



**Technical Specification for
HELMET, METAL, HOUSEHOLD CAVALRY,
Officers and Warrant Officers
HELMET, METAL, HOUSEHOLD CAVALRY,
Soldiers 2007 Pattern**

Defence Clothing

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PREFACETABLE 1 – PRODUCT LIST

Item Name	HELMET, METAL, HOUSEHOLD CAVALRY, Officers and Warrant Officers HELMET, METAL, HOUSEHOLD CAVALRY, Soldiers 2007 Pattern	
Development File No	DCT IPT/CST/NR/015/02	
Product Support File No.	D/DCTA/521/06	
NATO Stock Numbers		Pattern Numbers
8415-99-975-4440 to 4444 and 4448 Outsize		4297A
8415-99-188-5565 to 5572 and 5573 Outsize		D01501

Any colour shown in this document is for representation and must not be used for colour matching.

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TABLE 2 – ISSUE RECORD

Issue No	Comments	Issue Date
6	Technical Review and reformatted.	02 July 2009
5	Technical change, incorporating new head liners and turrets and new NSN's for Soldiers pattern New head liners for WO's/ Officer pattern.	27 November 2008
4	Addition of Photo for Pattern 4298A	29 March 2004
3	Reformatted with partial technical change.	08 January 2004
2	Reformatted without technical change.	03 October 1990
1	New issue.	28 June 1988

PART 1

1. THE PRODUCT

- a. Use of the Product. Two helmets with similar shells, embellished for wear by either Officers and WO's or Soldiers of the Household Cavalry for Ceremonial duties

Warrant Officer & Officers pattern

The size schedule provides for six sizes and a special measure.

PATTERN 4297A:



Soldiers pattern

The size schedule provides for nine sizes and a special measure. Replaceable liners are also available, NSN's 8415-99-188-5573 to 5582.

PATTERN D01501:

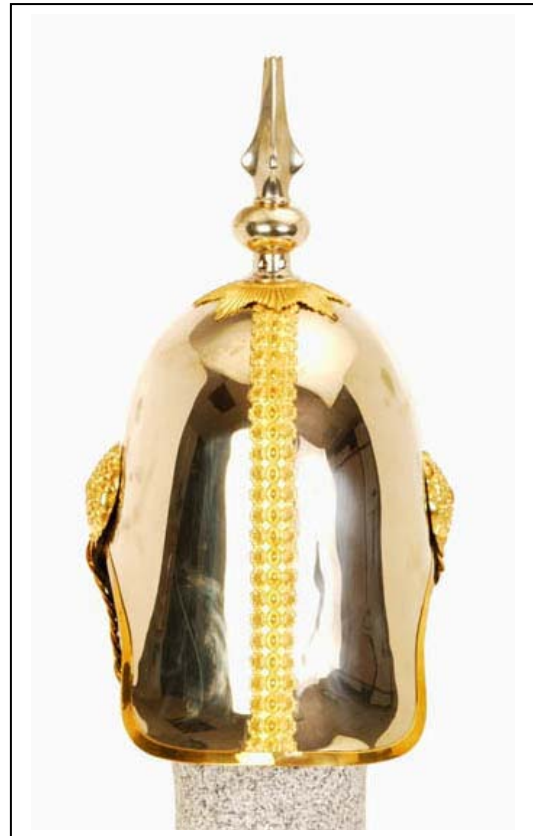


TABLE 3 – RELATED SPECIFICATIONS AND DOCUMENTS

Specification/Document	Detail
BS EN 12590	Industrial sewing threads made wholly or partly from synthetic fibres.
BS EN 12540	Corrosion protection of metals – Electrodeposited coatings of nickel, nickel plus chromium, copper plus nickel and copper plus nickel plus chromium
BS EN 1652	Copper and copper alloys – Plate, sheet, strip and circles for general purposes.
BS 4290	Method for specifying Electroplated coatings of silver and silver alloys for decorative and protective purposes.
BS 3870. Parts 1 & 2.	Stitches and seams.
BS 3692	Specification for I S O metric precision hexagon bolts, screws and nuts.
BS 3102: (1959).	Specification for brass eyelets and washers for general purposes.
BS 2780	Glossary of leather terms.
BS 641: (1951)	Dimensions of small rivets for general purposes.
UK/SC/5607	Leathers, Chrome and Chrome Tanned, Soft dressed
UK/SC/5697	Leather, sheep, basil.

2. PATTERNS.

- a. Master Patterns. The DC holds a Master Pattern for this product. Potential contractors may view the pattern on site by arrangement with the DC Commercial Department.
- b. Standard Patterns. A Standard Pattern may be obtained from the DC 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 23. PRODUCT DESIGN

- a. Product Description. The design and shape of the helmets are to be strictly in accordance with that of the Standard Pattern. The helmets are to be supplied complete with turret, spike, front plate, rosettes and curb chain.

TABLE 4 – PRODUCT COMPONENTS

OFFICERS AND WARRANT OFFICERS:	
4.1 Skull, peak and spike	<ul style="list-style-type: none"> Nickel silver to comply with the requirements of BS EN 1652, then bright silver-plated, to comply with the requirements of BS 4290.
4.2 Ball	<ul style="list-style-type: none"> Gilding, metal, gold, bright plated. Is the gilding metal to a specification BS EN 1652 CuZn15/CW502L
4.3 Spike and ball, combined	<ul style="list-style-type: none"> Replaceable component: Pattern No.23665, NATO Stock No.8415-99-978-6493.
4.4 Edge beading	<ul style="list-style-type: none"> Replaceable component: Gilding, metal, gold, bright plated Pattern No.23901, NATO Stock No.8415-99-978-6497.
4.5 Front plate	<ul style="list-style-type: none"> Replaceable component: Gilding, metal, dead gold plated and burnished, Pattern No. 21350, NATO Stock No.8415-99-975-4451.
4.6 Blues and Royals, Rosette	<ul style="list-style-type: none"> Replaceable component: Gilding, metal, dead gold plated and burnished, Pattern No.23666, NATO Stock No.8415-99-978-6494.
4.7 Life Guards, Rosette	<ul style="list-style-type: none"> Replaceable component: Gilding, metal, dead gold plated and burnished, Pattern No.D01512, NATO Stock No.8415-99-173-0976

TABLE 4 – PRODUCT COMPONENTS CONTINUED

4.8 Side leaves, garter and Spike Star	<ul style="list-style-type: none"> Gilding, metal, dead gold plated and burnished.
4.9 Back beading	<ul style="list-style-type: none"> Replaceable component: Gilding, metal, dead gold, plated and burnished, Pattern No.23668, NATO Stock No.8415-99-978-6496.
4.10 Front Star	<ul style="list-style-type: none"> Stirling silver with hand cut facets.
4.11 Insert for garter	<ul style="list-style-type: none"> Stirling silver, vitreous enamel mount
4.12 Vent plate	<ul style="list-style-type: none"> Nickel silver to comply with the requirements of BS EN 1652.
4.13 Rosette holders	<ul style="list-style-type: none"> Replaceable component: Brass, to comply with the requirements of BS EN 1652, Pattern No.21278, NATO Stock No.8415-99-135-7912.
4.14 Rivets and washers for front peak and rosette holder	<ul style="list-style-type: none"> Copper and white metal, to comply with the requirements of BS 641.
4.15 Lining for spike plume	<ul style="list-style-type: none"> Brass, 6mm square tube to comply with the requirements of BS EN 1652.
4.16 Blues and Royals curb chain	<ul style="list-style-type: none"> Replaceable component: Brass, gold plated with solid end links, as on the Standard Pattern, Pattern No.23902 NATO Stock No.8415-99-132-1040.
4.17 Life Guards curb chain	<ul style="list-style-type: none"> Replaceable component: Brass, gold plated, with solid end links, as on the Standard Pattern, Pattern No.23667 NATO Stock No.8415-99-978-6495.
4.18 Chin leather and lining	<ul style="list-style-type: none"> Basil, to UK/SC/5697 strained, dyed through and finished black, thickness 1.5mm, as on the Standard Pattern or an approved alternative.
4.19 Tail and Peak lining	<ul style="list-style-type: none"> Skiver, green, as defined in BS 2780, as on the Standard Pattern or an alternative approved by DC IPT.

TABLE 4 – PRODUCT COMPONENTS CONTINUED

4.20 Head lining	<ul style="list-style-type: none"> • Single-ply 6mm thick polyester mesh lining Standard Pattern MAT0026A • Leather, Hair, Sheep. Chrome/ gluteraldehyde combination tanned cap sheepskin, pearl colour, thickness 0.7 – 0.9mm, Type C to UK/SC/5607
4.21 Head band leather	<ul style="list-style-type: none"> • Cattle hide vegetable tanned, finished natural, thickness 3.5-4mm.
4.22 Draw cord	<ul style="list-style-type: none"> • Tape, textile, cotton white, 16mm, NATO Stock No.8305-99-973-0821.

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4.23 Skull, peak, spike and ball, front start and vent plate	<ul style="list-style-type: none"> • Nickel silver, to comply with the requirements of BS EN 1652, with external surfaces polished to the requirements of BS EN 12540.
4.24 Spike and ball combined, incorporating spring and spring retainer	<ul style="list-style-type: none"> • Replaceable component: Pattern No.D01503, NATO Stock No.8465-99-188-5583. • Steel wire spring BS 5216/HS3 Galv. Size 65mm long, 6mm wide as in the standard pattern • Brass spring retainer BSEN 1652. Size as in the standard pattern (See drawing Annex A) • Steel ball bearings. Size 6mm as in the standard pattern
4.25 Front plate	<ul style="list-style-type: none"> • Replaceable component: Brass, to comply with the requirements of BS EN 1652, Pattern No.16607, NATO Stock No.8415-99-975-4381.
4.26 Edge beading, rosettes, back beading, garter, rosette holders and side leaves	<ul style="list-style-type: none"> • Brass, to comply with the requirements of BS EN 1652.
4.27 Edge beading	<ul style="list-style-type: none"> • Replaceable component: Pattern No.23716, NATO Stock No.8415-99-135-7913.

TABLE 4 – PRODUCT COMPONENTS CONTINUED

4.28 Rosette, Life Guards and Blues & Royals	<ul style="list-style-type: none"> Replaceable component: Pattern No.21279, NATO Stock No.8415-99-975-4488.
4.29 Back beading	<ul style="list-style-type: none"> Replaceable component: Pattern No.23757, NATO Stock No.8415-99-975-4486.
4.30 Nuts and washers	<ul style="list-style-type: none"> Brass, 3mm, brass hexagonal nut, to comply with the requirements of BS 3692.
4.31 Liner for spike plume	<ul style="list-style-type: none"> Brass 6mm square tube to comply with the requirements of BS EN 1652.
4.32 Securing linings, chin chain and rosettes	<ul style="list-style-type: none"> Copper rivets and washers, to comply with the requirements of BS 641.
4.33 Curb chain	<ul style="list-style-type: none"> Replaceable component: Brass, on black basil, Pattern No.22269 NATO Stock No.8405-99-975-4487.
4.34 Chin leather and lining	<ul style="list-style-type: none"> Basil, to UK/SC/5697 strained, dyed through and finished black, thickness 1.5mm, as on the Standard Pattern or an approved alternative.
4.35 Peak lining	<ul style="list-style-type: none"> Skiver, green, as defined in BS 2780 as on the Standard Pattern or an approved alternative.
4.36 Rivets for front peak	<ul style="list-style-type: none"> Brass, to comply with the requirements of BS 641.
4.37 Rivets for side rosette holder	<ul style="list-style-type: none"> Copper and copper washers, to comply with the requirements of BS 641.
4.38 Head lining	<ul style="list-style-type: none"> Single-ply 6mm thick polyester mesh lining Standard Pattern MAT0026A Leather, Hair, Sheep. Chrome/ gluteraldehyde combination tanned cap sheepskin, pearl colour, thickness 0.7 – 0.9mm, Type C to UK/SC/5607
4.39 Draw cord	<ul style="list-style-type: none"> Tape, textile, cotton white, 16mm, NATO Stock No.8305-99-973-0821.
4.40 Head band leather	<ul style="list-style-type: none"> Cattle hide vegetable tanned, finished natural, thickness 3.5-4.0mm.
4.41 Head restraining straps	<ul style="list-style-type: none"> Vegetable tanned, pig-skin, defects and blemish free, thickness 1.3-1.4mm.

TABLE 4 – PRODUCT COMPONENTS CONTINUED

4.42 Eyelets for headlining	<ul style="list-style-type: none">• Eyelets, brass 0.3mm, to comply with the requirements of BS 3102:1959.
4.43 Buckle	<ul style="list-style-type: none">• As on the appropriate Standard Pattern.
4.44 Thread for all purposes	<ul style="list-style-type: none">• The following sewing thread, or an approved alternative, is to be used. The shade is to match that of the appropriate Standard Pattern.• Thread, polyester and cotton, CF polyester core, cotton sheath, to BS 12590, colour to match the Standard Pattern For brachering Metric Ticket No.25. For all other sewing Metric Ticket No.75.

TABLE 5 – PRODUCT CONSTRUCTION

5.1 Shell	<ul style="list-style-type: none"> • The shell is to be made in three parts joined at the centre-back and front and across peak. • Shape to fit profile gauge, patterns No's 28740 up to 28745.
5.2 Back beading	<ul style="list-style-type: none"> • The back beading, measuring 2.5cm in width and differing in design for Officers/WOs as Standard Pattern No 4297A and Soldiers as Standard Pattern No D01503, It is to be secured through the back join by nut/washer assembly.
5.3 Spike	<ul style="list-style-type: none"> • Each helmet is to have a four sided spike, on ball, with a stem incorporating six ventilation holes set on an eight pointed star base. • The base is to be attached to the shell by four screws/nuts with washer and is to be secured by the ventilation plate on the inside of the helmet. • It is to incorporate the spring and spring retainer, to receive a click-in, click-out plume stem, as drawing at Annex A and standard pattern
5.4 Plate	<p>Warrant Officer & Officer pattern</p> <ul style="list-style-type: none"> • The front embellishment is to be formed from gilding metal for Pattern No.4297. The design of the embellishment differs between the 2 patterns and should be as on the appropriate Standard Pattern. • The plates are to be positioned in accordance with that of the appropriate Standard Pattern, secured to the shell by five brass screws/nuts and washers.
	<p>Soldiers pattern</p> <ul style="list-style-type: none"> • The front embellishment is to be formed from a brass plate for Pattern No. D01503. The design of the embellishment differs between the 2 patterns and should be as on the appropriate Standard Pattern. • The plates are to be positioned in accordance with that of the appropriate Standard Pattern, secured to the shell by five brass screws/nuts and washers.

TABLE 5 – PRODUCT CONSTRUCTION CONTINUED

5.5 Peak	<ul style="list-style-type: none"> • The peak, lined, is to be attached at the brow of the helmet. The peak is to be securely fixed and positioned as on the Standard Pattern. • The peak when measured from the inside edge of the shell to the edge at the centre of the peak is to be 5.7cm deep.
5.6 Edge beading	<ul style="list-style-type: none"> • The edge beading, finishing 8mm in width, is to be smooth and without folds or creases and is to be securely soldered along the edge of the steel helmet shell with the seam joins in correct position as the Standard Pattern
5.7 Headband leather and restraining straps	<ul style="list-style-type: none"> • The band, is to be formed by a 6.5cm wide length of leather. The band is to be shaped to fit the shell and is to be securely joined at the centre back, with the ends abutted and sewn using seam type 4.01.01 of BS 3870. The band is to incorporate a 6mm thick single ply polyester mesh held between the leather band and the pilot glove leather inner lining. All to be securely sewn to the leather band as in the standard pattern. • The band is to be held in position by the rosette holder, placed centrally each side of the helmet projecting through to the outside. • For Pattern No.D01503 helmet. Restraining straps are to be inserted formed by three strips of leather securely sewn to the bottom edge of the headband. • The back strap, 21cm long, 3.5cm wide, is to be positioned centrally at the back. Two slits, 4.5cm long, 1cm in from end and sides are to be inserted at the free end. • The right strap, 26.5cm long, 2.5cm wide, is to be positioned centrally at the side. Five pairs of holes are to be punched centrally at 3.5cm, 5.2cm, 7cm, 8.7cm and 10.5cm respectively from the pointed end. • The left strap, 11.5cm long, 2.5cm wide, is to be positioned centrally at the side. The end of the strap is to be turned back 1cm and be securely sewn enclosing the buckle.

TABLE 5 – PRODUCT CONSTRUCTION continued.

5.8 Head lining	<p>Pattern No.4297 (Officers).</p> <ul style="list-style-type: none"> • The lining is to be one piece and shaped to fit the head leather sewn using seam type 1.01.01 of BS 3870 with a depth of 13cm. • The upturn is to have a channel formed 1.5cm deep sewn using seam type 6.02.01 of BS 3870 with a circumference of 45cm. A length of tape is to be inserted in the channel, with the ends extending from the back. • The lining must not be visible below the edge of the helmet. <p>Pattern No.D01501 (Soldiers)</p> <ul style="list-style-type: none"> • The lining is to be cut two piece and joined at the sides, shaped to fit the head leather, attached using seam type 4.01.01 of BS 3870. • Each lining is to be cut to the shape of that on the appropriate Standard Pattern, with four extended tongues, each of which are to have an eyelet inserted at the free end. • The lining must not be visible below the edge of the helmet. <p>Pattern No. D01502 (removable helmet liner)</p> <ul style="list-style-type: none"> • The lining is to be cut two piece and joined at the sides, shaped to fit the head leather, attached using seam type 4.01.01 of BS 3870. • Each lining is to be cut to the shape of that on the appropriate Standard Pattern, with four extended tongues, each of which are to have an eyelet inserted at the free end. • The items are to be individually wrapped in acid free tissue paper to breath, suitable for delivery direct to user.
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TABLE 5 – PRODUCT CONSTRUCTION continued.

5.9 Chin straps	<ul style="list-style-type: none"> • The straps are to be formed by linked rings and securely fixed onto a length of basil, cut to fit the width of the rings. • The straps are to be lined with the raw edges oversewn together as on the Standard Patterns. <p>For Pattern No.4297 Officers:</p> <ul style="list-style-type: none"> • <u>Blues and Royals</u> <p>The length of strap is to be formed by forty three 3.2cm rings, with an additional two rings, interlocked at each end through the solid end two rings for attachment/adjustment purposes. Brass with gold plate.</p> <ul style="list-style-type: none"> • <u>Life Guards</u> <p>The length of strap is to be formed by three different size rings, made up of twenty 3.3cm, twenty 2.8cm and twelve 2.5cm. The smallest rings are to be positioned in the middle of strap with the next size up either side, and the largest size at each end. Two small holes are to be punched in the basil, in-between the last two rings. Brass with gold plate.</p> <p>For Pattern No. D01503 Soldiers:</p> <ul style="list-style-type: none"> • The length of strap is to be formed by three different size rings, made up of twenty 3.3cm, twenty 2.8cm and twelve 2.5cm. The smallest rings are to be positioned in the middle of strap with the next size up either side, and the largest size at each end. Two small holes are to be punched in the basil, in-between the last two rings. Brass.
5.10 Seams and stitching to BS 3870	<ul style="list-style-type: none"> • The brachering on the headleather/lining is to be stitch type 214 for the Pattern No.4298 and 204 for Pattern No.4297. The stitch type for the bottom of head lining for Pattern No.4297 is to be 301 with at least six but not more than eight stitches per 2cm and be correctly tensioned.
5.11 General	<ul style="list-style-type: none"> • Sewing threads may be treated with stain free lubricant. • All seams are to be free from pucker. • The rivets, nuts and washers are to be firmly and securely seated. • The holes, punched for receiving eyelets, are not to exceed the diameter of the section being inserted.

TABLE 6 – SCHEDULE OF NATO STOCK NUMBERS

Officers and Warrant Officers NATO Stock Numbers	Soldiers NATO Stock Numbers	Soldiers replaceable liners NATO Stock Numbers	Size and internal circumference (cm)
8415-99-975-	8415-99-188-	8415-99-188-	
-	5565	5574	52
-	5566	5575	53
-	5567	5576	54
4440	5568	5577	55
4441	5569	5578	56
4442	5570	5579	57
4443	5571	5580	58
4444	5572	5581	59
4448	5573	5582	Outsize

TABLE 7 – MEASUREMENTS AND TOLERANCES (CENTIMETERS)

										TOLS	
Size and internal circumference		52	53	54	55	56	57	58	59	+	-
Measurements of Helmet	Shell	Depth from back to centre of crown	29.5							0.2	0.2
		Depth from centre at crown to front edge	22							0.2	0.2
		Depth of sides from centre of crown	19.5							0.2	0.2
	Peak	Depth from front edge to point	6							0.1	0.1

4. LABELLING REQUIREMENTS. Information and format is to be as follows:

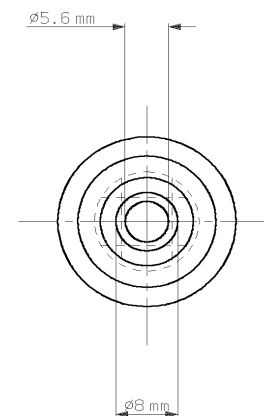
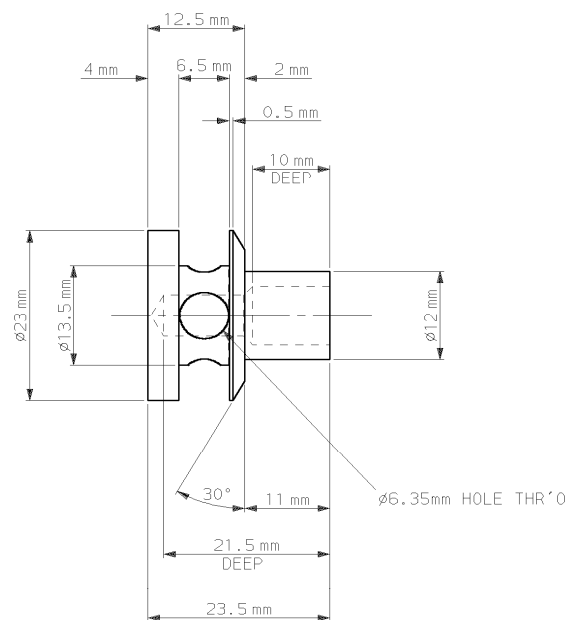
- Position: attached to the head lining at the front and centrally.
- Identification label: Item name, NATO Stock Number, size, contract number, indication of position for wearer's name and number. The size number is to be 6mm high.

TABLE 8 – SPECIMEN LABELS

HELMET, Metal, Household Cavalry, Officers / WOs 8415-99-975-4440 Size 55 0/000/0000 Name: No:	HELMET, Metal, Household Cavalry, Soldiers 8415-99-188-5568 Size 55 0/000/0000 Name: No:
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Figure 2 Examples Identification and marking labels

Annex A



HOUSEHOLD CAVALRY MOUNTED REGIMENT.
DEVELOPMENT OF TURRET ASSEMBLY & PLUME
STEM FOR STATE HELMETS, INCORPORATING
BAYONET FITTING WITH BALL & SPRING
RETAINING COLLAR.

MATERIAL - BRASS
SCALE - 2:1
DRAWN BY - R SISMAN

bayonet_fitting