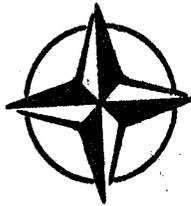


**NORTH ATLANTIC TREATY ORGANIZATION
(NATO)**



**MILITARY AGENCY FOR STANDARDIZATION
(MAS)**

STANDARDIZATION AGREEMENT

SUBJECT: SMALL ARMS AMMUNITION (9 mm PARABELLUM)

Promulgated on 15 April 1982

A handwritten signature in black ink, appearing to read 'J.J.A. Doucet'.

(J.J.A. DOUCET)
Major-General, CAAR
Chairman, MAS

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RECORD OF AMENDMENTS

No.	Reference/date of amendment	Date entered	Signature
1	11 April 1986 MAS/82-MMS/4090	18.05.01	Quo
2	16 February 1993 MAS/69-MMS/4090	18.05.01	Quo
4	16 January 1996 MAS/19-MMS/4090	18.05.01	Quo

EXPLANATORY NOTES

AGREEMENT

1. This NATO Standardization Agreement (STANAG) is promulgated by the Chairman MAS under the authority vested in him by the NATO Military Committee.
2. No departure may be made from the agreement without consultation with the tasking authority. Nations may propose changes at any time to the tasking authority where they will be processed in the same manner as the original agreement.
3. Ratifying nations have agreed that national orders, manuals and instructions implementing this STANAG will include a reference to the STANAG number for purposes of identification.

DEFINITIONS

4. Ratification is "The declaration by which a nation formally accepts the content of this Standardization Agreement".
5. Implementation is "The fulfilment by a nation of its obligations under this Standardization Agreement".
6. Reservation is "The stated qualification by a nation which describes that part of this Standardization Agreement which it cannot implement or can implement only with limitations".

RATIFICATION, IMPLEMENTATION AND RESERVATIONS

7. Page iii gives the details of ratification and implementation of this agreement. If no details are shown it signifies that the nation has not yet notified the tasking authority of its intentions. Page iv (and subsequent) gives details of reservations and proprietary rights that have been stated.

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Agreed French/English Texts

STANAG 4090
(Edition 2)

ARMY/NAVY/AIR

NATO STANDARDIZATION AGREEMENT
(STANAG)

SMALL ARMS AMMUNITION (9 mm PARABELLUM)

- Annexes :
- A. Standardization Drawing 9 mm NATO Cartridge
Sheet 1 - Dimensions in inches
Sheet 2 - Dimensions in millimetres
 - B. Standardization Drawing 9 mm Proof Weapon Chamber & Barrel
Sheet 1 - Dimensions in inches
Sheet 2 - Dimensions in millimetres
 - C. Technical Performance Specifications Governing Design and Acceptance of NATO 9 mm Ammunition

Related documents : STANAG 2315 - Symbol to Denote the operational Interchangeability of Ammunition and Demolition Accessories (Short Title: NATO Symbol of Interchangeability)

STANAG 2316 - Marking of Ammunition (and its Packaging) of a Calibre Below 20 mm

STANAG 2320 - NATO Design Mark

AIM

1. The aim of this agreement is to standardize the design of small arms ammunition (9 mm Parabellum) for use by the NATO Armed Forces, to ensure functional interchangeability of this ammunition on the battlefield.

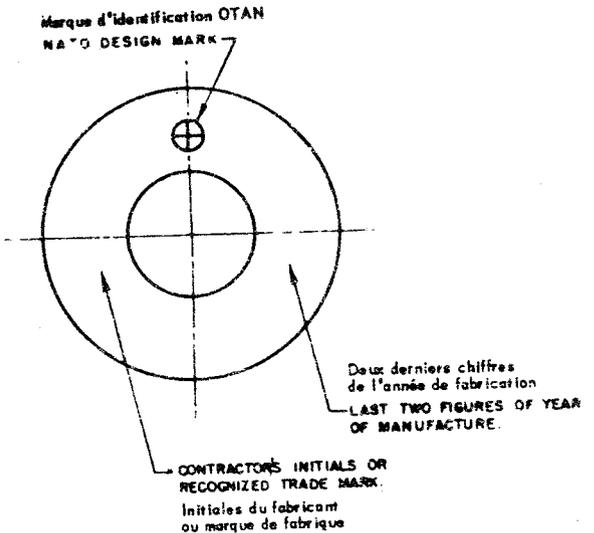
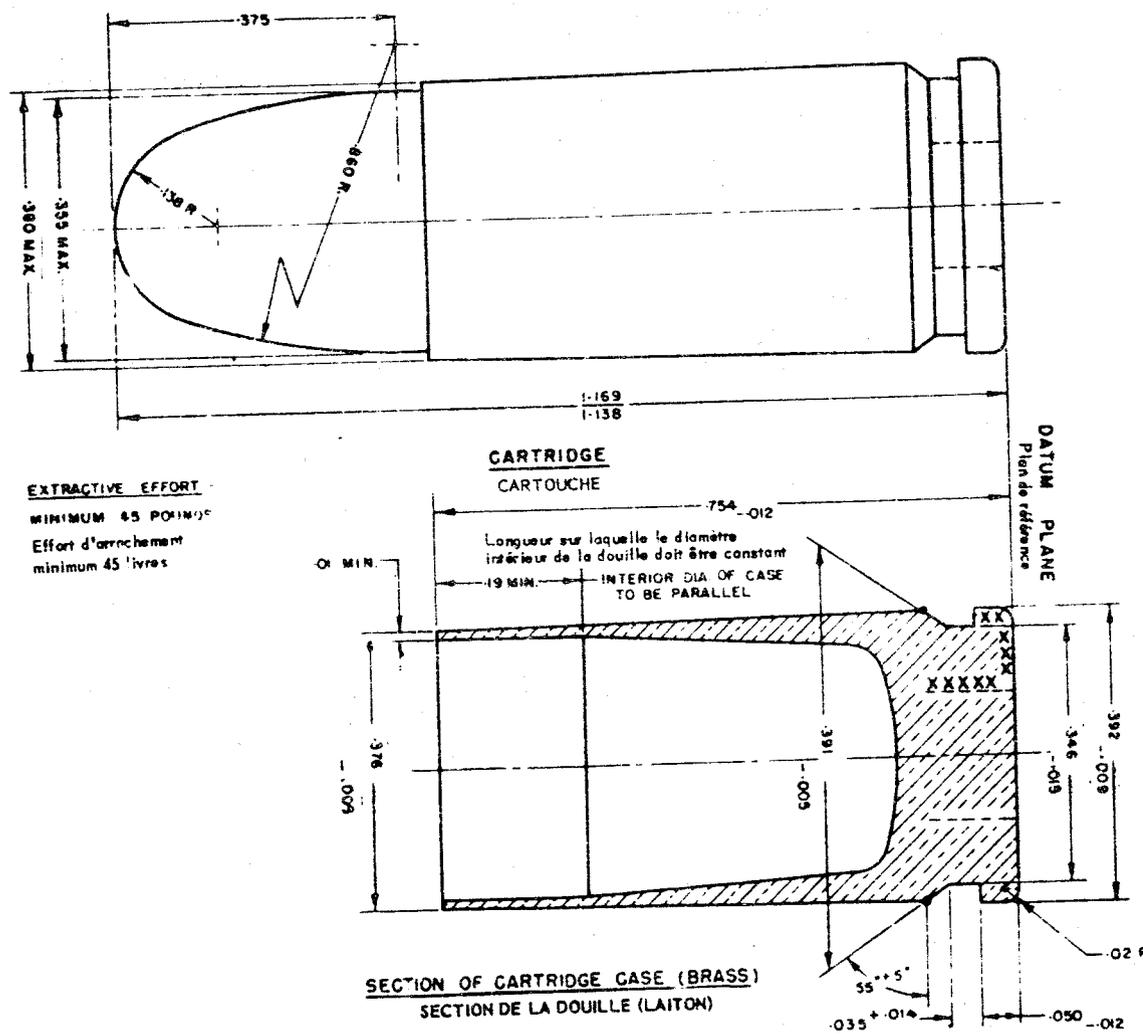
AGREEMENT

2. Participating nations agree to adopt :
 - a. A standard NATO 9 mm cartridge (parabellum), details of which are shown in drawing "Standardization Drawing 9 mm Cartridge", dated 10 April 1959 (Annex A).
 - b. A standard NATO proof weapon, details of which are shown in drawing "Standardization Drawing 9 mm Proof Weapon Chamber and Barrel", dated 10 April 1959 (Annex B).

IMPLEMENTATION OF THE AGREEMENT

3. a. The implementation of this STANAG shall be managed by a NATO body, currently AC/225 (Panel III-SP.1), which will assess the compliance between the technical performance specification of this STANAG and the ammunition designs, and authorize the use of the NATO symbol of interchangeability.

3.
 - b. This assessment will consist of tests of interchangeability conducted periodically, at the NATO Test Centres.
 - c. The nature and frequency of the tests, the test procedures and details of reference cartridges and of test equipment will be codified into a Manual of Proof and Inspection Procedures (AC/225 (Panel III-SP.1)D/170).
 - d. Ratifying nations agree to submit ammunition samples for test as specified in the Manual of Proof and Inspection Procedures mentioned in paragraph 3.c. above.
 - e. Ratifying nations agree to observe the rules laid down by the NATO body regarding changes to ammunition designs for which the use of the NATO symbol of interchangeability has already been authorized.



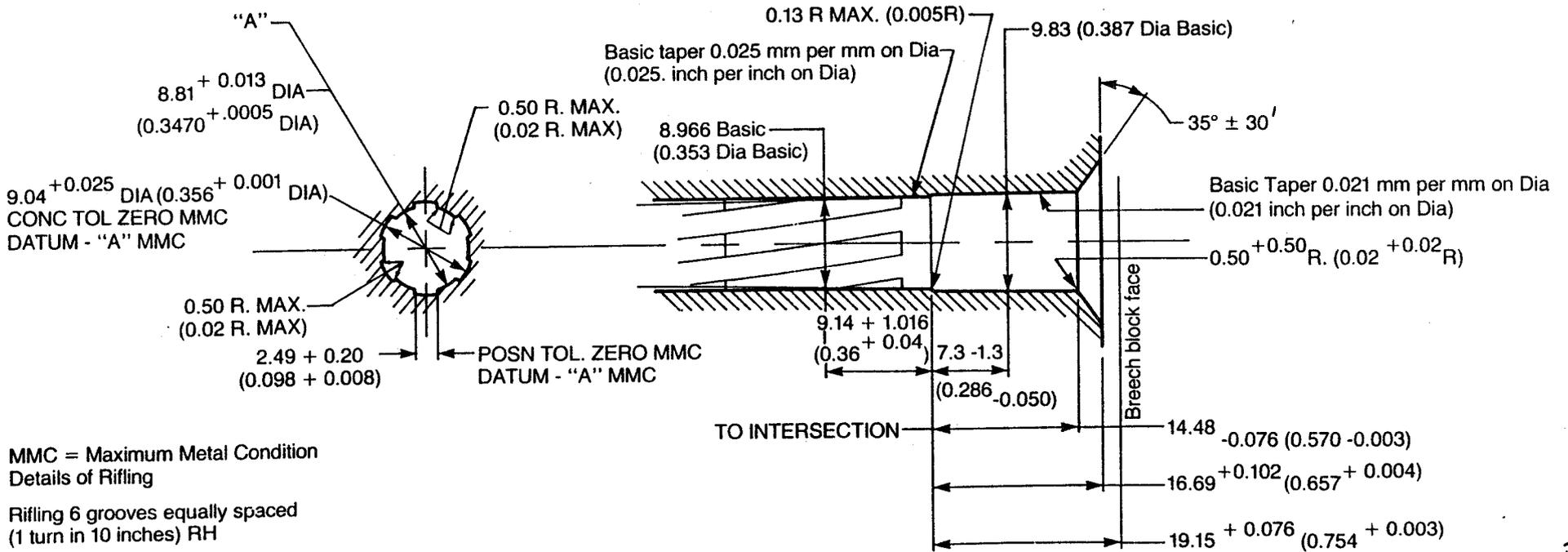
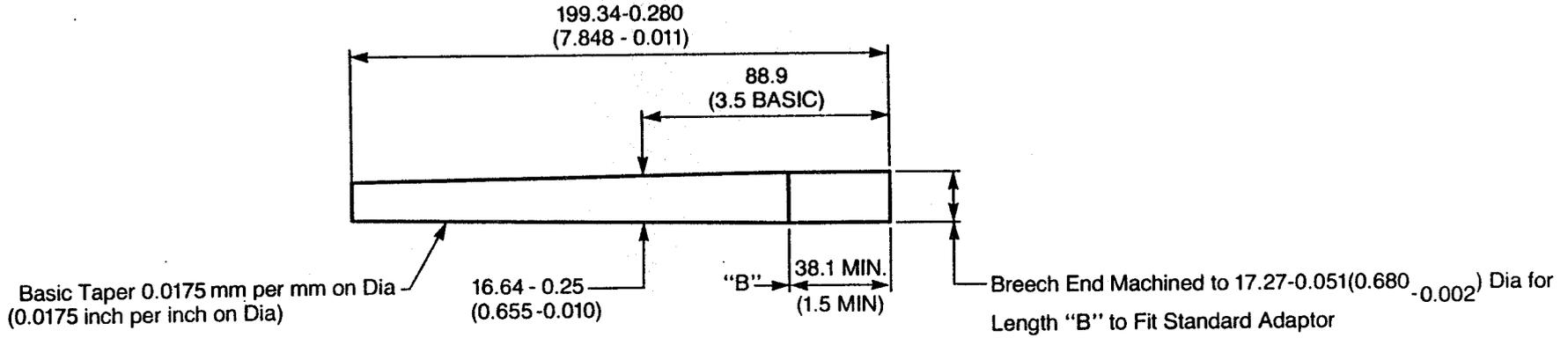
- NOTES
1. The tolerance on any angle shown untoleranced is derived from the associated linear dimensions.
La tolérance des angles non tolérancés est déduite des dimensions linéaires associées.
 2. Minimum hardness for brass of rim and along walls of primer (cap) chamber 140 DPN vickers as denoted at "X".
La dureté minimum du bourrelet en laiton et des parois du logement de l'amorce est de 140 DPN vickers (indiquée en "X").
 3. Radii are constructional and control maximum round profile only.
Les rayons de courbures correspondent aux normes de fabrication et ne concernent que l'arrondi maximum.

TRACE DE STANDARDISATION
CARTOUCHE OTAN DE 9 MM
STANDARDIZATION DRAWING
9 MM NATO CARTRIDGE

DIMENSIONS ARE IN INCHES
Dimensions en pouces

REPRODUCED FROM ORIGINAL DRAWING TO A SMALLER SCALE
Reproduit à une échelle réduite à partir du tracé original

EXTERNAL DIMENSIONS OF BARREL



MMC = Maximum Metal Condition
Details of Rifling

Rifling 6 grooves equally spaced
(1 turn in 10 inches) RH

Standardization Drawing
9 MM Proof Weapon Chamber & Barrel

Dimensions are in millimetres (between brackets in inches)

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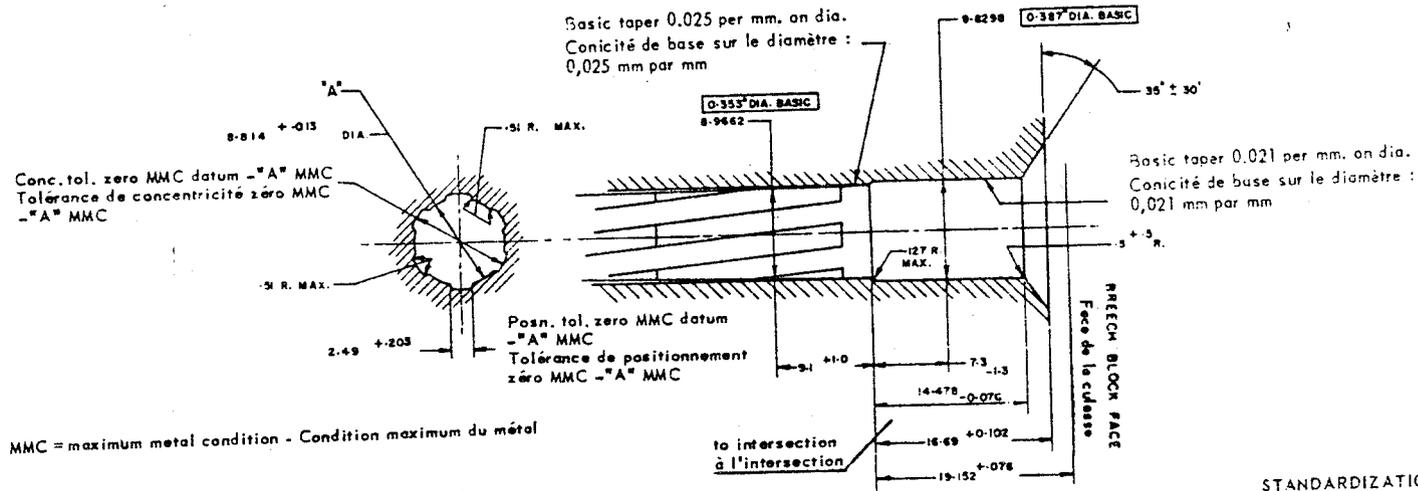
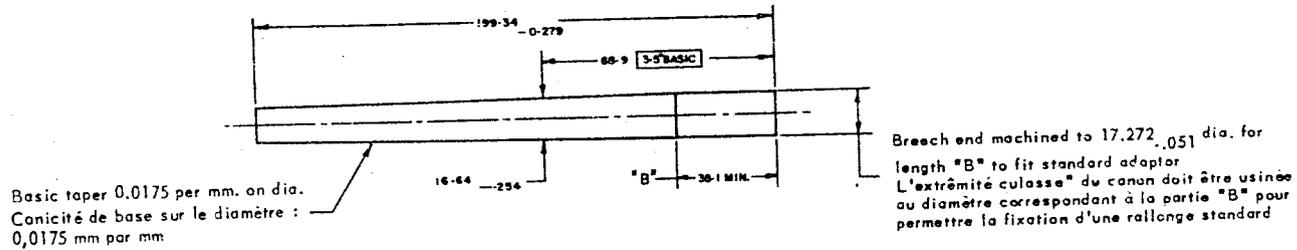
B-1

Amendment 2

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ANNEX B to
STANAG 4090
(Edition 2)

EXTERNAL DIMENSIONS OF BARREL
DIMENSIONS EXTERIEURES DU CANON



DETAILS OF RIFLING - DETAIL DES RAYURES

Rifling - 6 grooves equally spaced 1 turn in 254mm. - R.H.
6 rayures également espacées 1 tour sur 254 mm. à droite

STANDARDIZATION DRAWING 9 MM PROOF
WEAPON CHAMBER & BARREL
TRACE DE STANDARDISATION ARME D'EPREUVE
DE 9 MM CHAMBRE ET CANON

Dimensions are in millimeters - Dimensions en mm.

Reproduced from original drawing to a smaller scale
Reproduit à une échelle réduite à partir du trace original

**TECHNICAL PERFORMANCE SPECIFICATIONS GOVERNING DESIGN AND
ACCEPTANCE OF NATO 9mm AMMUNITION**

GENERAL

1. The NATO 9mm cartridge design will comply with the NATO Military Characteristics of Small Arms ammunition for sub-machine guns and automatic pistols. The following paragraphs amplify and interpret these military characteristics and specify the technical performance required to ensure functional interchangeability of ammunition submitted for NATO acceptance.

PRECISION

2. When fired from the standard proof barrel at a range of 46m (50 yards) all shots shall be in a group whose mean radius is not more than 76mm (3inches).

TERMINAL EFFECTS

3. The ammunition must be capable of inflicting a fatal wound on personnel protected by steel helmets and body armour at a range of 23m (the steel helmet is defined as the United States Helmet M1 and the body armour as the United States Body Armour M1952).

BULLET MASS AND ENERGY

4. The mass of all bullets shall be within the limits 7.0g(108 grains) to 8.3g(128 grains) inclusive. The energy at the muzzle when fired from the standard proof barrel should not be less than 542J (400 Ft1bf) and not more than 814 J (600 ft1bf)

PRESSURE

5. The corrected peak chamber pressure shall not exceed 37,000 pounds per square inch radial copper and no pressure shall exceed 42,700 pounds per square inch. Where the piezo-electric system of pressure measurement is used , the corrected mean chamber pressure shall not exceed 230 MPa and no individual pressure shall exceed 265 MPa.

SMOKE, FLASH AND FOULING

6. Smoke, flash and fouling should be kept to a minimum. If the smoke, flash and fouling characteristics are acceptable to the country concerned, they shall be acceptable to other countries using the same cartridge.

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CORROSIVE EFFECT

7. Efforts shall be made to achieve the minimum corrosive effect. It is recommended that all countries adopt non-corrosive, non-mercuric primers.

BULLET PULL

8. Bullet extractive effort shall not be less than 200N (45lbf).

ACTION TIME

9. The action time (defined as the overall primer ignition, propellant burning, and bullet barrel time) of each cartridge fired shall not exceed 3 milliseconds.

PRIMER SENSITIVITY

10. When tested by a procedure as described in the Manual of Proof and Inspection Procedures, using a ball of mass 55 g \pm 0.5 g, all primers shall fire at a drop height of 305mm and no primers shall fire at a drop height of 76mm.

FUNCTION AND CASUALTY TEST

11. The ammunition is to function in , and cause to function satisfactorily , the nominated weapons as detailed in the Manual of Proof and Inspection procedures.

ENVIRONMENTAL REQUIREMENTS - TEMPERATURE AND CLIMATIC STORAGE

12. Ammunition shall remain safe and be capable of satisfactory performance when temporarily heated to a high temperature(+52 oC) or cooled to a low temperature (-54 oC)and after storage under service climatic conditions (Tropical,Arctic and Desert) for an appropriate period. Details of test requirements permitted ballistic changes appear in the Proof Manual.

RESIDUAL STRESS - BRASS CASED AMMUNITION

13. The cases of brass cased ammunition shall be free from harmful residual stress. Compliance will be tested by a Mercurous Nitrate test as specified in the Proof Manual.

WATERPROOFING

14. The ammunition shall be waterproof.

PACKAGING

15 Ammunition shall be packed in hermetically sealed containers capable of withstanding Service use.

TRANSPORTATION

16. The NATO Military Characteristics relating to safety during transportation in vehicles over rough terrain shall be interpreted to refer to the ammunition in its package or magazine, etc.

MARKING OF BULLET, CARTRIDGE CASE AND AMMUNITION PACKAGES

17. The head of each case shall be stamped with :

- a. Manufacturers marking.
- b. Last two figures of year of manufacture.
- c. NATO Design Mark.

18. Each ammunition package shall be marked with the NATO Design Mark (STANAG 2320) and such other markings as laid down in STANAG 2316.

19. The NATO Symbol of Interchangeability (STANAG 2315) will be placed on outer packages only after the performance of the ammunition has been assessed and it has qualified for NATO acceptance.

PROOF AND INSPECTION

20. The NATO Small Arms Ammunition Sub-Panel has laid down in the Manual of Proof and Inspection Procedure for NATO 9mm Ammunition (AC/225(Panel III/SP.1)D/170) the details of the methods to be used, to determine the performance of the ammunition, and the organisation necessary to ensure that accepted ammunition meets the requirements of these Technical Performance Specifications.

Amendment 2

N A T O U N C L A S S I F I E D

(iii)

STANAG 4090
(Edition 2)

RATIFICATION AND IMPLEMENTATION DETAIL
STADE DE RATIFICATION ET DE MISE EN APPLICATION

Nation	National Ratification Reference de la ratification nationale	National Implementing Document national de mise en application	Implementation/Mise en application					
			Forecast Date prévue			Actual Date Date réelle		
			NAVY MER	ARMY TERRE	AIR	NAVY MER	ARMY TERRE	AIR
BE	CEM/25 (62) of/du 16.11.62					1.65	1.65	1.65
CA	DL 823 of/du 10.6.62					4.63		
DA	T.641/14612 of/du 9.11.62					9.66	9.66	9.66
FR	5083 of/du 24.7.64					7.65	7.65	7.65
GE	5519/63 of/du 17.7.63					5.65	5.65	5.65
GR	2315/F090/2 of/du 30.4.63							
IT	21/807 of/du 19.10.64					1.66	1.66	1.66
LU	S/13/65 of/du 6.1.65						1.65	
NL	4508 of/du 19.6.64					1.65	1.65	1.65
NO	MOD NORWAY FDM Jnr H- 11301/62 of/du 5.2.63						1.87	
PO	RNN 068/93 of/du 5.1.94					-	1.94	1.94
SP	NORMAT/0006/4090/0201 of/du 6.7.90	STANAG				7.91	7.91	7.91
TU	4807/P886 of/du 18.12.62							
UK	24349/22/62 of/du 21.12.62					5.65	5.65	5.65
US	Ltr AMCIP-P of/du 12.84					6.86	6.86	6.86

Amendment/Amendement 4

(iii)

O T A N S A N S C L A S S I F I C A T I O N

NATO UNCLASSIFIED
NORTH ATLANTIC TREATY ORGANIZATION
ORGANISATION DU TRAITE DE L'ATLANTIQUE NORD

MILITARY AGENCY FOR STANDARDIZATION (MAS)
BUREAU MILITAIRE DE STANDARDISATION (BMS)

1110 BRUSSELS
TEL : 241.00.40 - 241.44.00 - 241.44.90

MAS/113-MMS/4090
15 April 1982

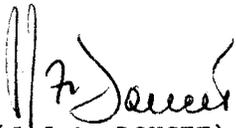
To : See distribution below

Subject : STANAG 4090 LAND (EDITION 2) - SMALL ARMS AMMUNITION
(9 mm PARABELLUM)

Reference : MAS(ARMY)(64)718 dated 30 November 1964

Enclosure : STANAG 4090(Edition 2)

1. The enclosed NATO Standardization Agreement which has been ratified by nations as reflected in page iii is promulgated herewith.
2. The reference listed above is to be destroyed in accordance with local document destruction procedures.
3. AAP-4 should be amended to reflect the latest status of the STANAG. *9/2/82*
4. AC/225(Panel III) considers this an editorial revision to the STANAG; previous ratifying references and implementation details are deemed to be valid.


(J.J.A. DOUCET)
Major-General, CAAR
Chairman, MAS

DISTRIBUTION

Action: All members of the Army Board, MAS, except UK (for onward transmission to national authorities); UK - Director Standardization (STAN 2)

Information: SECGENNATO (DS Div); AMF(L); SACEUR; SACLANT; CINCHAN;
CINCNORTH; CINCENT; CINC SOUTH; COMLANDSOUTH; COMLANDSOUTHEAST;
COMAIRSOUTH; COMSTRIKFORSOUTH; COMNORTHAG; COMCENTAG;
COMTWOATAF; COMFOURATAF; COMFIVEATAF; COMSIXATAF; NAMSA