

ABSTRACT

The grinding process that uses the conventional method has been proposed by the process of the concept of their products. But the proposal are still in the conceptual research so it needs to be continued by the process that focused on detail design. PT Pindad Persero, a state-owned company (BUMN) that travels in production weapons for the army, in workstations afbramen which specialized in vehicles. Grinding activities are done by 2 workers that operates in 1 shift for eight hour, with the maximum workload 2 hours per-lot in performing the grinding components without enough break and without well supported by table and seat work so employee suffers the awkward posture.

The new concept of table and seat work is an improvement from the previous measurement. This study was conducted as the further developmental stage for the table and seat work features using the ulrich-eppinger. The choosen concept of the table is the concept that has the sides arch to support the components. As for the motion space, the operator can move his hand wider and the operator can access the tools work closer by using the right hand. In the final phase of the development, the tables and seat work are tested using Von Mises and Factor of Safety (FOS). Based on the research, the result for Von Mises test is 0.005-2.824 MPa for table work, 0.001-17.674 MPa for tiang utama, and 0.4 Pa-0.765 MPa for tiang gerak. Also, the result for FOS simulation appeared to be considerable, as the value comes as 83.21 to a table work, 13.3 for tiang utama, and 307.07 for tiang gerak. The amount is much less than the yield strength for ST37 which is 235 MPa and the value of FOS is greater than 1 so that the table and seat work are good to develop.

Keyword: detail design, grinding process, ulrich eppinger, von mises, FOS