NATO STANDARD

AASSEP-03

SYMBOL MARKING OF AIRCRAFT SERVICING AND SAFETY/HAZARDS POINTS

Edition A Version 1

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NORTH ATLANTIC TREATY ORGANIZATION

ALLIED TECHNICAL PUBLICATION

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NORTH ATLANTIC TREATY ORGANIZATION (NATO)

NATO STANDARDIZATION OFFICE (NSO)

NATO LETTER OF PROMULGATION

15 September 2014

1. The enclosed Allied Technical Publication AASSEP-03, Edition A, Version 1, SYMBOL MARKING OF AIRCRAFT SERVICING AND SAFETY/HAZARDS POINTS, which has been approved by the nations in the in the Military Committee Air Standardization Board, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 3109.

2. AASSEP-03, Edition A, Version 1, is effective upon receipt.

4. This publication shall be handled in accordance with C-M(2002)60.

Edvardas MAŽEIKIS
Major General, LTUAF
Director, NATO Standardization Office

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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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CHAPTER 1 INTRODUCTION

1.1. RELATED DOCUMENTS

1.1.1. NATO Documents

Nil

1.1.2. Non-NATO Documents

1. ISO 1950 – AIRCRAFT – IDENTIFICATION OF SERVICING, MAINTENANCE, GROUND HANDLING AND SAFETY/HAZARD POINTS

2. ISO 3864 – SAFETY COLOURS AND SAFETY SIGNS

1.2. AIM

The aim of this standard is to standardize servicing markings on aircraft for cross-servicing and to give warnings, the neglect of which may cause damage to equipment or injury to personnel.

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CHAPTER 2 REQUIREMENTS

2.1. MARKING CHARACTERISTICS

2.1.1. Form

Servicing and hazard markings on aircraft shall be in accordance with the symbols and allied data shown and as described in the Annexes.

2.1.2. Location and Identification

The symbols shall be marked on the part concerned or immediately adjacent to it and, where applicable, on the access panel. Where they are concealed, they should either be accompanied by, or replaced by arrows bearing the same symbol which will assist in locating the markings. Where there is no possibility of the identification of the servicing points being mistaken, the marking of such points is not compulsory.

2.1.3. Size

The symbols shall be a maximum of 100 mm (4 in) in the longest direction; the inscription shall be in capital Roman letters and Arabic numerals and be a maximum of 40 mm (1.5 in) high. The size of the symbols and inscriptions shall be commensurate with the distance from which they must be visible.

2.1.4. Colour

Markings shall be black or white according to background excepting Ground Handling, Safety/Hazard points, Armament, and Ammunition points, which shall be marked in Yellow/Orange, Red, and Green respectively. However for applications such as camouflaged aircraft, other colours may be used in order to give adequate contrast but without prejudice to the effectiveness of the camouflage paint scheme. Aircraft which, by virtue of their operational role may be subjected to atomic flash, shall have servicing and hazard markings painted in suitable pale colours, having a reflectivity of at least 50%.

2.2. SUPPLEMENTARY DATA

1. If necessary, the type of product and pressure shall be indicated thus – type and quality by international designation, pressure by metric and non-metric units as accepted by international agreements.

2. Supplementary data such as “Ground (Earth) Here” may be written in the language of the country concerned.

2.3. NOTES

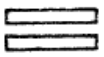
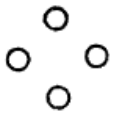
1. Applicable NATO Code Numbers are listed in the appropriate STANAGS.

2. Safety markings as applied to rescue are not covered by this standard.

3. Where Yellow/Orange is specified in the standard the colour shall be the National equivalent of “Safety Yellow” as defined in ISO 3864.

ANNEX A SERVICING AND MAINTENANCE SYMBOLS METRIC AND NON-METRIC MARKINGS COLOUR – BLACK OR WHITE

FUNCTION		DESCRIPTION	SYMBOL
1.	Fuelling	Filled four pointed star with notation of NATO Code No.	 NATO Code No .....
2.	Rocket fuels	Filled four pointed star in filled crescent with notation of NATO Code No.	 NATO Code No .....
3.	Rocket oxidisers	Filled crescent with notation of NATO Code No	 NATO Code No .....
4.	Engine lubricating oil	Filled square with notation of NATO Code No.	 NATO Code No .....
5.	Hydraulic fluid	Filled circle with notation of NATO Code No	 NATO Code No .....
6.	De-icing	Filled triangle with notation of NATO Code No	 NATO Code No .....
7.	Coolant	Two filled horizontal undulations with NATO Code No and percentage composition if necessary	 NATO Code No ..... WATER ..... %
8.	Pneumatic System	Filled "X" with notation of maximum charging pressure in metric and non-metric units	 ..... kpa or bar ..... psi

FUNCTION	DESCRIPTION	SYMBOL
9. Pneumatic starting	A filled 'X' circumscribed with a filled ring, with starting pressure in metric and non-metric units	 .....kpa or bar .....psi
10. Oxygen (breathing)	Two horizontal filled rectangles with notation of filling pressure. For liquid oxygen systems the word LIQUID will be used instead of GAS with the capacity of the system shown in Litres	 GAS LIQUID ... kpa or bar ... LITRES ...psi
11. Anti detonant or thrust augmentation	Filled inverted chevron with included angle not exceeding 90° with notation of NATO Code No. Percentage composition to be quoted if required.	 NATO Code No ..... WATER ..... %
12. Air conditioning	Dot pattern	
13. Inerting fluid	Filled square with a quarter arc removed from each corner with type of fluid indicated with % of each fluid and indication of maximum charging pressure in metric and non-metric units.	 HELIUM 40% NITROGEN 60% ..kpa or bar ..psi
14. Fire extinguishing system	A filled diamond with notation showing NATO Code No	 NATO Code No....

FUNCTION	DESCRIPTION	SYMBOL
15. External electrical connections	Filled "E" with lower limb shortened stating service and voltage details	 - SERVICING - STARTING ETC ..... VAC .....Hz ..... VDC
16. Grounding or earthing receptacle	A filled inverted "T" with two parallel bars underneath which diminish in size	 GROUND (EARTH) HERE
17. Refrigerant replenishment	Two filled triangles with apexes joined on horizontal centre line with notation showing type of refrigerant	 ARCTON
18. Flight data recorder	Filled letter "R" circumscribed by a filled ring. BLACK symbols on WHITE background or WHITE symbols on BLACK background	

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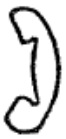
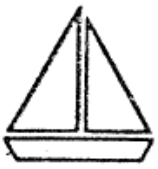
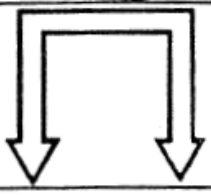
ANNEX B SERVICING AND MAINTENANCE SYMBOLS COLOUR – YELLOW/ORANGE

	FUNCTION	DESCRIPTION	SYMBOL
19.	Inspection of batteries	Flash of lightning	
20.	Inspection of de-icing circuit	Circle containing a BLACK filled triangle	
21.	Inspection of electronic installation	Sine wave about a horizontal bar, both in base colour.	
22.	Inspection of fuel filter	Symbol as drawn containing a BLACK filled four-point star for fuel	
23.	Fuel tank water drain	Symbol as drawn containing a BLACK filled four-pointed star for fuel	
24.	Hydraulic System test point	Symbol as drawn containing a single BLACK filled dot for hydraulics	
25.	Cabin pressure test point	Symbol as drawn containing four BLACK filled dots for air-conditioning.	

	FUNCTION	DESCRIPTION	SYMBOL
26.	Inerting fluid (tank) test point	Symbol as drawn containing a BLACK filled symbol for inerting fluid	
27.	Ignition plug, jet engine start	Symbol as drawn	
28.	Inspection static connections (vents)	Symbol as drawn	
29.	Drinking water replenishment	Filled circle, containing notation H_2O in BLACK	
30.	Toilet servicing	Filled circle containing a BLACK filled letter "T"	
31.	Telephone connection ground to cockpit	Symbol as drawn of handset	
32.	Dinghy (life raft) stowage	Symbol as drawn	

ANNEX C GROUND HANDLING SYMBOLS
COLOUR – YELLOW/ORANGE

FUNCTION	DESCRIPTION	SYMBOL
33. Jacking point	A filled square with two slanting legs on bottom side	
34. Slinging or hoisting points	Filled hook on a horizontal line	
35. Lifting area (external stores)	Filled Horizontal bar with downward pointing arrows at each end of the bar	
36. Mooring or Picketing	Filled anchor	
37. Towing point	Ring filled with base colour, leaving centre clear.	
38. Tail support	Circle filled with base colour around the point of support	
39. Locking of drop tank	Circle containing a RED filled four-pointed fuel star	
40. Walkway	Surrounded by a Filled YELLOW/ORANGE border with RED fringe on the outside	
41. No step	Filled footprint with a RED filled diagonal cross superimposed	
42. No grip	Filled hand with RED filled diagonal cross superimposed	

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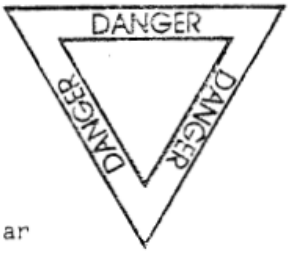
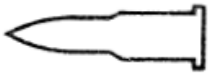
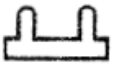
ANNEX D SAFETY/HAZARD SYMBOLS AND MARKING (OTHER THAN PERSONNEL RELEASE) COLOUR - RED

FUNCTION	DESCRIPTION AND PART TO BE MARKED	SYMBOL
43. Explosive actuated device	RED filled equilaterial triangle, apex pointing down, of the largest practicable size up to a 230 mm (9 in) side, to be applied to the external part of the aircraft adjacent to the explosive device. The word "DANGER" to be applied in RED to each side on a white triangular border and with its top to the surrounding peripheral line. It is permissible for the word 'DANGER' to the applied in any 3 different languages, provided that English is one of them. The words 'EJECTION SEAT', 'CANOPY' etc or an appropriate symbol may be added in WHITE on the central RED triangle	 
44. Airborne auxiliary turbine power plant inlet and/or exhaust	External part of the aircraft adjacent to the inlet/ exhaust.	 Colour Code BLACK RED
45. Canopy explosive release OPTIONAL – when used shall be additional to Function 43	Symbol as shown in RED on external part of the aircraft adjacent to the explosive release	

FUNCTION	DESCRIPTION AND PART TO BE MARKED	SYMBOL
46. Locking of controls and undercarriage	a. Uprights and cross-bars (ground equipment)	Painted RED and WHITE and fitted with a RED Streamer (warning pennant) incorporating reflective stripes.
	b. Position of uprights and cross-bars (aircraft)	Painted RED
47. Pitot tube covering	Cover	Painted RED and fitted with a RED streamer (warning pennant) incorporating reflective stripes.
48. Camera gun covering	Cover	Painted RED and fitted with a RED streamer (warning pennant) incorporating reflective stripes.
49. Jet engine intake/ exhaust covers	Tampions	Painted RED and fitted with a RED streamer (warning pennant) incorporating reflective stripes.
50. Rocket control	Electric Plug	RED streamer (warning pennant) incorporating reflective stripes, with BLACK skull and cross-bones
51. Anti-firing control	Shunt	RED streamer (warning pennant) with BLACK skull and cross-bones
52. Prohibition of access	Weaker parts of aircraft	Border band and cross of St Andrew in RED

ANNEX E ARMAMENT AND AMMUNITION SYMBOLS
COLOUR - GREEN

	FUNCTION	DESCRIPTION	SYMBOL
53.	Gun	Symbol as drawn	
54.	Gun emptying	Symbol as drawn of cartridge case	
55.	Gun feeding	Symbol as drawn of cartridge	
56.	Link container	Symbol as drawn of link	
57.	Firing control	Symbol as drawn of shunt	
58.	Rocket control	Symbol as drawn of selection plug	
59.	Bomb hoist	Symbol as drawn of bomb hoist. The two circles contain the base colour	

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