

# **DEVELOPMENT OF AN ERGONOMICALLY-DESIGNED ASSEMBLY WORKSTATION**

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**GERSON N. COMPETENTE**  
**BRYAN G. RESURRECCION**

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Republic of the Philippines  
**CAVITE STATE UNIVERSITY**  
Don Severino de las Alas Campus  
Indang, Cavite  
☎ (046) 4150-010 / (046) 4150-021  
www.cvsu.edu.ph

**COLLEGE OF ENGINEERING AND INFORMATION TECHNOLOGY**

Department of Industrial Engineering and Technology

**AUTHORS: GERSON N. COMPETENTE and BRYAN G. RESURRECCION**

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**APPROVED:**

  
**MARY JOYCE P. ALCAZAR** 05-09-18  
Adviser Date

  
**AIVAR M. LOPEZ** 5-10-18  
Technical Critic Date

  
**GERRY M. CASTILLO** 5-10-18  
Unit Research Coordinator Date

  
**WILLIE C. BUCLATIN** 5-10-18  
Department Chairperson Date

  
**SHERYL D. FENOL** 5-11-18  
College Research Coordinator Date

  
**MARILYN M. ESCOBAR** 5-17-18  
Dean Date

  
**MA. CYNTHIA R. DELA CRUZ** 5-17-18  
Director for Research Date

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## ABSTRACT

**COMPETENTE, GERSON N. and RESURRECCION, BRYAN G., Development of an Ergonomically-Designed Assembly Workstation.** Undergraduate Thesis. Bachelor of Science in Industrial Engineering. Cavite State University, Indang, Cavite. April 2018. Adviser: Mary Joyce P. Alcazar.

Workstations and assembly cells are at the core of numerous assembling tasks. Working space and workstations assume an essential part in labor efficiency. In this way, it is important that they are intended to be as ergonomic, adaptable and productive as would be prudent. Workstations are in charge of setting materials, instruments, gear and directing administrator developments in the most agreeable shape. Along these lines, administrators can play out their work in an effective way.

This study aimed to determine: 1.) determine the attributes of the assembly workstations present in electronic manufacturing firms; 2.) determine the problems encountered by the workers while using the existing assembly workstation; 3.) design and develop the existing assembly workstations; 4.) evaluate the proposed assembly workstation. Developmental research was used in this study. Company visits, interviews, observations and surveys were done to gather pertinent data.

Participant of the study are all assembly line workers, composed of 33 male and 48 female workers. Developmental research was used in this study. The study utilized descriptive statistical analysis to determine the musculoskeletal disorder. Six Sigma, Define-Measure-Analyze-Design-Verify approach was used to determine the problems and needs of the respondents and verify its solution.

The study showed that there was a significant relationship between musculoskeletal disorders and the number of working hours. It was found out that the

most affected parts of the body while using an ergonomic deficient workplace where the neck, shoulder, back, arms and feet. Further results showed that the existing assembly workstations have a poor ergonomic design and needs to be developed.

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