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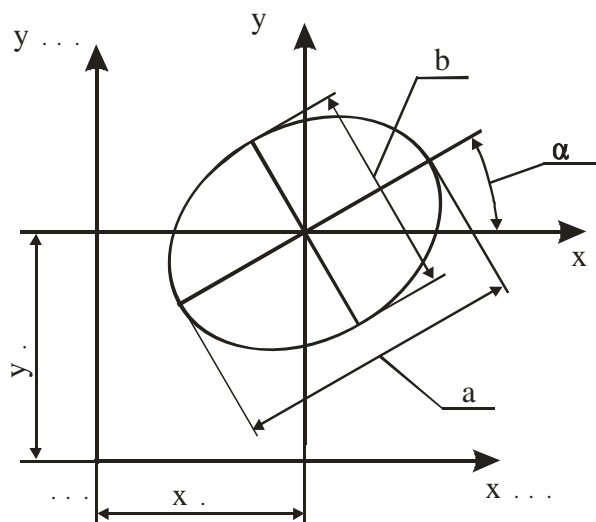
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[11]:

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1, \tag{1}$$

x, y —
;

a, b —
 x, y .
 $x \dots y \dots$. 1
 $x \dots y \dots$. 1.



$$M = \begin{bmatrix} \cos(\alpha) & -\sin(\alpha) & x_0 \\ \sin(\alpha) & \cos(\alpha) & y_0 \\ 0 & 0 & 1 \end{bmatrix}, \quad (2)$$

$$\left. \begin{aligned} x_{\dots} &= x \cos(\alpha) - y \sin(\alpha) + x_0 \\ y_{\dots} &= x \sin(\alpha) + y \cos(\alpha) + y_0 \end{aligned} \right\} (3)$$

$$M' = \begin{bmatrix} \cos(\alpha) & \sin(\alpha) & -x_0 \cos(\alpha) - y_0 \sin(\alpha) \\ -\sin(\alpha) & \cos(\alpha) & x_0 \sin(\alpha) - y_0 \cos(\alpha) \\ 0 & 0 & 1 \end{bmatrix} \quad (4)$$

$$\left. \begin{aligned} x &= x \cos(\alpha) + y \sin(\alpha) - x_0 \cos(\alpha) - y_0 \sin(\alpha) \\ y &= -x \sin(\alpha) + y \cos(\alpha) + x_0 \sin(\alpha) - y_0 \cos(\alpha) \end{aligned} \right\} (5)$$

$$\frac{(x \cos(\alpha) + y \sin(\alpha) - x_0 \cos(\alpha) - y_0 \sin(\alpha))^2}{a^2} + \frac{(-x \sin(\alpha) + y \cos(\alpha) + x_0 \sin(\alpha) - y_0 \cos(\alpha))^2}{b^2} = 1. \quad (6)$$

(6) $x_1, y_1, \dots, x_5, y_5$; a, b :

$$\left. \begin{aligned} & \frac{(x_1 \cos(\alpha) + y_1 \sin(\alpha) - x_1 \cos(\alpha) - y_1 \sin(\alpha))^2}{a^2} + \\ & \frac{(-x_1 \sin(\alpha) + y_1 \cos(\alpha) + x_1 \sin(\alpha) - y_1 \cos(\alpha))^2}{b^2} = 1, \\ & \dots \\ & \frac{(x_5 \cos(\alpha) + y_5 \sin(\alpha) - x_5 \cos(\alpha) - y_5 \sin(\alpha))^2}{a^2} + \\ & \frac{(-x_5 \sin(\alpha) + y_5 \cos(\alpha) + x_5 \sin(\alpha) - y_5 \cos(\alpha))^2}{b^2} = 1, \end{aligned} \right\} (7)$$

x_i, y_i — , $i = 1, 2, \dots, 5$. (7), x_i, y_i ,

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1. / , . . . ; . . . , 1978. — 135 .
2. : ; 2- ./ . . . , . . . , . . . , 1983. — . 2. — 448 .

3. . . . / . . . // . - 1996. -
 8. - . 3 - 8.
 4. . . . // . - 2002. - 7. - . 31 - 32.
 5. . . . / . . . // -
 . - 1998. - 6. - . 5 - 10.
 6. . . . , . . . // . - 2004. - 9.
 - . 53 - 58.
 7. . . . / . . . // . - 2004. - 12. - . 39 - 43.
 8. . . . / . . . , . . . : -
 . . . , . // . - 2000. - . 10. - . 149 - 161.
 9. . . . / . . . , . . . // -
 : - 2004.
 - . 27. - . 71-75.
 10. : . 68689 , F16D3/18 / . ,
 . . () . — 2003098808; . 29.09.2003; . 16.08.2004,
 . 8. - 4 .
 11. . . . /
 - : . . . , 1998. - 320 .
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DETERMINATION OF THE PARAMETERS OF
THE INTERSECTION OF THE SURFACE OF
THE TOOTH CAVITIES COUPLING SLEEVE
AND THE PLANE PARALLEL TO THE BASE
END FACE

The work is devoted to defining the parameters of the intersection of the surface depressions of the teeth with a plane parallel to the plane of the base end. The dependences shown in the work permit together to consider a number of consecutive sections with ring gear teeth of the spatial geometry by combining the separate results of measuring the coordinates of points belonging to the surfaces of the ring gear on the same axis.

Keywords: gear clutch, teeth of hub, surface depressions of the teeth, the base end, an ellipse.