



Automotive Style Cab Door Windows

Sponsor: Kyle Bushue, *Hyster-Yale Group (HYG)*

Background:

Hyster-Yale is one of the leading global manufacturers of counterbalanced forklift trucks and has a product development center right here in the Pacific Northwest near Portland, OR. These forklifts integrate several complex systems including structural components, hydraulics, electronics, engines, and drivetrains.

The focus of this project is on forklifts that are specifically outfitted with enclosed cabs for operator comfort. The cab doors on the current lift trucks incorporate a horizontally sliding window for ventilation, but this design restricts the location and opening size of the window.

Objective:

The objective for this project is to create an improved window design within the existing door geometry that provides a larger opening and better air flow for operators while still being easy to open and close.

Project Scope/Deliverables:

The student team will be empowered to do the following:

- Develop a proof-of-concept design that can be installed on the LH cab door of a forklift truck (see image)
- Incorporate adequate sealing, rattle abatement, and other features consistent with what you would expect from an automotive quality window.
- Build a functional prototype and execute a formal jury evaluation with members of HYG design, test, and operations teams.

This project offers the opportunity for students to work on a real-world product development challenge, and potentially inform future development of a novel solution that may be implemented on a diverse product line sold around the world. Students will be encouraged to take a systematic and scientific approach to figure out the best solution for the objective.

For the jury evaluation, students will have the opportunity to travel to the Hyster-Yale Counterbalanced Development Center in Fairview, OR following EXPO in the Spring semester to present their findings.

Budget: Students will have up to \$2,060 to spend on travel, materials, and supplies.

Engineering Disciplines: ME

