	B1
1.24 Sights – Graticule not Visible	1.24 Segregate and Sentence	3	B1
1.25 Sights GTLS - Inoperable	1.25 Segregate and Sentence	3	B1
1.26 Shoulder Sling – Missing or Broken	1.26 Segregate and Sentence	3	C1
<b>2. Rocket Head</b>			
2.1 Corroded - Light	2.1 Clean and Repaint	4	NC
2.2 Corroded - Heavy	2.2 Sentence	3	D
2.3 Damaged - Superficial	2.3 Acceptable	4	NC
2.4 Damaged – Moderate or Severe	2.4 Sentence	2	D
2.5 Grub Screw – Missing or Protruding >3mm	2.5 Sentence	1	D2
<b>3. Tail Assembly</b>			
3.1 Fins - Damaged	3.1 Sentence	2	D
3.2 Expansion Cone - Damaged	3.2 Sentence	2	D
3.3 Nonel Tube – Damaged or Broken	3.3 Sentence	1	D
3.4 Flash Tube – Damaged or Broken	3.4 Sentence	1	D



**Annex Z**  
(normative)  
**Specific to type inspection points – Shell HE (base fuzed)**

<b>Shell HE (Base Fuzed)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>66</sup></b>	<b>Condition Code<sup>67</sup></b>
<b>1. Nose Plug</b>			
1.1 Nose Plug	1.1.1 Missing – Replace	1/3	NC
	1.1.2 Loose - Secure	3	NC
<b>2. Body</b>			
2.1 Corrosion	2.1.1 Light or moderate – Clean or repaint	3	NC
	2.1.2 Extensive (Non Thin Wall) – Shot blast and repaint	3	NC
	2.1.3 Extensive (Thin Wall) – Sentence	3	D
	2.1.4 Heavy or pitted (Affects Wall Strength) – Sentence	1	D
	2.1.5 Heavy or pitted (Not Affecting Wall Strength) – Shot blast and repaint	3	NC
2.2 Overpaint Gauge	2.2.1 Chamber Gauge – Pass		
	2.2.2 Chamber Gauge – Fail – Rub Down High Spots – Re-Gauge – Pass	3	NC
	2.2.3 Chamber Re-Gauge – Fail – Clean and repaint – Gauge – Pass	3	NC
	2.2.3 Chamber Re-Gauge – Fail – Clean and repaint – Gauge - Fail	2	D

<sup>66</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>67</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Shell HE (Base Fuzed)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>66</sup></b>	<b>Condition Code<sup>67</sup></b>
2.3 Damaged	2.3.1 Superficial, body not weakened and pass gauge	4	NC
	2.3.2 Dented – Gauge – Pass	4	NC
	2.3.3 Dented – Gauge – Fail - Sentence	2	D
	2.3.4 Dented – Moderate or Heavy – Sentence	2	D
	2.3.5 Ovalled or Swollen - Sentence	2	D
2.4 Loose in cartridge Case or Misaligned	2.4.1 Gauge – Pass	4	NC
	2.4.2 Gauge – Fail – Sentence	2	D
	2.4.3 Excessively loose and likely to separate from Case - Sentence	1	D
<b>3. Driving or Obturating Band</b>			
3.1 Missing, Loose, Spilt or Cracked	3.1 Sentence	2	D
3.2 Corroded	3.2.1 Light – Clean	4	NC
	3.2.2 Heavy or moderate - Replace	2	D
3.3 Dented, scored or cut but not likely to affect obturation.	3.3.1 Gauge - Unlikely to affect loading – Acceptable	4	NC
	3.3.2 Gauge Likely to affect loading - Sentence	2	D
3.4 Dented, scored or cut and likely to affect obturation	3.4.1 Sentence	2	D
3.5 Over-painted	3.6 Remove paint from driving band - Acceptable	3	NC
<b>4. Tracer Retaining Plug</b>			
4.1 Missing	4.1 Sentence	2	C2
4.2 Loose or Protruding	4.2.1 If intrusion is clear – Acceptable	3	NC
	4.2.2 Plug intrusion not clear – Sentence	2	C1
	4.2.3 Protruding and set fast - Sentence	2	C1
4.3 Brass disc corroded	4.3 Moderate or Heavy - Sentence	3	C!
<b>5. Base Plug</b>			

<b>Shell HE (Base Fuzed)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>66</sup></b>	<b>Condition Code<sup>67</sup></b>
5.1 Protruding or Loose	5.1 Sentence	1	C2
<b>6. Shell Base</b>			
6.1 Loose	6.1 Sentence	2	B1

**Annex AA**  
(normative)  
**Specific to type inspection points – Shell HE (nose fuze or plugged)**

<b>Shell HE (Nose Fuzed or Plugged)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>68</sup></b>	<b>Condition Code<sup>69</sup></b>
<b>1. External Body</b>			
1.1 Contaminated in area of fuze, plug or shell	1.1.1 Test for explosive – Confirmed – Sentence 1.1.2 Test for explosive – Not Confirmed – Clean Area	1 4	C2 NC
1.2 Concentric or Eccentric Overlip (Limit <15mm)	1.2.1 Within limit – Acceptable 1.2.2 Within limit after trying alternative fuze – Acceptable 1.2.3 Outside limit after trying alternative fuze - Sentence	4 4 2	NC NC B
1.3 Overpaint Gauge	1.3.1 Chamber Gauge – Pass 1.3.2 Chamber Gauge – Fail – Shot Blast – Gauge – Pass 1.3.3 Chamber Gauge – Fail – Shot Blast – Gauge - Fail	3 3 2	NC NC D
1.4 Corroded	1.4.1 Patches – Clean and repaint 1.4.2 Extensive – Shot blast and repaint 1.4.3 Heavy – Not likely to affect wall strength – Shot blast and repaint 1.4.3 Heavy – Likely to affect wall strength – Sentence	3 2 2 1	NC NC NC D
1.5 Damaged	1.5.1 Pass Gauge and not weakened – Acceptable 1.5.2 Fail Gauge OR Weakened - Sentence	4 2	NC D

<sup>68</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>69</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Shell HE (Nose Fuzed or Plugged)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>68</sup></b>	<b>Condition Code<sup>69</sup></b>
1.6 Projectile loose or misaligned in cartridge case (QF)	1.6.1 Gauge – Pass – Acceptable	4	NC
	1.6.2 Gauge – Fail – Sentence	2	D
	1.6.3 Projectile excessively loose - Sentence	1	D
<b>2. Grommet</b>			
2.1 Missing or incomplete	2.1 Replace	3	NC
2.2 Rotted, badly worn or damp	2.2 Replace	3	NC
2.3 Loose or out of position	2.3 Refit	3	NC
2.4 Corroded	2.4.1 Light – Clean	3	NC
	2.4.2 Heavy or moderate - replace	3	NC
<b>3. Driving or Obturating Band</b>			
3.1 Missing, Loose, Spilt or Cracked	3.1 Sentence	2	D
3.2 Corroded	3.2.1 Light – Clean	4	NC
	3.2.2 Heavy or moderate - replace	2	D
3.3 Dented, scored or cut but not likely to affect obturation. (Loose Shell)	3.3.1 Unlikely to affect loading – Acceptable	4	NC
	3.3.2 Likely to affect loading - Sentence	2	D
3.4 Dented, scored or cut but not likely to affect obturation. (QF)	3.4.1 Gauge - Unlikely to affect loading – Acceptable	4	NC
	3.4.2 Gauge Likely to affect loading - Sentence	2	D
3.5 Dented, scored or cut and likely to affect obturation	3.5.1 For Shell <106mm – Damage >9.5mm Width or 6mm depth – Sentence	2	D
	3.5.2 For Shell >105mm – Damage >19mm Width or 6mm depth - Sentence	2	D
3.6 Over-painted	3.6 Remove paint from driving band - Acceptable	3	NC
<b>4. Base Cover or Plate</b>			

<b>Shell HE (Nose Fuzed or Plugged)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>68</sup></b>	<b>Condition Code<sup>69</sup></b>
4.1 Corroded	4.1.1 Not perforated – Clean and repaint	3	NC
	4.1.2 Perforated - Sentence	2	D
4.2 Loose, split or perforated	4.2 Sentence	1	D
4.3 Lifted or distorted	4.3.1 If >5% of total circumference or >6mm in any one area – Sentence	1	D
	4.3.2 If <5% - Acceptable – Submit defect report	4	NC
<b>5. Fuze or Plug/Shell Joint</b>			
5.1 Fuze damaged	5.1.1 Superficial – Acceptable	4	NC
	5.1.2 Safe for handling, movement and storage – Sentence	2	C2
	5.1.3 Unsafe for handling, movement or storage - Sentence	1	D
5.2 Fuze or plug not fully tightened	5.2.1 Fuze threads damaged – Sentence	2	C2
	5.2.2 Plug threads damaged – Sentence	4	NC
	5.2.3 Fuze threads damaged – Reset using tap cleaning fluid	2	NC
	5.2.4 Fuze intrusion outside limits – Sentence	2	C2
	5.2.5 Plug intrusion outside limits - Replace	3	NC
5.3 Fuze or plug set fast	5.3.1 Fuze visually serviceable – Acceptable	4	NC
	5.3.2 Fuze not visually serviceable – Sentence	1	D
	5.3.3 Plug set fast - Sentence	2	D
5.4 Leather washer (if included in design)	5.4.1 Missing – Apply luting	4	NC
	5.4.2 Insufficient – Remove old luting and replace	4	NC
<b>6. Fuze hole</b>			
6.1 Concentricity	6.1.1 Within limit – Acceptable	4	NC
	6.1.2 Within limit after trying alternative fuze – Acceptable	4	NC
	6.1.3 Outside limit after trying alternative fuze - Sentence	2	B

<b>Shell HE (Nose Fuzed or Plugged)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>68</sup></b>	<b>Condition Code<sup>69</sup></b>
6.2 Threads - Corroded	6.2.1 Heavy – Sentence	2	D
	6.2.1 Light or moderate - Clean	3	NC
6.3 Threads - Damaged	6.3 Reset tap cleaning fuze hole	2	NC
6.4 Threads - Contaminated	6.4.1 Test for explosive – Not-confirmed - Remove using brass pic and non-ferrous brush.	3	NC
	6.4.2 Test for explosive – Confirmed - Remove using brass pic and non-ferrous brush	1	NC
<b>7. Cavity</b>			
7.1 Brown liquid and ammonia smell present	7.1.1 Ammonium Nitrate confirmed – Sentence	1	D
	7.1.2 Ammonium Nitrate not confirmed - Clean	3	NC
7.2 Corroded	7.2.1 Light – Clean	3	NC
	7.2.2 Moderate or heavy - sentence	2	D
7.3 Liner or fuze cap well	7.2 Loose – Acceptable	4	NC
	7.2.1 Corroded Light – Clean	3	NC
	7.2.3 Corroded Moderate or Heavy – Replace	3	NC
	7.3 Cracked - Replace	3	NC
7.4 Set Fast Exploder	7.4.1 Undamaged	4	A2
	7.4.2 Damaged	1	C2
	7.4.3 Traces of HE filling – Remove	3	NC
	7.4.4 Other contamination – Test for TNT – Confirmed – Sentence	1	D
	7.4.4 Other contamination – Test for TNT – Unconfirmed – Remove contamination	3	NC
7.5 Paper Tube – Loose, damaged or Damp	7.5 Replace and Shellac Outer Surface	3	NC

<b>Shell HE (Nose Fuzed or Plugged)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>68</sup></b>	<b>Condition Code<sup>69</sup></b>
7.6 Damaged	7.6.1 Light – Repair	3	NC
	7.6.2 Heavy or moderate – Sentence	1	D
7.7 Damp	7.7.1 Remove exploder, paper tube and other inert items – Dry	2	D
	7.7.2 Replace items if necessary		
7.8 Felt Discs	7.8 Missing, damaged or stained - Replace	1	NC
7.9 Cloth paper or discs	7.9 Missing, damaged or stained - Replace	1	NC
<b>8. Topping</b>			
8.1 HE Filling exposed through Topping of the Sealing Compound	8.1 Refill with appropriate Topping	3	NC
8.2 particles of HE Filling in Topping	8.2 Remove loose particles from the cavity	3	NC
<b>9. Lifting Band</b>			
9.1 Held in position on tope of exploder by lacquer shellac or equivalent	9.1 Repair using liquid shellac or equivalent	4	NC



**Annex AB**  
(normative)  
**Specific to type inspection points – Shell (smoke and illuminating)**

<b>Shell (Smoke and Illuminating)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>70</sup></b>	<b>Condition Code<sup>71</sup></b>
<b>1. External Body</b>			
1.1 Concentric or Eccentric Overlip (Limit <15mm)	1.1.1 Within limit – Acceptable	4	NC
	1.1.2 Within limit after trying alternative fuze – Acceptable	4	NC
	1.1.3 Outside limit after trying alternative fuze - Sentence	2	B
1.2 Overpaint Gauge	1.2.1 Chamber Gauge – Pass	3	NC
	1.2.2 Chamber Gauge – Fail – Shot Blast – Gauge – Pass	3	NC
	1.3.3 Chamber Gauge – Fail – Shot Blast – Gauge - Fail	2	D
1.4 Corroded	1.3.1 Patches – Clean and repaint	3	NC
	1.3.2 Extensive – Shot blast and repaint	2	NC
	1.3.3 Heavy – Not likely to affect wall strength – Shot blast and re3aint	2	NC
	1.4.3 Heavy – Likely to affect wall strength – Sentence	1	D
1.4 Damaged	1.4.1 Pass Gauge and not weakened – Acceptable	4	NC
	1.4.2 Fail Gauge OR Weakened - Sentence	2	D
1.5 Projectile loose or misaligned in cartridge case (QF)	1.5.1 Gauge – Pass – Acceptable	4	NC
	1.5.2 Gauge – Fail – Sentence	2	D
	1.5.3 Projectile excessively loose - Sentence	1	D

<sup>70</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>71</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Shell (Smoke and Illuminating)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>70</sup></b>	<b>Condition Code<sup>71</sup></b>
1.6 Filling – White Phosphorus (WP)	1.6.1 Leaking – Immerse in water and remove for demolition	1	D
1.7 Dented (Base Fuzed Only)	1.7.1 Light – Gauge – Pass	4	NC
	1.7.2 Light – Gauge – Fail – Sentence	2	C2
	1.7.3 Moderate or Heavy – Sentence	2	D
	1.7.4 Ovalled or Swollen - Sentence	2	D
<b>2. Fuze or Plug/Shell Joint</b>			
2.1 Fuze damaged	2.1.1 Superficial – Acceptable	4	NC
	2.1.2 Safe for handling, movement and storage – Sentence	2	C2
	2.1.3 Unsafe for handling, movement or storage - Sentence	1	D
2.2 Fuze or plug not fully tightened	2.2.1 Fuze threads damaged – Sentence	2	C2
	2.2.2 Plug threads damaged – Sentence	4	NC
	2.2.3 Fuze threads damaged – Reset using tap cleaning fluid	2	NC
	2.2.4 Fuze intrusion outside limits – Sentence	2	C2
	2.2.5 Plug intrusion outside limits - Replace	2	NC
2.3 Fuze or plug set fast	2.3.1 Fuze visually serviceable – Acceptable	4	NC
	2.3.2 Fuze not visually serviceable – Sentence	1/2	D
	2.3.3 Plug set fast - Sentence	2	D
2.4 Leather washer (if included in design)	2.4.1 Missing or unserviceable - Replace	3	NC
2.5 Nose Bush	2.5.1 Loose – Secure	1	NC
	2.5.2 Corroded - Light – Clean	3	NC
	2.5.3 Corroded - Heavy or moderate - Replace	2	C2
2.6 Luting	2.6.1 Missing – Apply Luting or equivalent	4	NC
	2.6.2 Insufficient – Clean and reapply	4	NC
<b>3. Fuze hole</b>			

<b>Shell (Smoke and Illuminating)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>70</sup></b>	<b>Condition Code<sup>71</sup></b>
3.1 Concentricity	3.1.1 Within limit – Acceptable	4	NC
	3.1.2 Within limit after trying alternative fuze – Acceptable	4	NC
	3.1.3 Outside limit after trying alternative fuze - Sentence	2	B
3.2 Threads - Corroded	3.2.1 Heavy – Sentence	2	D
	3.2.1 Light or moderate - Clean	3	NC
3.3 Threads - Damaged	3.3 Reset tap cleaning fuze hole	2	NC
3.4 Discs Tracing Cloth	3.4 Missing or damaged – Fit new discs	3	NC
<b>4. Nose Plug</b>			
4.1 Loose (Base Fuzed Only)	4.1.1 Containing WP – Immerse in Water – Remove for Disposal	1	D
	4.2.2 Others - Sentence	1	D
<b>5. Base</b>			
5.1 Loose or protruding	5.1 Sentence	1	C2
5.2 Loose (Based Fuzed WP Only)	5.2 Immerse in Water – Remove for Disposal	1	D
<b>6. Grub or Fixing Screw</b>			
	6.1 Replace using luting or equivalent on threads	3	NC
	6.2 Loose - Secure	3	NC
<b>7. Driving or Obturating Band</b>			
7.1 Missing, Loose, Spilt or Cracked	7.1 Sentence	2	D
7.2 Corroded	7.2.1 Light – Clean	4	NC
	7.2.2 Heavy or moderate - Replace	2	D
7.3 Dented, scored or cut but not likely to affect obturation. (QF)	7.4.1 Gauge - Unlikely to affect loading – Acceptable	4	NC
	7.4.2 Gauge Likely to affect loading - Sentence	2	D
7.4 Dented, scored or cut and likely to affect obturation	7.4 Sentence	2	D
7.5 Over-painted	3.6 Remove paint from driving band - Acceptable	3	NC

<b>Shell (Smoke and Illuminating)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>70</sup></b>	<b>Condition Code<sup>71</sup></b>
<b>8. Grommet</b>			
8.1 Missing or incomplete	8.1 Replace	3	NC
8.2 Rotted, badly worn or damp	8.2 Replace	3	NC
8.3 Loose or out of position	8.3 Refit	3	NC
8.4 Corroded	8.4.1 Light – Clean	3	NC
	8.4.2 Heavy or moderate - Replace	3	NC
<b>9. Locking or Securing Ring</b>			
9.1 Missing, Loose, Spilt or Cracked	9.1 Sentence	2	D
<b>10. Fuze Well Cap</b>			
10.1 Loose	10.1 Acceptable	4	NC
10.2 Corroded	10.2.1 Light – Clean	2	NC
	10.2.2 Heavy or moderate – Replace	2	NC
<b>11. Burster Gunpowder</b>			
11.1 Missing or Damp	11.1 Sentence	2	C2
11.2 Leaking, cracked or split	11.2 Remove gunpowder and sentence	1	C2
<b>12. Metal Closing Disc</b>			
12.1 Missing, pierced, lifting or ruptured	12.1 Sentence	3	C1
12.2 Corroded	12.2 Heavy or moderate - Sentence	3	C1
<b>13. Paper Closing Disc</b>			
13.1 Missing, pierced or perforated	13.1 Fit new disc using shellac or equivalent	3	NC
<b>14. Twist or Shear Pins</b>			
14.1 Missing or broken	14.1 Sentence	1	C2

<b>Shell (Smoke and Illuminating)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>70</sup></b>	<b>Condition Code<sup>71</sup></b>
14.2 Corroded	14.2.1 Light – Acceptable	4	NC
	14.2.2 Heavy or moderate – Replace	1	C2

**Annex AC**  
(normative)  
**Specific to type inspection points – Shot (APFSDS, APDS and practice DS)**

<b>Shot (APFSDS, APDS and Practice DS)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>72</sup></b>	<b>Condition Code<sup>73</sup></b>
<b>1. Shot</b>			
1.1 Corroded	1.1.1 Light or Moderate – Acceptable 1.1.2 Heavy - Sentence	3 2	NC D
1.2 Projectile loose or misaligned in cartridge case	1.2.1 Gauge – Pass – Acceptable 1.2.2 Gauge – Fail - Sentence	4 2	NC D
1.3 Projectile excessively loose	1.3 Sentence	1	D
<b>2. Sub Projectile</b>			
Refer to Manufacturer’s Instructions			
<b>3. Front Sheath, Nose or Sabot</b>			
3.1 Damaged	3.1.1 Superficial without weakening or distortion 3.1.2 Weakened or distorted - Sentence	4 2	NC D
3.2 Dented, cracked or split	3.2 Sentence	2	D
<b>4. Sabot</b>			
4.1 Loose	4.1 Sentence	1	C2
4.2 Petals cracked	4.2 Sentence	1	D
<b>5. Centring or Driving Band</b>			

<sup>72</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>73</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.

<b>Shot (APFSDS, APDS and Practice DS)</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>72</sup></b>	<b>Condition Code<sup>73</sup></b>
5.1 Loose	5.1 Sentence	2	C2
5.2 Cracked or split	5.2.1 Sentence	2	D
	5.2.2 Split type centring band - Sentence	2	C2
5. Oversize or undersize	5.3.1 Gauge – Pass	4	NC
	5.3.2 Gauge – Fail – refer to Manufacturers Instructions		

**Annex AD**  
(normative)  
**Specific to type inspection points – Small arms ammunition**

<b>Small Arms Ammunition</b>			
<b>Inspection Point</b>	<b>Action</b>	<b>Effect Code<sup>74</sup></b>	<b>Condition Code<sup>75</sup></b>
<b>1. Percussion Cap</b>			
1.1 Missing, corroded or waterproof missing	1.1 Sentence	2	D
1.2 Misfired, damaged or proud of base	1.2 Sentence	1	D
<b>2. Bullet</b>			
2.1 Dented, distorted, scored, split, loose or malformed	2.1 Sentence	2	D
2.2 Cannelure missing	2.2 Sentence	2	D
2.3 Cannelure wax	2.3.1 Missing - Acceptable - Defect Report	4	NC
	2.3.2 Excessive - Acceptable - Defect Report	4	NC
<b>3. Cartridge Case</b>			
3.1 Dented, split, pierced, distorted, corroded or crimp missing	3.1 Sentence	2	D
3.2 Discolouration	3.2 Acceptable	4	NC
3.3 Shotgun ammunition – torn, swollen or damp	3.3 Sentence	2	D
3.4 Propellant	3.4.1 Escaping – Sentence	1	D
	3.4.2 Missing - Sentence	2	D
3.5 Deposit	3.5.1 Light – Acceptable	4	NC
	3.5.2 Heavy - Sentence	2	D

<sup>74</sup> This is the Effect Code to be allocated if the recommended system at Clause 6 is used.

<sup>75</sup> This is the Condition Code to be allocated if the recommended system at Clause 6 is used.



Small Arms Ammunition			
Inspection Point	Action	Effect Code <sup>74</sup>	Condition Code <sup>75</sup>
<b>4. Closing Wad or Disc</b>			
4.1 Missing, loose or damp	4.1 Sentence	2	D

## Amendment record

### Management of IATG amendments

The IATG are subject to formal review on a five-yearly basis. This does not preclude amendments being made within these five-year periods for reasons of operational safety, efficacy and efficiency or for editorial purposes.

As amendments are made to this IATG module they will be given a number, and the date and general details of the amendment will be shown in the table below. The amendment will also be shown on the cover page of the IATG by the inclusion of the amendment number and date.

As the formal reviews of each the IATG module is completed, new editions will be issued. Amendments will be incorporated into the new edition and the amendment record table cleared. Recording of amendments will then start again until a further review is carried out.

The most recently amended, and thus extant, IATG module is posted on [www.un.org/disarmament/ammunition](http://www.un.org/disarmament/ammunition)

Number	Date	Amendment Details
0	01 Feb 15	Release of Edition 2 of IATG.
1	31 March 21	Release of Edition 3 of IATG.