

Pneumatically operated Bending Machine

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Abstract

One of the most significant sheet metal workshop machine tools is a bending machine. It is designed primarily to bend metal sheets. The bend was done by punching the job clamped on a die with great strength. The bending machine is intended to work independently. When applied, the automation approach is thought to lead to lower cycle times, expenses and an enhanced quality of products. Other potential benefits include repetitiveness, improved productivity, decreased labor and business systems integration with the assistance of the electro pneumatic system, automation is accomplished.

Keywords-electro pneumatic system, die, bending machine, ram

INTRODUCTION

Nowadays, automatic plate bending machines are commonly used in the automotive and other sectors in particular. Bending machines used to be manually operated before, so the machine output was much lower[1]–[3]. Because the ram was moved by turning the screw manually. The bending method of the element is now modified[4], [5]. The operator should not use the push-button to start the machine after the platform is loaded. However, he pushed two buttons so that the operator's hands were both involved. This arrangement is made to prevent operators being injured. The primary objective is that the manually operated press, or any machine, is transformed into a semi or fully automatic unit by the entire expertise of pneumatic systems, sensors etc. The bending machine is in this project a semi-automatic bending machine, in which the component is loaded and unloaded manually, and the plate bend is automatically carried out.

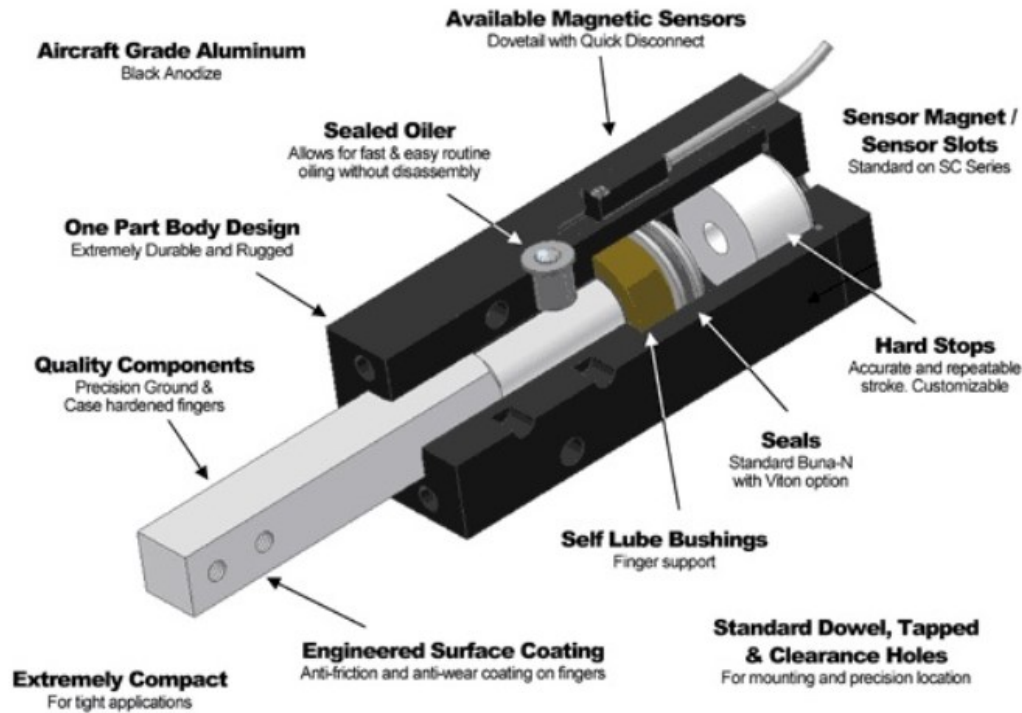


Figure-1 A pneumatic cylinder

RESULT AND CONCLUSION

The manual press is transformed into an automatic machine that saves the total working time. This will increase the production. The human intervention in this project is to load and unload the plate. It is known as a semi-automatic device. In this system, the plate can be loaded and unloaded automatically into fully automatic machinery. One should have complete knowledge of the instruments that are used for this purpose. This can modify and automatically modify the current ancient machines, by minimizing the original price and the procurement of fresh automatic equipment. There is therefore a great deal of scope (automation) in this field. Furthermore, the wiring is very complicated in this project, and if a problem solving occurs, a failure cannot be readily identified for this reason, the interface with the PLC can be used to minimize the cabling and to detect the fault without wasting time.

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