

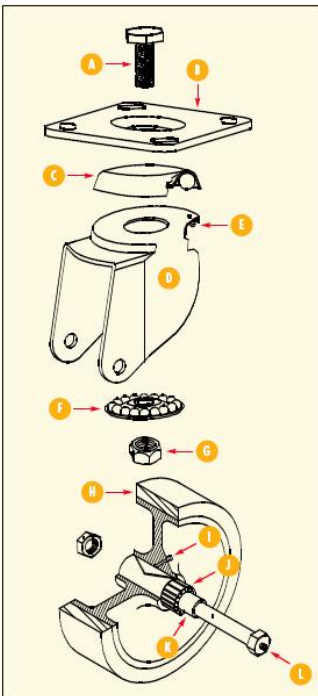
IPRO 312: Rapid Manufacturing of Casters

Sponsored by Colson Associates

Before this IPRO began, most of the members expected a project that dealt with rapid prototyping and how it could be used in production tooling, but after the first couple of classes, we realized that our mission was bound to change. Following a talk with Mr. Robert Pritzker, owner of Colson Associates, we finally realized the point of this project. He wanted us to produce special order casters in a matter of days instead of weeks. A special order would consist of any order where the caster is customized to the customers' need.

Our Goals

- Research how casters are presently made
- Explore how certain parts of today's caster design can be produced more rapidly
- Investigate alternatives to powder coating and heat treatments
- Create a new caster design that can be used for both series and how that caster can be manufactured



Challenges & Solutions

- Clarifying what our sponsor wanted out of this project
 - We met with Mr. Robert Pritzker on Jan. 31, 2006 and asked him several questions that helped us clarify what he wanted from this IPRO.
- Finding technologies that can help produce a caster more rapidly
 - We broke down into groups of two or three members and were assigned a specific part of the caster with the exception of the wheel. Each team was to research recent technologies that could possibly produce their part quicker.
 - On Feb. 7, 2006, each group presented their findings to the rest of the class.
- Designing a new caster that can be a special order and still be manufactured within 24 – 48 hours.
 - Three teams created concepts for a new caster. They also defined the manufacturing process of each concept.

Future Plans

Future plans for this project would include financial estimations for each design created to analyze whether or not the designs are beneficial for the company. Future research would also include rapid manufacturing for the wheel, which was ignored this semester due to time constraints.