Method for manufacturing disk blanks of variable thickness for compact aircraft

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The paper suggests an alternative technique for disc blanks manufacture for segmented edging of the shaped charge. The method enables us to make such a blank in which as the thickness decreases from the center to the periphery, a periodic thickness profile is formed in the circumferential direction. The disc metal blank is fixed in a three-jaw chuck and the end of the disk is trimmed with a decrease in thickness along the generatrix from the center to the periphery. Under the influence of the clamping forces, the disk blank is deformed and, after processing, its cross section has a three-sided periodic profile. We carried out experiments to process disk blanks for different values of the clamping force in the work tool and obtained the dependencies of the disc thickness on the clamping force. After harmonic analysis of the thickness of the cross section, we determined the amplitudes values of harmonics of different thicknesses in the circumferential direction at different distances from the center of the disk blank.

Keywords: *harmonic analysis, blank deformation, technological heredity*

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