Opposition template

About group: B by: Riccardo Bronzini

Product

What product was it? Bosch TDA2315 Steam Iron

Key Strenghts

Group B's project on the Bosch steam iron showcases a strong grasp of the course objectives and presents a comprehensive and well-organized report. The work is extensive, covering all necessary elements such as DFA, PFMEA, workstation design, and economic analysis. The team displayed creativity by choosing a semi-automated solution, effectively blending manual and automated methods to reflect realistic mid-volume production scenarios. Their incorporation of PFMEA into the layout planning process enhances the design approach and demonstrates proactive risk management. The chosen methodologies—especially DFA Boothroyd-Dewhurst and precedence-based sequencing—were well-suited for the product and its assembly challenges. The technical justifications for layout choices and process flow were adequately supported, and the uniformity in formatting and narrative tone throughout the report indicates strong collaboration and coordination among team members.

Areas for improvement

It does not include any static or dynamic mechanical analysis, which could have enhanced the technical insight into the assembly process. Some assumptions, like the 27.5% market share used for demand estimation, lack support and seem unrealistic without proper citations or validation. Although DFA is applied correctly, its findings are not clearly reflected in the proposed redesigns, which are somewhat vague and do not demonstrate measurable impact. The rationale for semi-automation is also insufficient, as there is no clear comparison with a fully manual method or any cost justification for the chosen solution. Furthermore, while PFMEA is mentioned, the report fails to explain how the identified risks would be addressed at either the station or system level. Certain parts, such as the cost model, are overly generalized and would greatly benefit from more detailed breakdowns and references to enhance their reliability and credibility.

Assessment of implementation and results

The documentation is well-structured but lacks depth. Important choices, such as automation, could use more robust comparisons or data to support them. While the work is finished, it would improve by considering additional options and validating assumptions more thoroughly.

Report & Presentation

The report is structured in a clear and logical manner, making it easy to follow from beginning to end. Each section is clearly introduced and connected, allowing readers to easily grasp the team's design choices. While the content is thorough and to the point, some areas, like the redesign and economic justification, could benefit from more detailed exploration. Additionally, visual aids—like exploded views, layout diagrams, and tables—are utilized effectively to bolster arguments and enhance understanding.

Questions for discussion and suggestions

List 2-4 questions to discuss during opposition

1. How did your DFA scores actually influence the redesign proposals? Can you link a specific redesign to a reduction in time or part count?
2. Why did you apply only one balancing technique? Did you explore any alternatives?

Provide constructive recommendations

- Clearly connect DFA results to specific design changes. Show how improvements affect part count, insertion time, or cost to highlight the value of redesigns.

- Final verdict: An extensive report that encompasses all necessary course topics, including functional decomposition, assembly processes, design for assembly (DFA), and cost estimation. The document is well-organized, and the diagrams provide valuable insights.


KTH
VETENSKAP
OCH KONST