

Design of Collars around Necklines in Varied Forms

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Introduction

In ladies clothing the neckline and especially its geometrical form is an element, which helps the design of untraditional collars. A collar can be form not only around the neckline from constructional base of the bodice, a similar one, or a neck opening the traditional V form. A collar can be designed around a neckline in form of oval, square, rhombus, trapezium, and pentagon. Pattern making of collars around these kinds of necklines is presented in the article.

Pattern Making of Collars around Necklines in Varied Forms

Figure 1 presents a lady's jacket with a collar around a rhombus neckline. Figure 1.1 presents the geometrical model of constructing of

the collars around necklines in varied forms [1,2] and the pattern of the collar around the rhombus neckline, shown in Figure 1. Design and constructing of collars around a trapezium neckline is presented in [1] and around a pentagon neckline is shown in [2]. In Figure 1.1 point 1 is situated on the horizontal line, which is located on 9-10 cm over the bust dart apex. This line is the border of the bust area. 2 is the point of interception of the front neckline and shoulder after the neckline sinking. For design of collars around oval, rhombus, trapezium, or pentagon neckline point 1 is located to the left than point 2. The segment 1÷2 is in vertical position if the neckline is designed in square, oval or pentagon form. Segment 1÷2 is the tangent line to the neckline in the shoulder point. The front neckline is formed (through point 2) with a curved line, formed oval form, or combination from curved or straight lines, created square, rhombus, trapezium, or pentagon form. An arc is drawn with center point 1 and radius 1÷2. On the arc: $2÷3=3÷4 = 1,5-2,0$ cm. Distances 2÷3 and 3÷4 define the collar stand height by shoulders. Points 1 and 3 are connected with a straight line, which is extended over point 3. An arc is drawn to the right of line 1÷3 with center point 4 and radius, equal to the back neckline length after the neckline sinking. On the arc: Distance 5÷6 is defined by its center angle β by formula (1):

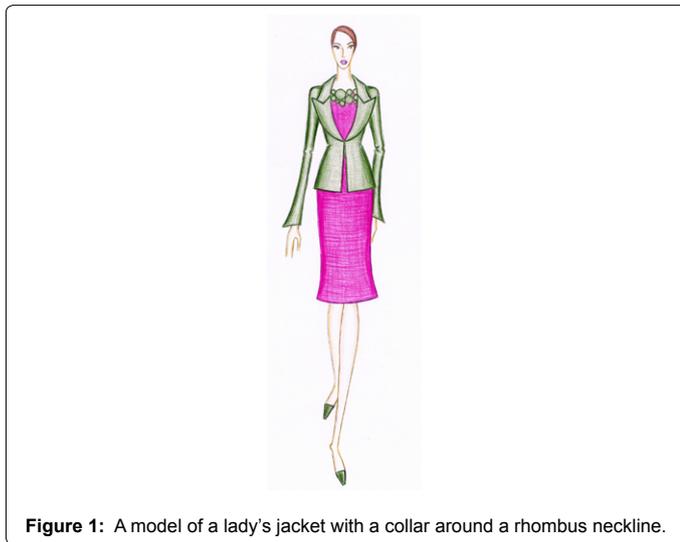


Figure 1: A model of a lady's jacket with a collar around a rhombus neckline.

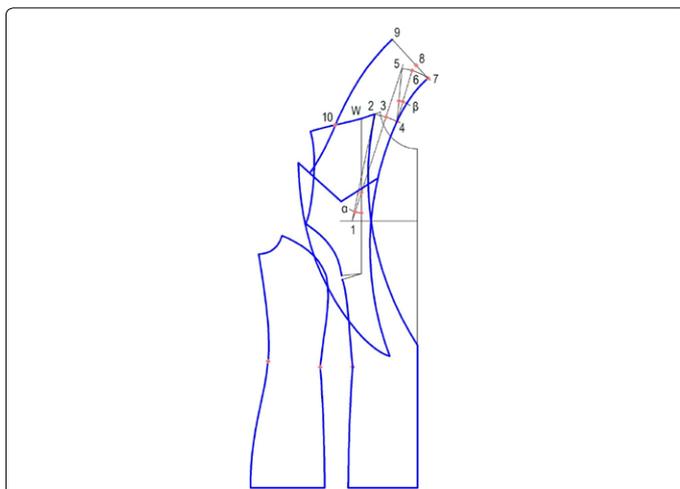


Figure 1.1: Geometrical model of pattern making of collars around necklines in varied forms. Pattern making of the collar around the rhombus neckline, presented in Figure 1.

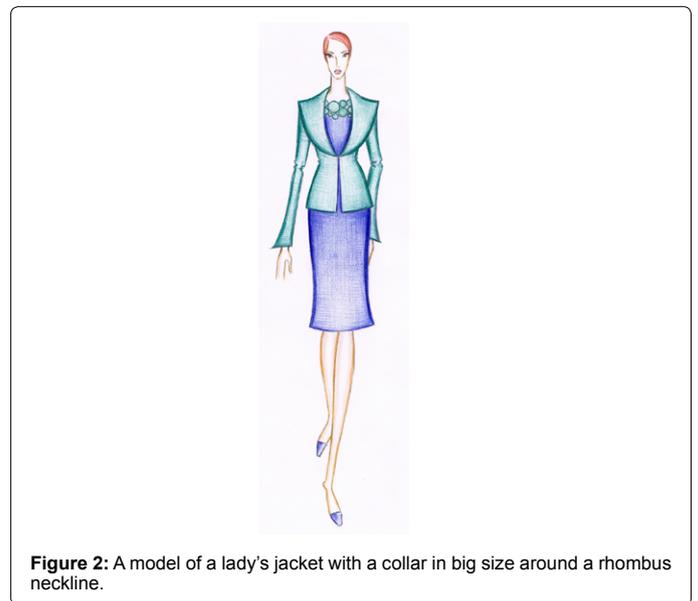


Figure 2: A model of a lady's jacket with a collar in big size around a rhombus neckline.

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Received June 08, 2015; Accepted June 10, 2015; Published July 15, 2015

Citation: Kazlacheva Z (2015) Design of Collars around Necklines in Varied Forms. J Textile Sci Eng 5: 204. doi:10.4172/2165-8064.1000204

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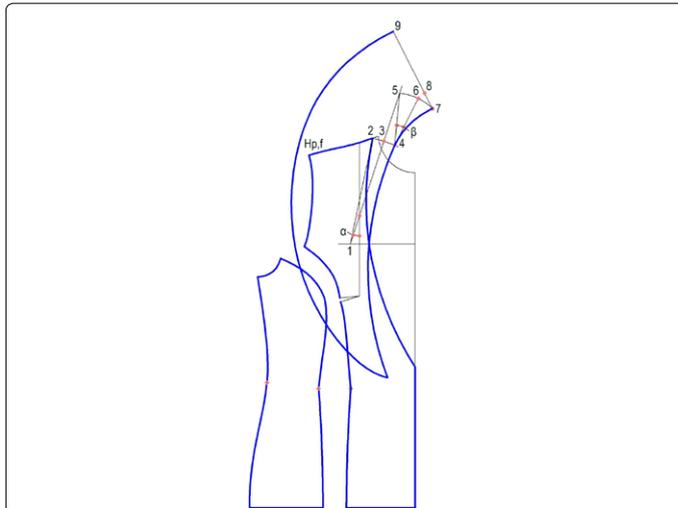


Figure 2.1: Geometrical model of pattern making of collars in big sizes around necklines in varied forms. Pattern making of the collar around the rhombus neckline, presented in Figure 2.

$$\beta = 14,5 - 0,65.\alpha + 1,2.W \tag{1}$$

$\beta, ^\circ$ is the central angle of the collar slope arc (the arc 5÷6), $\alpha, ^\circ$ – the roll line angle (the angle between line 1÷5 and a vertical line), W, cm – the collar width by the shoulders.

Distance $6\div7 = 2\div3 + 1,0$ determines the collar stand height by the back middle. The line (through point 4), which defines the collar connecting line to the front neckline, is in the same geometrical form like the line of the front neckline, and the collar connecting line (through point 4) is an image of the front neckline around point 1. Points 4 and 7 are connected with a curved line and curve 4÷7 defines the collar connected line to the back neckline. A line, which is perpendicular to 4÷7 is drawn. On the new line: $7\div8 = 6\div7$. Distance $7\div8$ defines the collar stand height by the back middle. Distance $8\div9$ determines the collar width by the back middle. On the shoulder $2\div10 = W$. The collar edge shape (drawn through points 9 and 10) depends from the model and fashion trends.

Pattern Making of Collars in Big Sizes around Necklines in Varied Form

Figure 2 presents a lady’s jacket with a collar in big size around a rhombus neckline. Figure 2.1 presents the pattern making model of the collars in big sizes around necklines in varied forms [3] and the pattern making of the collar in big size around the rhombus neckline, shown in Figure 2. Design and constructing of a collar in big size around an oval neckline is presented in [4]. The way of pattern making is the same as the sequence of constructing of collars in smaller sizes with the difference of collar slope defining – formula (2):

$$\beta = 29 - 0,7.\alpha + 4,0.Hp \tag{2}$$

$\beta, ^\circ$ is the central angle of the collar slope arc (the arc 5÷6), $\alpha, ^\circ$ – the roll line angle (the angle between line 1÷5 and a vertical line), Hp, cm – the additional height for pad by shoulders ($Hp = Hp,f + Hp,b$, where Hp,f is additional height for pad by the front shoulder and Hp,b is additional height for the pad by the back shoulder).

Conclusions

The presented geometrical models ensure accurate and facilitating pattern making of collars around necklines in different forms and give possibilities for easy design of new models collars with aesthetic forms and the correct collar position toward the bodice. The presented design constructional models are suitable for the both ways of pattern making – the traditional manual constructing and drawing with CAD systems. The pattern making of these kinds of collars is more successful with the use of CAD systems about easy constructing on the base of different angles and easy designing of new shapes of the necklines and collars.

Reference

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