Summer Internship at Progressive Technologies
Rob VanderVennen, Junior, Mechanical Concentration, Calvin College

Introduction

This past summer I worked at Progressive Technologies Inc in Grand Rapids, MI. PTI is a local company that designs, manufactures, and markets surface treatment machinery several different industries including aerospace and military.

My internship as a floor engineer included 3D solid modeling, using CAD software, solving problems on machines, and designing improvements for machines.

Job Description

As a floor engineer I learned the basics of manufacturing, design, automation, and machining. Every day I worked with project engineers, welders, and assemblers solving problems on machines. It was my responsibility to make sure all of the machines stayed on schedule and all problems were solved in a timely manner. After a solution to a problem was found I redesigned the parts using 3D modeling and CAD software and had the machine shop remake parts as necessary. My job as a floor engineer was a great experience and gave me a lot of knowledge about the design and manufacturing aspects of engineering.

Projects

Some of the projects that I helped work on were waterjet cleaning facilities, grit blasting facilities, and shot peening facilities.

WaterJet Cleaning- Used for the removal on material, coating, or contamination using pressurized water of 30-60 ksi. This is primarily used on turbine engines for companies such as Boeing and Delta.

Grit Blasting- Uses abrasive media, accelerated with pressurized air, to prepare a surface for surface treating. Used by companies such as Caterpillar on hydraulic lift arms before chrome finishing.

Shot Peening- The process of cold working or hammering the surface of a material with small spheres of steel. Used in mainly for gears for companies such as John Deere.