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# NATO STANDARD

## AATMP-05

# DAY MARKING OF AIRFIELD RUNWAYS AND TAXIWAYS

Edition A Version 1  
MARCH 2015



NORTH ATLANTIC TREATY ORGANIZATION  
ALLIED AIR TRAFFIC MANAGEMENT PUBLICATION

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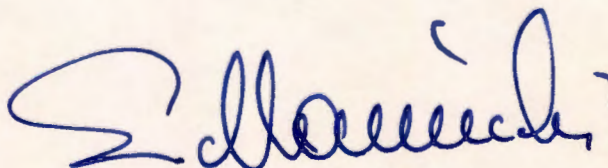
**NORTH ATLANTIC TREATY ORGANIZATION (NATO)**

**NATO STANDARDIZATION OFFICE (NSO)**

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## CHAPTER 1.

# Introduction

### 1.1 Purpose

AATMP-05 establishes standards for the day marking of airfield runways and taxiways including:

- a. Aircraft Arresting System Marking
- b. VOR, TACAN and Inertial Navigation System (INS) Markings
- c. Restricted Use and Hazardous Area Markings

The provisions of this agreement do not apply to airfields where tone-down measures have been incorporated in accordance with STANAG 3534.

### 1.2 Scope

The requirements for runway and taxiway markings shall be in compliance with the standards and recommended practices of the International Civil Aviation Organization (ICAO) Annex 14, (Volume I, Aerodrome Design and Operations), Fifth Edition - July 2009, including aviation surface colours, except as otherwise indicated.

These requirements apply to all initial markings and to the re-marking when required. Continue maintaining (cleaning and repainting) existing markings until it becomes necessary to remove them for other reasons (e.g. excessive paint build-up or reconstruction of the pavement). When this event occurs, remark the runway in accordance with this standard.

**Note:** ICAO Annex 14, Fifth Edition - July 2009, contains changes that affect to the following areas in AAMPT-05:

- a. Taxiway centre line marking (enhanced),
- b. Mandatory instruction marking,
- c. Colours of markings, and
- d. Renumbering of adopted ICAO sections at paragraphs 6.d and 6.e.

## CHAPTER 2.

# Runway Marking

All operational runways shall be marked. The runway markings shall be aviation surface white and may be retroreflective except where otherwise specified in this STANAG. These runway markings are as follows:

- a. **Centreline Markings (Mandatory).**
- b. **Runway Threshold Markings (Mandatory).**
- c. **Runway Designation Markings (Numbering) (Mandatory).**
- d. **Touchdown Zone/ Aiming Point Marking** (Permissive except Mandatory for paved instrument runways where the code number is 2, 3 or 4).
- e. **Runway Side Stripe Markings (Permissive).**
- f. **Displaced Threshold Markings, Temporary/ Permanent (Mandatory).** The colour of these markings shall be non-retroreflective aviation surface white except where national authority may require the chevrons and arrows to be retroreflective aviation surface yellow.
- g. **Aircraft Arresting System Markings (Permissive).** When an aircraft arresting system cable is installed on an operational runway surface, its location should be marked by a series of discs painted on the runway along the line of the pendant cable. The discs should be 3 m (10 feet) in diameter and should be spaced at 7.5 m (25 feet) between centres. They should be arranged in two groups symmetrically disposed about the runway centreline. The centre of the innermost discs in each group should be 3.75 m (12.5 feet) from the runway centreline. The number of discs required will be determined by the width of the runway or by the distance between the side stripes, if present. The colour of the discs should be aviation surface yellow (see Annex C). If the pavement is equipped with a sacrificial pad beneath the cable, the discs may be divided at the equator for the width of the sacrificial pad.

## CHAPTER 3.

# Taxiway Marking

All operational taxiways shall be marked. The markings shall be aviation surface yellow and may be retroreflective except for mandatory instruction markings, which are red with white numbering. Holding position markings may be of any conspicuous colour. The taxiway markings are as follows:

- a. **Centreline Markings (Mandatory).**
- b. **Runway Holding Position Markings (Mandatory).**
- c. **Intermediate Holding Position Markings (Permissive).**
- d. **Instruction Marking (Mandatory).** Instruction marking, for taxiway width exceeding 60M, shall be in accordance with ICAO Annex 14, Section 5.2.16.
- e. **Taxiway Edge Markings (Permissive).** Taxiway edge markings, if installed, shall be in accordance with ICAO Annex 14, Sections 5.5.5 and 7.2.

## CHAPTER 4.

# VOR, TACAN and Inertial Navigation System (INS)

## Markings

The markings for VOR, TACAN and INS are as follows:

- a. **VOR and TACAN Equipment Checkpoint Marking (Permissive).**
- b. **INS Equipment Fixpoint/ Checkpoint Marking (Permissive).** These markings, if installed, shall be as shown in Annex B.
  - (1) **Fixpoint Markings – Method A.** The fixpoint marking consists of a bar typically 3.0 m (10 feet) long and 0.2 m (8 inches) wide. A circle typically 0.6 m (24 inches) outside diameter and 0.2 m (8 inches) inside diameter is centered at the midpoint of the bar. The fixpoint bars are located on each side of the extended runway centreline at the designated distance in the displaced threshold area from the transverse stripe. The longitudinal axes of the bars shall be oriented perpendicular to the runway centreline. The colour of the markings shall be aviation surface white.
  - (2) **INS Checkpoint Markings – Method B.** The checkpoint markings consist of a circle typically 0.9 m (3 feet) inside diameter with the letters INS and numeral typically 0.3 m (12 inches) high. The checkpoint markings are located at nose wheel parking spots on aprons and ramps, engine run up areas adjacent to runway ends, hammer heads, and taxiway and apron holding position lines. White contrasting colours shall be used for the border, numerals, and letters on dark-coloured pavements, and black contrasting colours shall be used on light-coloured pavements.
- c. Three dimensional position information will be given in terms of the operational datums as defined in STANAG 2211 and ACE Directive 80-4, and also WGS 84 where that is not operational geodetic datum.
  - (1) **Lateral:** in geographic co-ordinates to an accuracy on one hundredth of a minute of arc.
  - (2) **Vertical:** in feet, to an accuracy of ten feet above mean sea level on the local vertical datum.

**NOTE:** Methods A and B shall be offset so as not to interfere with other markings in the area.

## CHAPTER 5.

# Restricted Use and Hazardous Area Markings

Restricted use and hazardous areas on or adjacent to the runway and taxiway surfaces should be marked for better recognition. The operating authority shall determine if there is adequate visual distinction between the operational runway and taxiway surfaces and the restricted use or hazardous area. If it has been determined that visual distinction is inadequate and full strength pavement can not be easily differentiated from shoulder or blast pavement, or taxiway edge markings do not provide adequate definition of the operational surface, restricted use area markings shall be applied to the non-operational area. These markings shall be non-retroreflective aviation surface yellow and shall have the following characteristics:

- a. **Runway Shoulder Markings (Mandatory).** These markings shall consist of stripes which are 0.9 m (3 feet) wide extending outboard at an angle of 45 degrees from the edge of the operational surface for not less than 1.5 m (5 feet) measured perpendicular to the runway edge and to within 1.5 m (5 feet) of the outer edge of the shoulder, or for a distance of 7.5 m (25 feet), whichever is less. The stripes shall be not more than 30 m (100 feet) apart. The stripes on each side of the runway should lie on a line forming a chevron with the apex on the runway centreline, and pointing toward the midpoint of the runway. See Annex E, Figures E-1 and E-2.
- b. **Taxiway Shoulder Markings (Mandatory).** These markings shall consist of a series of aviation surface yellow stripes, which are perpendicular to and extend outward from the taxiway edge not less than 1.5 m (5 feet). The stripes shall be not less than 0.9 m (3 feet) wide and spaced not more than 30 m (100 feet) apart, and on curved edges not more than 15 m (50 feet) apart as shown in Annex C, Figures C-1 and C-2. Blast pavement striping shall be at least 15 m (50 feet) long or the width of the blast pavement if less than 15 m (50 feet).
- c. **Paved Pre-threshold Area Markings (Permissive).** The requirement for these markings shall be in accordance with ICAO Annex 14, Section 7.3, except that the chevron at the approach end of the area may fit the remaining area length.
- d. **Closed Runways and Taxiways Markings (Mandatory).** These marking shall be in accordance with ICAO Annex 14, Section 7.1.



**ANNEX A.****Related Documents**

ACE Dir. 80-04	POSITION REFERENCING IN ACE
STANAG 2111 IGEO	GEODETIC DATUMS, PROJECTIONS, GRIDS AND GRID REFERENCES
STANAG 3534 AS	AIRFIELD MARKING, LIGHTING AND TONE- DOWN SYSTEMS FOR NON- PERMANENT/DEPLOYED OPERATIONS
STANAG 3316 AS	AIRFIELD LIGHTING
STANAG 3970 AS	CONTENT AND FORMAT OF FLIGHT INFORMATION PUBLICATION (FLIP) TERMINAL HIGH/LOW INSTRUMENT APPROACH PROCEDURES, INSTRUMENT DEPARTURE PROCEDURES AND AERODROME DIAGRAMS/LAYOUTS
ICAO Annex 14	VOLUME I, AERODROME DESIGN AND OPERATIONS
WGS 84	WORLD GEODETIC SYSTEM 84 TRANSFORMATION

## **ANNEX B.**

### **Lexicon**

For the purpose of this STANAG, the following definitions apply (other terms are defined in ICAO Annex 14):

a. **Aircraft Arresting System Marking.**

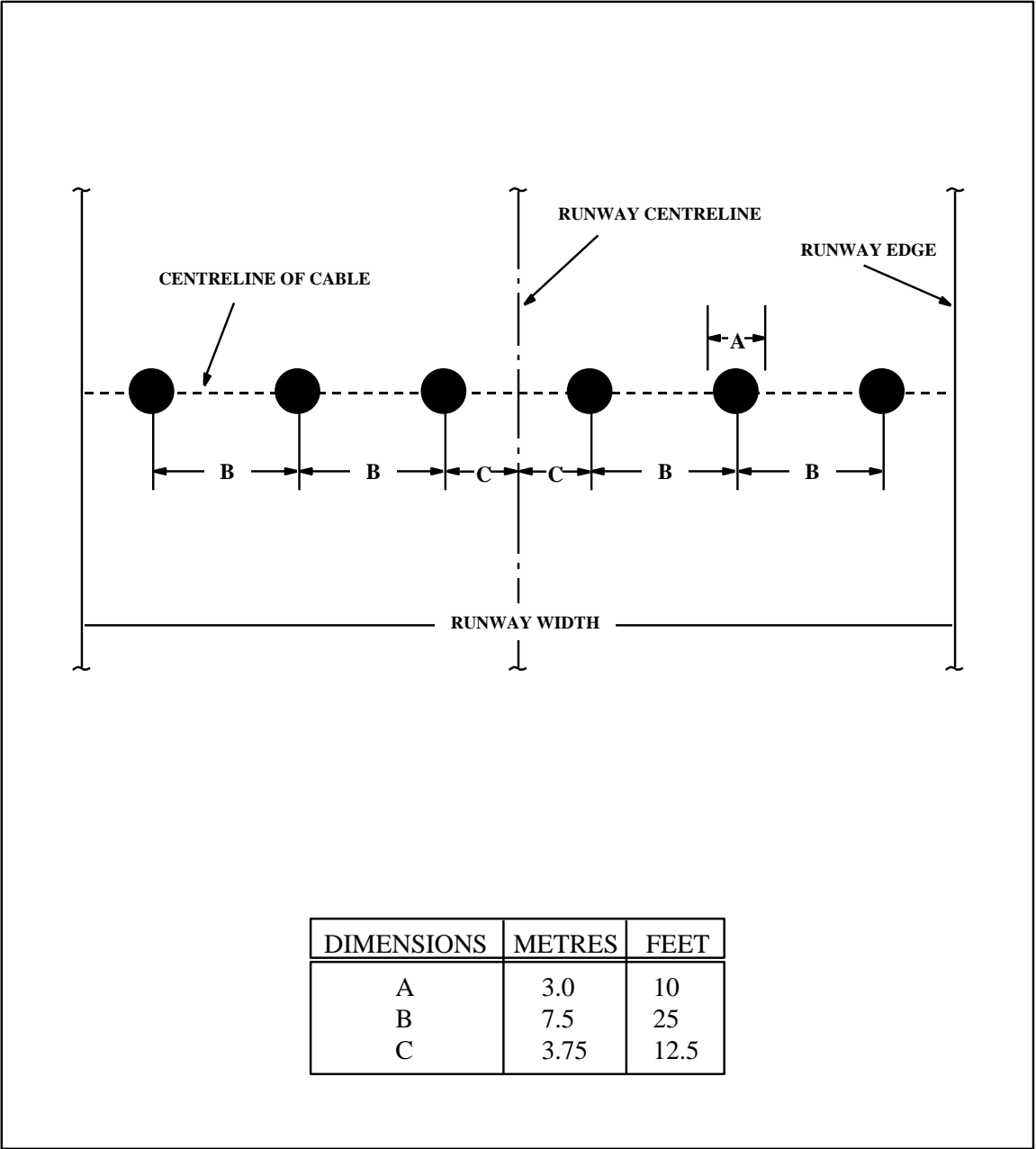
Markings on the runway surface to indicate to pilots the location of the aircraft arresting barrier or pendant cable.

b. **Inertial Navigation System (INS) Fixpoint/Checkpoint Marking.**

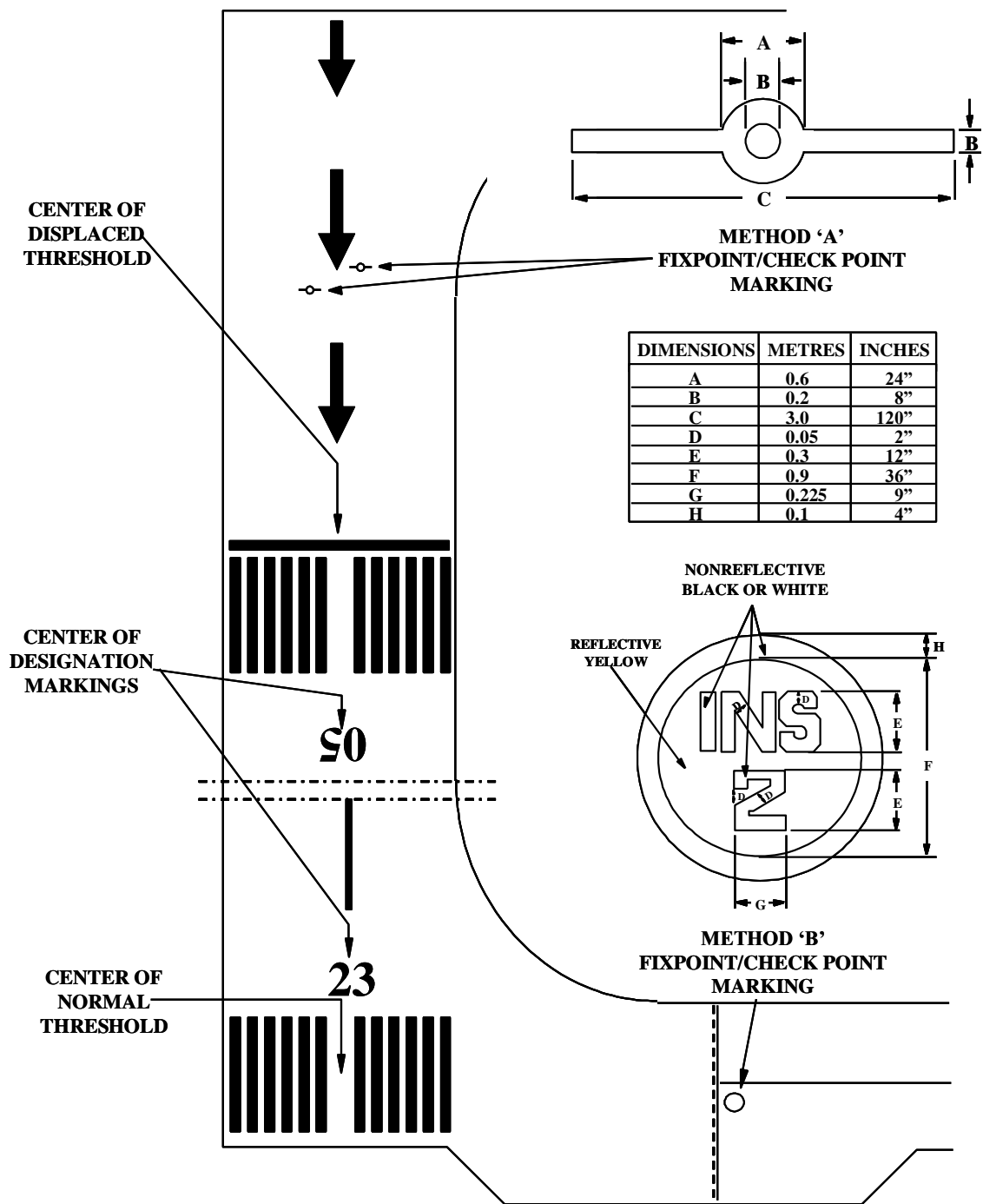
The marking designated to start the inertial navigation equipment for plotting the aircraft's flight path.

ANNEX C.

Aircraft Arresting System Markings



ANNEX D.  
INS FIXPOINT/CHECKPOINT MARKINGS



**ANNEX E.**

**Restricted Use and Hazardous Area Markings**

