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ABSTRACT

The author wishes to thank his Supervisor Dr. S. Thiruvardhulvan and Mr. C. Imbert, who filled in for Dr. Thiruvardhulvan when the latter was absent. An investigation into the use of rotating tools to transmit torque to deforming metals is conducted. Specifically, the use of a rotating piercing tool in the piercing of short tubes and shells was carried out.

The theory of the process is outlined as well as the approach used to synthesize the design of a machine for the investigation. The problems encountered during construction and experimentation are discussed.

Thanks are also due to Dr. S. Keshavan for his assistance in the construction and testing. The results of the tests performed are presented and discussed together with conclusions and recommendations for future action.

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