Contract No:

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Disclaimer:

Scale Testing Utilizing Additive Manufacturing and CCO Pallet

John Bobbitt (Intern), Thomas Lee (Mentor), Monica Philips (Manager), Virginia Polytechnic Institute and State University

Introduction

Scale Models:
This project created models for fit and function checks as well as to evaluate worker ergonomics. The CAD models were split into printable sections and assembled.

Critically Container Over-Pack (CCO):
The goal of this project was to help design a pallet to hold nuclear material packages. Some of the requirements were to make them stackable empty, as well as making an unloading station.

Methods and Materials

Both projects utilized PTC's Creo CAD software. In addition to this GrabCAD was used to fix and ensure the STLs where able to be printed. For scale testing we utilized the Stratasys 450, using ASA material for its strength and it quick printing speed.

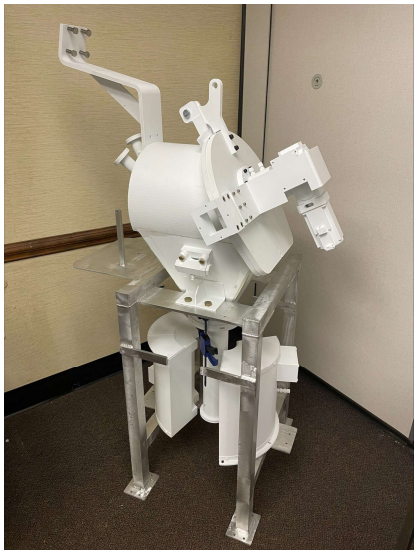
creo®

Acknowledgement

I would like to thank Monica Phillips and Thomas Lee for their mentorship on these unique and challenging projects.

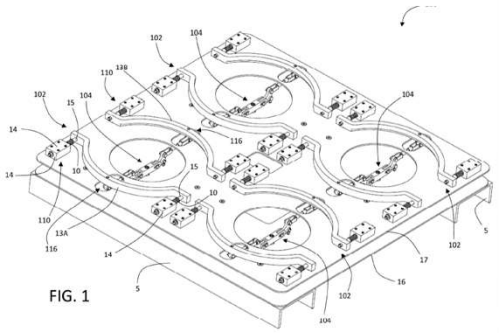
Scale Testing of Systems

CAD Model

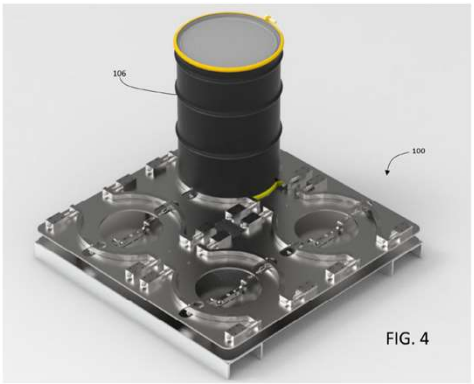


Full Size Fit and Function Model

Criticality Container Over-pack Pallet



Pallet Drawing

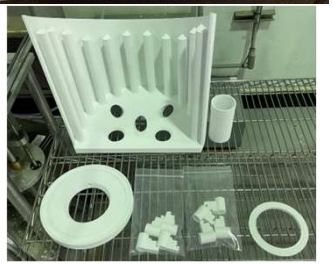


Pallet CAD Model with a Container

Results:

Scale Modeling

The customer will use these mockups to better understand the system and the placement of control systems. This project demonstrated the benefits of additive manufacturing to create low cost, fast, and accurate models.



CCO Pallet

The results of this project was a design of both a pallet stacking and locating pins as well as a pallet unlocking and unloading platform. Next steps will be prototyping and testing with the automated machines.