

SUMMARY

The thesis is based on the Threod System's need to increase the production volumes to meet newly emerged demand for its core product EOS C VTOL. Desired production rate was established; however, the attainability of the goal is unknown. The given thesis is focused on the investigations of CNC department production capabilities in respect to fixated production rate.

Following steps would be required to achieve the main objective:

- To perform full analysis of EOS components and their processes related to CNC department.
- Optimize the component's layouts with respect to required component's quantities
- To discuss the aspect of machinability of the components.
- To establish detailed job schedule plan to prove the attainability.

In the process of thesis compilation all the stated goals were achieved. Variety of individually machined components was significantly reduced by proper grouping of the components, which also decreased total material requirement by 10%. Feedback and recommendation on design for machinability were provided to mechanical engineers on features, which significantly reduce the productivity of the CNC department. Several production plans were created with respect to existing designs to prove the attainability of established production rate.

Keywords: CNC machining, nesting, job scheduling, design for manufacturing, master thesis