



SAFETY SERVICES ORGANISATION



AMAT | GICHD

Session 5.3

Ammunition Nomenclature and Marking

**IATG Foundation Course:
Ammunition Accounts Module**



Lesson Objectives

By the end of this lesson you should be able to:

- Describe the rationale and purpose of ammunition nomenclature and marking
- Describe the standard nomenclature for the ammunition that they may encounter
- Describe the purpose of using an ADAC
- Apply the principles of ammunition markings
- Describe the purpose of good packaging and its correct and accurate marking

Rationale

- **Different nations use different terms for ammunition.**
- **In some instances, the same term may be used for different things in different countries eg:**
 - In the UK the term “cartridge” is used to describe an item of ‘blank’ small arms ammunition (SAA)
 - In the USA the same term is used to describe an item of SAA which comprises the bullet, cartridge case and primer/firing cap.

Purpose

- It is important that for international collaboration, a common system of nomenclature is used, but even within a nation a standardized naming system will aid accurate accounting
- Once a standardized system for nomenclature of ammunition has been agreed, the ammunition and its packaging should be marked to enable clear identification.

Standardised Nomenclature

- **A standard system for nomenclature of ammunition is used to:**
 - Avoid confusion between ammunition natures
 - Speed up identification between the user and the issuing unit
 - Provide a common supply language between international users

Standardised Nomenclature

- Different nations and international organisations may use different systems
- The most commonly seen systems of nomenclature are based upon the NATO, Russian/Soviet and Chinese systems
- The system recommended in IATG is most closely associated with the NATO system

Standardised Nomenclature

- **The designation used in IATG covers:**
 - Type of Ammunition; e.g. Shell, Round, Grenade
 - The delivery method, name of item, calibre or similar; e.g. Hand, Rifle, Tank, Howitzer, 81mm, 7.62mm etc
 - The effect, intent or content of the ammunition; e.g. HE, smoke, smoke WP, illuminating, irritant, ball, tracer, etc
 - Model number; e.g. L2A2, M1, DM34
 - If all of the above information is not available, for accounting purposes that field should be filled in as 'not known (NK)'



Standardised Nomenclature

- **Although the above designation should be sufficient to identify the ammunition, as much additional detail as possible should be provided. This may include:**
 - Purpose of the ammunition, e.g. shot, practice, drill
 - Initiation action; e.g. percussion, proximity, electric
 - Method of obturation
 - Cartridge design
 - Charge type; e.g. normal, super
 - Filling type; e.g. TNT, RDX/TNT, WP
 - Component Details, e.g. fuze designation, plugged



Ammunition Descriptive Asset Codes (ADAC)

- **Some ammunition types are specific to one weapon system, whilst others may be used with multiple weapons**
- **To ensure that the ammunition is matched to the correct weapon, the exact type must be quoted:**
 - e.g. Shell 155mm High Explosive L15A1 or
 - Charge Propelling 155mm L18A2

Ammunition Descriptive Asset Codes (ADAC)

- **Often the same specific type of ammunition may be packaged differently:**
 - In a Unit Load Container (ULC) containing both HE Shell (Fuzed) and Propelling Charges
 - or
 - A pallet of HE Shell (Un-fuzed) only

Ammunition Descriptive Asset Codes (ADAC)

- To ensure that the user receives the correct ammunition in the required packaging configuration, a very detailed description is required
- This could lead to errors in entering data into the accounting system
- To simplify this, a system of Ammunition Descriptive Asset Codes (ADAC) has been developed
- The ADAC system can identify ammunition to a generic type
 - e.g. Shell 155mm HE, **or specific type**
 - e.g. Shell 155mm HE L15A1



Ammunition Descriptive Asset Codes (ADAC)

- An ADAC system uses a five- or seven-digit numerical code with an optional suffix letter
- The first five digits identify the generic ADAC, with the sixth and seventh identifying the specific ADAC
- The suffix letter identifies the approved packaging method



Ammunition Descriptive Asset Codes (ADAC)

- **The ADAC system suggested in IATG represents:**
 - The user group of the ammunition; e.g. infantry, artillery, tank, etc.
 - The generic type of ammunition; e.g. Shell, 155mm
 - The specific type of ammunition; e.g. Shell HE, 155mm
 - The mark or model number; e.g. Shell HE, 155mm, L15A1
 - The suffix letter indicates the method of packaging e.g. Shell HE, 155mm, L15A1 (Palletised)



Marking

- Ammunition should be marked to provide sufficient information to enable it to be identified accurately and with relative ease.
- This is not only for accounting purposes, but importantly for safety, providing sufficient information for it to be stored, transported handled and used properly.
- Additional markings may provide technical information to enable specific types or lots/batches of ammunition to be monitored by technical staff



Marking

- **The principles of ammunition marking are: Clarity and Simplicity; Uniformity; and Ease of Application. The methods used to mark ammunition may be:**
 - Permanent, such as engraving, embossing, stamping, branding, etc.
 - Non-permanent, such as painting, stencilling or use of labels and tags



Marking

- **The information marked on ammunition will vary depending on type and role of the ammunition, but may include:**
 - Permanent markings:
 - Calibre and role
 - Empty lot number (for shells)
 - Manufacturer's identification
 - Year of manufacture

Marking

- **Non-permanent markings:**

- Overall body colour and/or coloured role or hazard bands (see below)
- Calibre and role
- Type of projectile
- Mark/model and/or ADAC of the filled projectile
- Details of the filling, e.g RDX, TNT/RDX etc.
- Lot/batch number
- Storage and transportation temperature limitations
- Use and firing temperature limitations

Marking

- Colour coding of ammunition is used to provide a standard identification and marking system, enabling quick identification by the user
- There is no single, globally adopted colour coding system, so colour coding should not be used as the principal technical or accounting method
- The same colour may be used in different systems to denote different things.
- The national technical authority may develop a national policy to be adopted on the colour coding of ammunition and its associated packaging

Marking

- **Colour coding may be either used for the overall body colour of the ammunition or if a neutral body colour is used, coloured bands or discs (patches) may be painted onto the surface**
- **Similarly colour coding may be used on packaging, either as an overall colour, or as stripes or patches**
- **Colour coding may be used to quickly identify ammunition by its purpose, such as:**
 - HE, low explosive, anti-armour, smoke, incendiary etc.; or specific hazards, e.g. presence of depleted uranium in armour-piercing ammunition



Marking

- **Colour coding may be used to quickly identify ammunition by its purpose, such as:**
 - HE
 - Low explosive
 - Anti-armour
 - Smoke
 - Incendiary
- **or specific hazards, e.g.**
 - The presence of depleted uranium in armour-piercing ammunition

Packaging

- **All explosives should be transported and stored in packaging that is designed to:**
 - Protect the contents from physical damage
 - The hazards of environmental deterioration throughout their life

Packaging

- For new procurements and wherever possible for legacy stocks, nations are recommended to use packaging that has undergone the tests prescribed in the UN Orange Book
- The ammunition is given a HCC based upon the hazard presented when in the approved packaging
- The package should then be marked and have the correct dangerous goods labels attached
- As a minimum, the marking of ammunition packaging marking should follow the requirements in the UN Orange Book and IATGs



Packaging

- **Markings, including manufacturing and filling details, are applied to ammunition and its packaging to:**
 - To enable the explosives to be stored, handled and transported correctly
 - Correctly identify the ammunition nature/type
 - Assist in proper accounting and control procedures
 - Enable the correct nature and type of explosives to be issued when required
 - Enable ammunition to be correctly identified by the user
 - For the tracing of ammunition and to aid investigation into incidents and faults



Packaging

- **Ammunition packages shall be marked, where required, with:**
 - The correct HCC label(s)
 - UN Number identifying the ammunition and the Proper Shipping Name of the ammunition
 - Either a UN Packaging Number, or a mark denoting that it is covered by a national authority approval
- **Subsidiary labelling may also be required where the ammunition nature contains substances other than explosive e.g. toxicity or corrosivity**
- **In this case, the appropriate UN hazard labels should also be attached to the packaging**



Packaging

- **Further marking may be applied by the national authority for specific purposes such as:**
 - Storage and transport temperature limitations
 - Inspection and repair markings
 - Ammunition condition markings
 - Markings signifying the results of any testing
 - Package sealing
 - To denote unserviceable items

Questions

Lesson Objectives

You should now be able to:

- Describe the rationale and purpose of ammunition nomenclature and marking
- Describe the standard nomenclature for the ammunition that they may encounter
- Describe the purpose of using an ADAC
- Apply the principles of ammunition markings
- Describe the purpose of good packaging and its correct and accurate marking





SAFETY SERVICES ORGANISATION