



**Technical Specification for
HAT, SERVICE Tricorne
RN Officers, Female
With Detachable Cover White**

Defence Clothing
Integrated Project Team

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PREFACETABLE 1 – PRODUCT LIST

Item Name	Hat, Service Tricorne, RN Officers, Female
Nato Stock Number (NSN)	8410-99-126-9692 to 9704
Pattern No(s)	29325
Development File No	D/DCT/P3209 (ST) & D/DCIPT/RDG/NR/096/02

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TABLE 2 – ISSUE RECORD

Issue No	Comment	Issue Date
4	Reformatted to DE&S template. Updated specs & docs.	03 November 2008
3	Update of related Specifications and Documents Figure 2 added.	08 December 2005
2	Update of related Specifications and Documents No technical review.	18 March 2005
1	This Specification Supersedes UKSC4247C dated 30 September 1996	18 October 2001

PART 1

1. THE PRODUCT

- a. Use of the Product. A tricorne hat worn by female Officers of the RN. The size schedule provides for thirteen sizes.

FIGURE 1.



TABLE 3 – RELATED SPECIFICATIONS AND DOCUMENTS

Specification/Document	Detail
BS EN ISO 105 Part B02 Part D01 Part E04	Textiles, Test for colourfastness. To light Dry Cleaning To Perspiration Acidic and Alkaline
BS EN ISO 178	Plastics - determination of flexural properties.
BS EN ISO 180	Plastics - Determination of Izod impact strength.
BS EN ISO 306	Plastics, Thermoplastic materials. Determination of Vicat Softening Temperature (VST).
BS EN ISO 1183-3	Plastics methods for determining the density and the relative density of the non cellular plastics-Gas Pyknometer method
BS EN 12590	Textiles, industrial sewing threads made from wholly or partly from synthetic fibres.
BS 2782-3 Method 320c	Methods of testing plastics. Mechanical properties.
BS 3870 Part 1 & 2	Stitches and seams.
DEF STAN 83-86	Touch and close fasteners.
UK/SC/4164	Cloth coated PVC on cotton, white No. 1 Anti-soil finish
UK/SC/4667	Ribbon textile, viscose and cotton, black for Rosettes, Glengarries and bonnets, Scottish Regiments.
UK/SC/4687	Embroidered and other distinguishing items.
UK/SC/5696	Leather, sheep, head leathers.

2. PATTERNS.

- a. Master Patterns. The DC IPT at Caversfield holds a Master Pattern for this product. Potential contractors may view the pattern on site by arrangement with the DC IPT Commercial Department.
- b. Standard Patterns. A Standard Pattern may be obtained from the DC IPT Technical Information Office and may be used to provide the criteria for all materials, components and manufacturing features not fully defined in this specification.

PART 2

3. PRODUCT DESIGN

- a. Product Description. A vacuum moulded fur felt covered hat with shaped brim.

TABLE 4 – PRODUCT COMPONENTS

4.1 Body	<ul style="list-style-type: none"> • Fur felt, (100% Rabbit fur) 120gms \pm 5% formed weight (including stiffening agent). • Shellac proofed and stiffened before dyeing. • Free from soluble mercury salts or other deleterious substances. • Colour fastness to meet the requirements of Table 8.
4.2 Crown Former	<ul style="list-style-type: none"> • Acrylonitrile Butadiene Styrene (ABS) Plastic shell • Thickness at crown 1.35mm \pm 0.10mm • Thickness of sides 0.9mm \pm 0.1mm, to meet the requirements of Table 9. • All surfaces are to be smooth, with no sharp edges.
4.3 Head Leather	<ul style="list-style-type: none"> • Leather, sheep, for head leathers. • Dyed black, vegetable tanned. • At least 1mm but not more than 1.3mm thick, to comply with UK/SC/5696
4.4 Cover	<ul style="list-style-type: none"> • Cloth coated PVC on cotton No1 Anti-soil Finish • To comply with Specification UK/SC/4164 • NATO Stock No. 8305-99-122-2621 Pattern No. 8181B
4.5 Head Band	<ul style="list-style-type: none"> • Braid, worsted, black, 44mm wide • To comply with the requirements of specification UK/SC/4687 • NATO Stock No. 8315-99-973-0787 Pattern No 9337A
4.6 Brim Binding	<ul style="list-style-type: none"> • Ribbon, textile, viscose and cotton, black, 16mm • To comply with the requirements of specification UK/SC/4667 • NATO Stock No. 8315-99-433-2051 Pattern No.9476A

TABLE 4 – PRODUCT COMPONENTS - CONTINUED

4.7 Chinstrap and Loop	<ul style="list-style-type: none"> • 100% polyester grosgrain or nylon Petersham, Black • 14mm to 16mm wide • The ends are to be heat sealed to prevent fraying
4.8 Bow for Head Leather	<ul style="list-style-type: none"> • Braid, white, 10mm to 13mm wide
4.9 Touch and close fasteners	<ul style="list-style-type: none"> • Fastener, hook (black) and loop (white), 19mm wide • Black and/or white, as appropriate • To meet the requirements of DEF STAN 83-86 • Edges are to be finished/sealed to prevent fraying
4.10 For all Sewing	<ul style="list-style-type: none"> • Thread, corespun, polyester/ cotton to Table 5 of BS EN 12590 • White or Black as appropriate. • Metric Ticket No. 75 • Or an alternative approved by the DC IPT

TABLE 5 – PRODUCT CONSTRUCTION

5.1 Hood and brim	<ul style="list-style-type: none"> • The body is blocked and shaped as the standard pattern to form the inner crown and brim. • The edge of the brim is to be bound using seam type 3.01.01 of BS 3870 with the join at the centre back of the hat. • Brim measurements are to be as specified in Table 7.
5.2 Crown former	<ul style="list-style-type: none"> • A plastic former is to provide the rigidity for the crown, and should vacuum moulded to the oviform shape at Figure 2. • The former is to be sewn to the body with at least four stitches per 2cm. • Four portions of touch and close fastener, hook element, black, 4cm in length and 0.5cm from the bottom edge, are to be sewn to the former/shell around the circumference, positioned at the centre front, back and sides.
5.3 Head Leather	<ul style="list-style-type: none"> • Each hat is to have a brachered head leather, 3cm deep, the ends of which are to be overlapped not less than 1cm and no more than 4cm at the back of the hat and be tacked together through a braid bow. • The head leather is to be positioned 1cm above the base of the crown former. • The head leather when attached by either drumming or by conventional methods must provide the same degree of comfort as that provided by the Standard Pattern.
5.4 Additional Headband	<ul style="list-style-type: none"> • The additional headband is to be seamed 1.5cm with the corners turned in and stitched to avoid fraying. • The band is to be positioned with the join at the centre front.
5.5 Tricorne Shaping	<ul style="list-style-type: none"> • The brim edge is to be lifted to touch the top edge of the additional headband, and be sewn to the additional headband 10cm either side of the centre front, and at the centre back. • Measurements are for size 54; other sizes are to be proportionate.

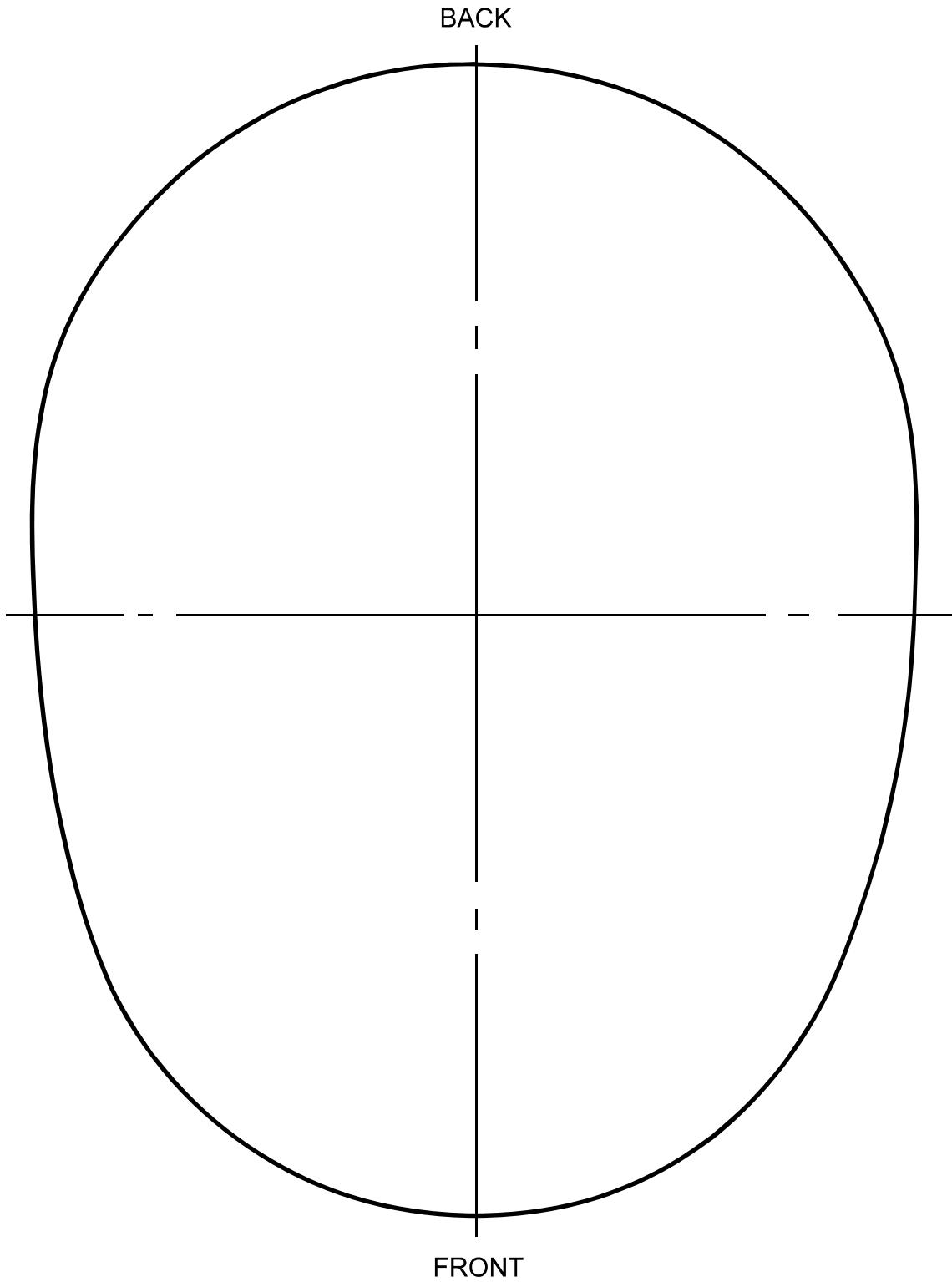
TABLE 5 – PRODUCT CONSTRUCTION - CONTINUED

5.6 Cover	<ul style="list-style-type: none"> • The cover parts are to be cut with the ribbed effect of the PVC cloth in the following directions: • Crown tip- front to rear • Side crown- vertical at centre front • The crown tip, oval in shape, is to comply with the measurements set out in Table 7 • The side crown, cut one piece, is to be joined at the centre back using seam type 1.01.01 of BS 3870 with the seam allowance pressed to one side and edge stitched 0.2cm from the seam. • The crown tip and side crown are to be joined using seam type 2.02.03 of BS 3870 with edge stitching on the side crown 0.2cm from the seam. • Four portions of touch and close fastener, pile element, white, 4cm in length, are to be positioned 0.5cm from the bottom edge of the side crown, spaced equidistantly around the circumference at the centre front, back and sides. • All hats are to be provisioned with two covers, one fitted to the hat and a replacement cover.
5.7 Chinstrap and Loop	<ul style="list-style-type: none"> • A ribbon cut approximately 68cm long (effective length no less than 62cm), is to be securely sewn to the hood of the hat only • Positioned centrally 1.5cm above the head leather on the right side of the hat (when worn), to form a chinstrap. • A ribbon cut approximately 10cm long (effective length no less than 2cm doubled), is to be securely sewn to the hood of the hat only • Positioned centrally 1.5cm above the head leather on the left side of the hat (when worn), to form a loop.
5.8 Seams and Stitching to BS 3870	<ul style="list-style-type: none"> • Machine stitching is to be type 301, with at least eight but not more than ten stitches per 2cm. • Unless other wise stated in the body of the specification.

TABLE 5 – PRODUCT CONSTRUCTION - CONTINUED

5.9 General	<ul style="list-style-type: none">• Sewing threads may be treated with a stain free lubricant.• The hats are to be free from all ends of sewing thread, be blocked and pressed to retain the required appearance and oviform shape displayed at Figure 2, and be delivered in a clean condition.• All seams are to be free from pucker.• The contractor must ensure that the hat is manufactured with a high regard to appearance, comfort and durability.
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FIGURE 2



NOT TO SCALE

TABLE 6 – SCHEDULE OF NATO STOCK NUMBERS AND ACTUAL BODY MEASUREMENTS

NATO Stock Number 8410-99-126-	9692	9693	9694	9695	9696	9697	9698	9699	9700	9701	9702	9703	9704
Hat Size and internal Circumference	49	50	51	52	53	54	55	56	57	58	59	60	61

TABLE 7 – MEASUREMENTS AND TOLERANCES

Hat size		49	50	51	52	53	54	55	56	57	58	59	60	61
Cover	Circumference of bottom edge of shell	54.0	56.0	56.0	58.0	58.0	59.2	59.2	61.6	61.6	62.5	62.5	64.0	64.0
	Crown width	12.5	13.0	13.0	13.5	13.5	14.1	14.1	15.0	15.0	15.5	15.5	16.0	16.0
	Crown length on shell	14.0	14.5	14.5	15.0	15.0	15.5	15.5	16.1	16.1	16.4	16.4	17.0	17.0
Cover	Centre Front	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
Crown	Centre Back	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
Sides	Sides	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Hat Brim	Centre Front	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
	Centre Back	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
	Sides	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0

TABLE 8 – MINIMUM COLOUR FASTNESS REQUIREMENTS FOR FUR FELT

	METHOD OF TEST TO BS ISO 105				
Part	B02	E04		D01	
Agent	Light	Perspiration Acidic & Alkaline		Dry Cleaning	
		Colour Change	Staining Cotton	Colour Change	Staining Solvent
Rating	6	4-5	4-5	4-5	4-5

TABLE 9 – PHYSICAL PERFORMANCE REQUIREMENTS FOR ABS CROWN FORMER

BS EN ISO 1183-3	BS 2782-3	BS EN ISO 178		BS EN ISO 180		BS EN ISO 306
Method 620A	Method 320C	Flexural Strength	Flexural Modulus	Izod Impact		Vicat Softening Temperature
Density	Tensile Strength					
G/cm ³	MPa	MPa	GPa	J/M	J/M	°C
Minimum		-				
1.07	25-30	30-40	1.7-1.8	260-280	75-80	80-84

4. LABELLING Information and format is to be as follows

- Size number, NATO Stock number, the contract number, is to be clearly marked on a label to be sewn to the centre of the crown body, or
- Clearly printed on a pressure sensitive self-adhesive label to be adhered to the crown.

Specimen Label

SIZE 56
8410-99-126- 9699
Contract No