limbRevolution.CAD

Prosthetic Design, Inc.

Contents

0.1 Introduction

Prosthetic Design, Inc. (PDI) was established in 1991 soon after the inception of CAD/CAM, silicone liners, and high profile energy storing feet. These three advances created a need for modular, low profile, multi-task components to optimize the performance of endoskeletal lower extremity limbs. It has been our mission to fulfill this need and to supply the industry with universal solutions that create flexibility in limb design, high quality socket reproduction and maintain a value in the time vs. material equation. We are known throughout the industry for our practical elegance, original concepts, clinical inspiration, patient proven products, and dedicated to unparalleled customer service. Our creative, dedicated staff responds to clinicians needs and ideas to bring them to reality at the patient level. Since early 2000, PDI began leveraging additive manufacturing technologies and methodologies to increase the industries bottom line by cutting manufacturing costs. Our staff, industry collaborators and academic collaborators have all played a role in the success of this technology. We welcome bright minds, and we are excited to teach, learn and collaborate with anyone passionate about delivering quality and cost effective lower extremity prosthetic solutions. Contained in the accompanying package is knowledge generated over years of research, development, and design at PDI. The accompanying package contains a general overview of our mythologies and technologies in addition to detailed software and hardware descriptions and step-by-step instructions. PDI currently uses Ohio Willow Woods Omega Tracer CAD software to design prosthetic sockets and liner mold models. Files from Omega Tracer formatted using The American Academy of Orthotics and Prosthetists standards (i.e., .aop), are converted using PDIs in-house tested software to a .tap file format, a format widely used in the CNC industry. Tool path instructions contained in the .tap file are communicated to our additive manufacturing machine by Mach 3, a PC-based machine control software. In the near future, PDI will launch their beta CAD and hardware control software, mitigating the need for third-party software thus streamlining our additive manufacturing process. In addition to the detailed descriptions and operation instructions, the accompanying package also includes our suggested machine operation safety guidelines and known failures. Additionally, the safety guidelines and the known failures for our printed technologies are included. For additional information about PDIs other lower extremity prosthetic solutions including our elevated vacuum locking system and carbon fiber adapter plates please visit prostheticdesign.com. Further questions can be sent to our engineer Tyler Fosnight at fosnight@prostheticdesign.com. Additionally, our open source CAD software, hardware control software, and software documentation (while still under construction) can be found at https://github.com/fosnigtr/limbRevolutionCAD. PDI looks forward to continuing our mission to deliver cost effective and high quality solutions. We are enthusiastic to collaborate with your talented faculty and students as we, together, improve the lower extremity prosthetic industry. Kindest regards, Prosthetic Design, Inc.

0.1.1 ???

0.1.2 Changing the Layout

If you want to use a layout different from the ones distributed with LaTeX, you have to take the following steps:

1. The layout has to be defined. This is usually a job for a professional designer.

→ Chapter ??

You can find detailed information about how change the design in chapter **??**.

2. The layout has to be programmed in LaTeX. This can either result in a "package" that changes the behaviour of a standard class, or in the definition of a new "class". `Refman` used to be a package that changed the definition of the `article` class but is now a class of its own. When writing a new class, you will have more work, but as a result more freedom to change things.

→ Chapter ??

Chapter **??** contains more information about the new layout.