Engineering Application Exercise

Course:

- University of British Columbia, MECH 223 (Mechanical Design Introduction)
- Second-year core course for Mechanical Engineers
- Approx. 125 students in 20 teams

Activity Objectives:

- Evaluate the design of a common device in terms of established "Design for Assembly" guidelines
- Identify and rank violations to the guidelines

Activity Duration:

- Approx. 30 minutes team work time
- Approx. 20 minutes class discussion and instructor-led debriefing

Activity:

- Disassemble an ink jet printer and evaluate the design in terms of suitability for assembly
- Identify the component with the most significant violation to the guidelines for Design for Assembly

Reporting and Debriefing:

- Teams reported their selected component with most significant violation
- On a tablet PC, instructor labelled each team's selected component on a digital image (hidden from the class)
- The instructor projected the composite image with each teams' component identified – facilitated discussion followed.

Design for Assembly

- **Carefully disassemble** the Lexmark Z615 printer provided and examine the components
- **Identify the component** with the most significant violation of a Design for Assembly guideline (i.e. the component that if redesigned would benefit the assembly process most)

- **Report** your component to the instructor before 10:30am. A class discussion will follow – be prepared to justify your choice.