

IMPROVING THE CAR REAR AXLE PRODUCTION PROCESS WITHIN A GENERAL ASSEMBLY LINE

Nicoleta Roxana LEOVEANU¹, Cristina MOHORA²

Rezumat. Această lucrare analizează procesul de fabricație al unui subansamblu din industria auto, precum și integrarea acestuia pe linia de asamblare. Sunt examinate etapele de dezvoltare, proiectare și testare ale subansamblului, având în vedere cerințele de calitate și eficiență. Obiectivul principal îl constituie optimizarea proceselor în vederea reducerii costurilor și îmbunătățirii performanței. Studiul utilizează metode avansate de producție și tehnici de asigurare a calității pentru atingerea obiectivelor propuse. Concluziile evidențiază eficiența abordării inovatoare implementate [2,4].

Abstract. This paper explores the manufacturing process of an automotive subassembly and its integration on the assembly production line. The development, design and testing stages of the subassembly are analyzed, taking into account the quality and efficiency requirements. The main goal is to optimize processes to reduce costs and performance improvement. The study uses advanced manufacturing methods and quality assurance techniques to achieve the proposed objectives. The conclusions demonstrate the effectiveness of the innovative approach implemented [2,4].

Keywords: car manufacturing, car subassembly, assembly production line, process optimization, quality assurance.

1. Introduction

The assembly of the rear axle subassembly on the production line is a complex technological process, which involves the coordination of several manufacturing steps, including mechanical machining, heat treatments, assembly and quality control [3]. The aim of this work is to analyze the manufacturing process of the rear axle subassembly, with a focus on the efficient integration of this subassembly on the assembly line, and to identify innovative solutions to improve its performance [5].

By using advanced manufacturing methods and providing automated quality control, the work aims to contribute to the optimization of production processes, cost reduction, and improvement of safety and reliability of the final product. The research will also focus on analyzing the impact of the implementation of modern technologies on the production flow and competitiveness of the automotive industry in the current context [1, 4, 8].

¹Student, Faculty of Industrial Engineering and Robotics, National University of Science and Technology Politehnica Bucharest, Romania, e-mail: litanicoletaroxana@yahoo.com,

²Professor, Faculty of Industrial Engineering and Robotics, National University of Science and Technology Politehnica Bucharest, Romania, e-mail: cristina.mohora@upb.ro
