

전용 이송장치 개발

이지석*, 이준호**

*호서대학교 공과대학 기계공학과, **준호기술사사무소 대표

e-mail:20205243@vision.hoseo.edu

Development of a dedicated transfer device

Ji-Seok Lee*, Jun-Ho Lee**

*Dept. of Mechanical Engineering, Hoseo University, **Junho Professional Engineer Office

Abstract

The development of equipment using a linear motion, eliminating the need for maintenance is virtually unnecessary. Almost no mechanical wear parts, breakage and replacement is necessary. Processed into a single control unit, so the strength and coordination and speed control switch can be easily manipulated.

1. Introduction

Cost of drilling and reaming operations automation system, we can improve the productivity of industry. Reamer drill automation devices on the market exceeds 200 million won of the most expensive equipment that we are working with. Lack of funding for small businesses to develop low-cost automation system must drill reamer. Attach the servo motor and linear motion devices composed of a dedicated device, you can operate efficiently^[1]. The control system can precisely control should be developed. Drill reamer with a low-cost automation system is needed to build efficient line. Processing by utilizing servo mechanism to implement a smile. Processing equipment with servo painter of high-density memory is required. Design, pattern, test, assembly should be developed through a process^[2,3]. To this end, high-performance, compact and portable devices qualified for high-precision control system to develop power rate. Linear motion of the position, velocity, and torque detection device should be developed. Mechanism, which is non-linear wear, friction and technology should be implemented to compensate. Domestic production of conventional H Corp. is the only device driving speed 2(m/sec), Payload Weight 5(kg), road noise, 80(db) or less, repeat the position degree ± 1 (mm) is run by a very sophisticated device is WALTER is a German company specializing in buying machine tools. For the machining of bearing mainly on the domestic private device sells. ANCA Australia for the production of the plane has the advantage in software technology. Through to the domestic agency sells. Existing products in order to overtake these low-cost automation system should develop drill reamer.

2. Problem and Solution

Bearings used in automotive and aircraft parts, combined with the other parts are in the shape of the flange for. In addition, many bolt holes are formed^[6]. Bolt hole center drilling and end milling, reaming, and work through chamfering location is equipped with the precision and straightness. Value of the orientation chosen bolt hole drilling and machining centers for drilling is. This action of the bolt hole drilling is processing. Position to help form a bolt-hole drilling to establish straightness should end milling operations. After the end milling operation in order to improve the dimensional precision reaming operations and cutting corners to bolt hole chamfering operations. Able to do this part and the reamer portion forming a step on the swing when the high-speed operation should avoid. Stabilization of the bearing bolt-hole drilling and reaming tools developed are applied. Automated systems to develop a dedicated drill reamer indexing tables, three-axis linear motion device, the cutting tool consists of Indexing table and three-axis linear motion device, the stepper motors, encoders, ball screws, LM Guide, a detection sensor configuration^[2]. This device is a streaming task simultaneous machining according to an automated device straight to the dimensional accuracy can improve to help.

Reference

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