Industrial Design
Design Engineering

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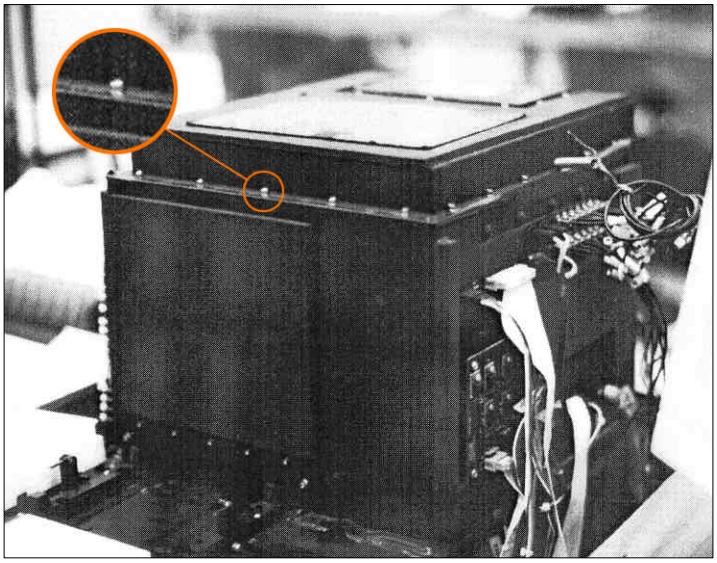
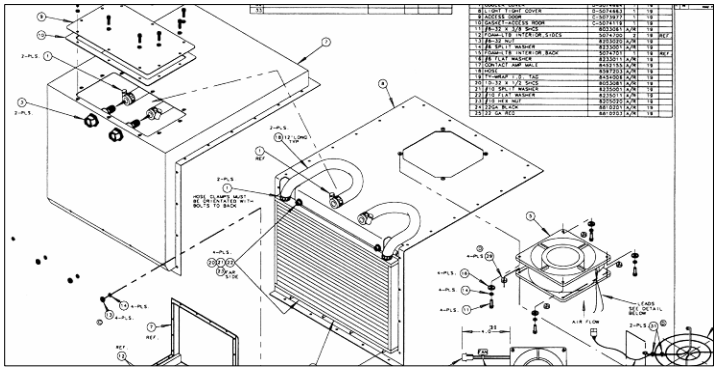
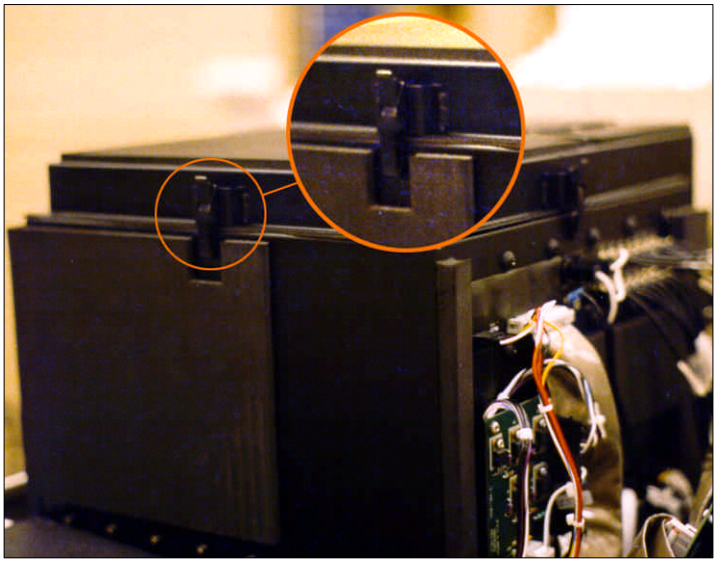
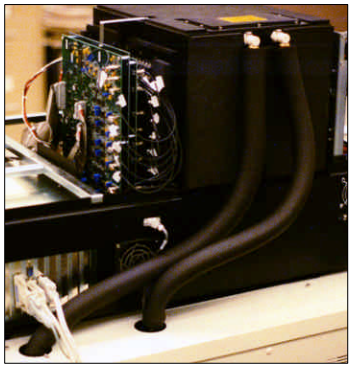
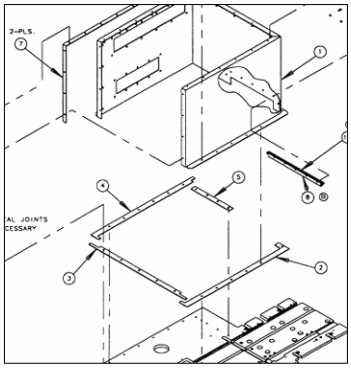
DiMonte Group, Inc.











Packard Bioscience

TopCount Microplate

This High Throughput Micro-plate screening device utilizes sophisticated electronics to analyze Scintillation and Luminescence samples.
The electronics require a completely dark, light tight, counting chamber to eliminate background light. Due to the effort required to remove the screws to open this chamber, service personnel were not servicing the instrument as intended.
And Packard's supplier of thermoformed skins was requesting a price increase due to all the secondary operations required.

Challenges

- Eliminate Screws and sealing tape to ease service access.
- Reduce the unit Cost of Goods.
- Improve performance.

Service Solution.
DiMonte Group experimented with different gaskets and redesigned the chamber to utilize toggle clamps, eliminating the screws and sealing tape from the service path. The new design improved the light seal, reducing background counts.
Design for Mfg. & Assembly.
We conducted a DFMA review of the instrument. Interviewing Packard's mfg. personnel and Vendors to understand costs and processes at their factories, allowed us to focus on redesigning the sheet metal structure and thermo formed skins to eliminate costly secondary operations and unnecessary requirements.
Reduce Cost of Goods.
In the end we reduced the cost of goods for the instrument by 20%, while improving it's: assembly process, performance, reliability, and ability to be serviced.