

ABSTRACT OF THE DISCLOSURE

When inserting a finishing tool 41 into a bearing hole 13A3, firstly, by inserting an insertion guide portion 41c formed on the leading end side of the finishing tool 41 into the bearing hole 13A3, the finishing tool 41 is inserted into the bearing hole 13A3 in such a manner that the angle and parallelism of the axis of a pressure contact working portion 41b, which is situated on the rear side of the finishing tool 41 and continues with the insertion guide portion 41c, can be gradually aligned with the axis of the bearing hole through a floating holder mechanism 42. In a state where the axis of the pressure contact working portion 41b is automatically aligned with the axis of the bearing hole with high precision, the working of the bearing hole using the pressure contact working portion 41b is started. After then, due to the pressure-contact plastic deformation of the bearing hole by the pressure contact working portion 41b, the inner peripheral surface of the bearing hole of the bearing member is finish worked with high precision.

