

A centering tool contains a housing and an element with spherical support and an elastic element installed therein. The element with spherical support is connected by one end with the housing by a pin connection with possibility of self-alignment in horizontal and vertical planes. Cutting edges are located on the spherical tool surface at other end of the element with spherical support. A method of positioning the centering tool provides for arrangement of the cutting edges of centering tool symmetrically relative to the axis of an opening in the billet. Orientation of the tool relative to the opening is provided due to possibility of self-alignment in two planes. Misalignment of the opening and axis of tool is compensated by spherical configuration of the edge of centering tool. Increase of manufacturing efficiency of design and simplification of the technology of production of center holes in the billets with axial opening is ensured.