

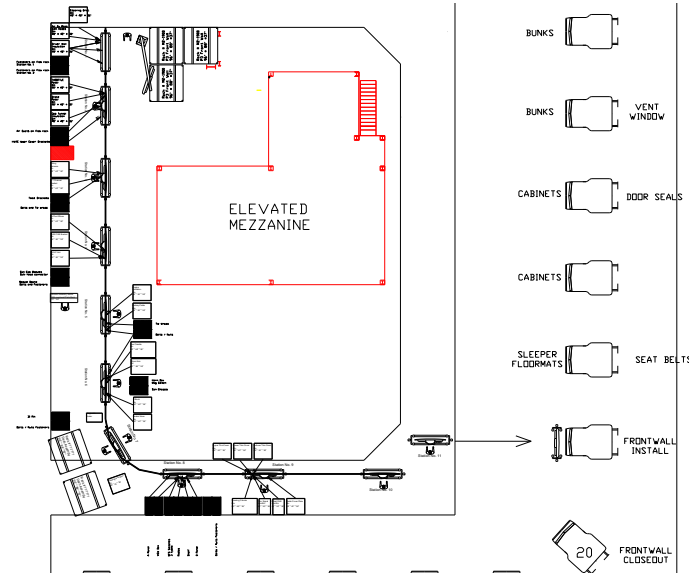
DESIGN SYSTEMS, INC.

Manufacturing Engineering & Consulting

Process Development of New Front Wall and Dash System HEAVY DUTY TRUCK MANUFACTURER

Project Description

Design Systems, Inc. (DSI) designed a process to assemble the new front wall and dash system for a large domestic truck manufacturer. DSI's manufacturing group determined the most cost effective assembly method by building a model of the process utilizing prototype material to mock production of the new system. The goal of the project was to increase productivity and operation performance through design and management of operators for the new process.



Client Objectives

- Perform time study to establish the required number of workstations, operators, and labor hours.
- Develop process flow diagram of prototype.
- Perform a Design For Manufacturing and Assembly (DFMA) Analysis of truck dashboard
- Provide AutoCAD drawings of assembly line and station layout
- Complete process sheets and task assembly instructions
- Perform a Failure Modes and Effects Analysis (FMEA) of the assembly of the prototype

PROJECT OUTCOMES

- Created a Bill Of Material for the front wall assembly
- Determined that 9 assembly stations, 1 test and repair station, 10 operators and 1 "floater" are needed for the process
- Established tooling requirements with necessary documentation for work stations
- Developed a CAD layout of the process to determine placement of material and allocation of space
- Recommended improvements of ergonomics, line-side communication issues and assembly concerns to optimize the process

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