

BUSTER!

A Bridge Busting Competition Machine



Buster! A Bridge Busting Machine

- Benefits of Bridge Busting
- The Need
- The Challenge
- The Solution
- The Cost
- The Results



Benefits of Bridge Busting

- Engineering Principles
- Competition
- Offer Kids an Activity
- Community Outreach
- Media Awareness



The Need

Previous Competitions

- Limited Testing Arrangement
- Limited Force applied
- Clean-up/Safety
- Testing Time



The Challenge

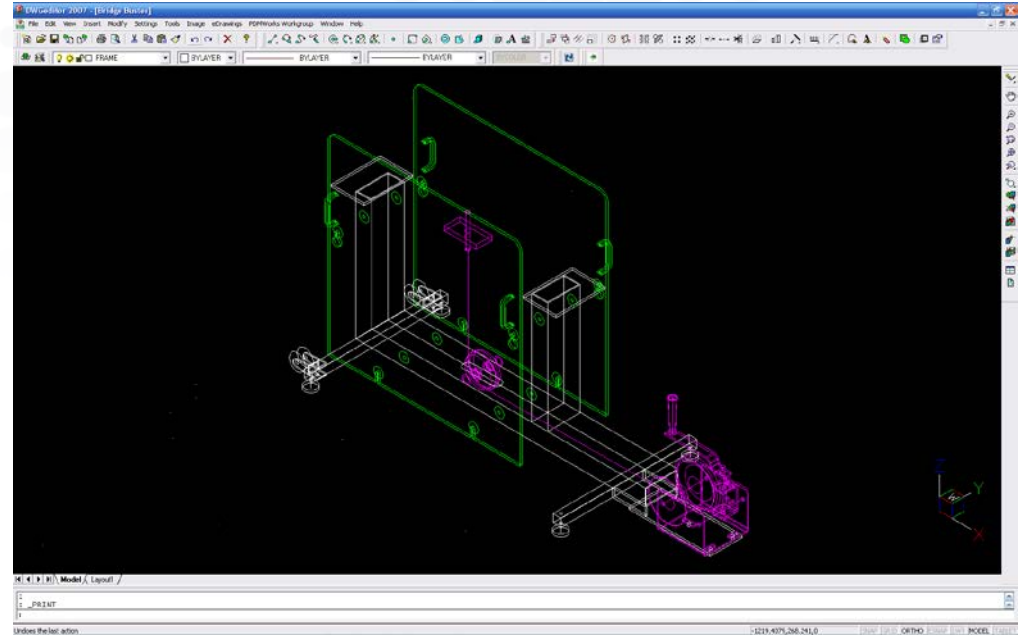
- Technological, Professional
- Safety!
- Ease of Transport
- Quick to setup, reset
- Record Results
- User/Audience Participation



The Solution

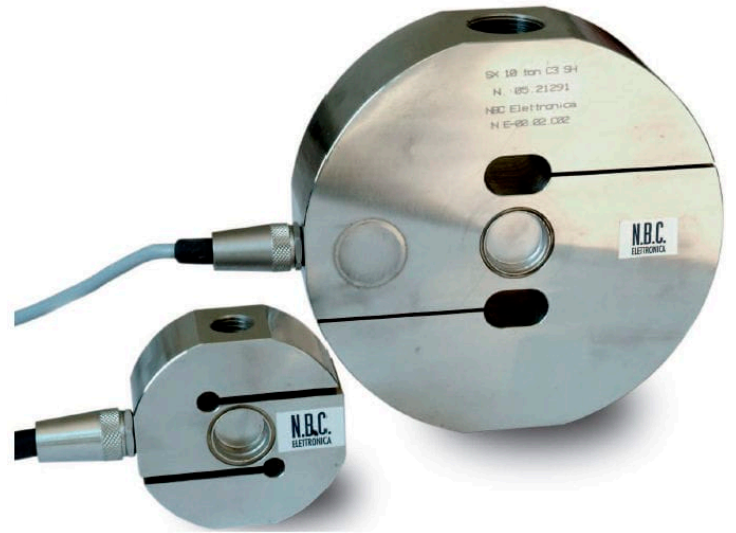
PEO Thousand Islands Chapter: John Ireland, P.Eng

- AutoCAD, MathCAD
- 1000 lbs Max Load
- Arc-welded Steel
- Guards for Safety
- Winch and Cable



The Solution

- S-Beam Tension Load Cell
- Laptop Interface
- FUTEK USB 210 Device
- MS Visual Studio Program
- Project Real-time results
- Store results in Database



The Cost

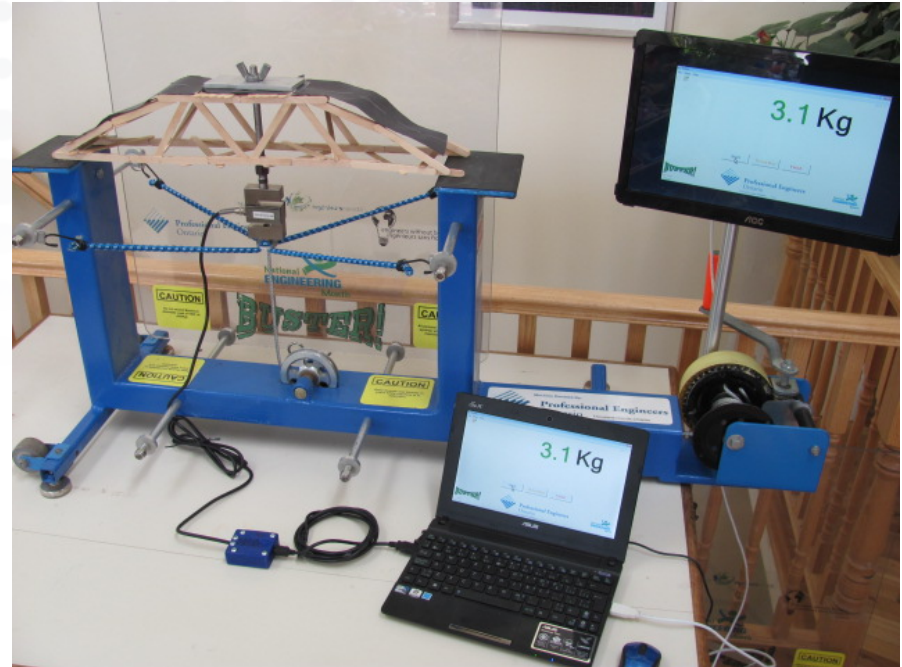
Fabricated Frame

- Winch and Tension Cable
- Shield and Suspension Springs
- Wheels and Leveling

Instrumentation



Total: \$5000



The Competition

First 2016 Niagara Competition

- Held March 19, 2016
- Held at YMCA in STC
- 15 Bridges Busted
- Many buttons made
- Many juices boxes drank



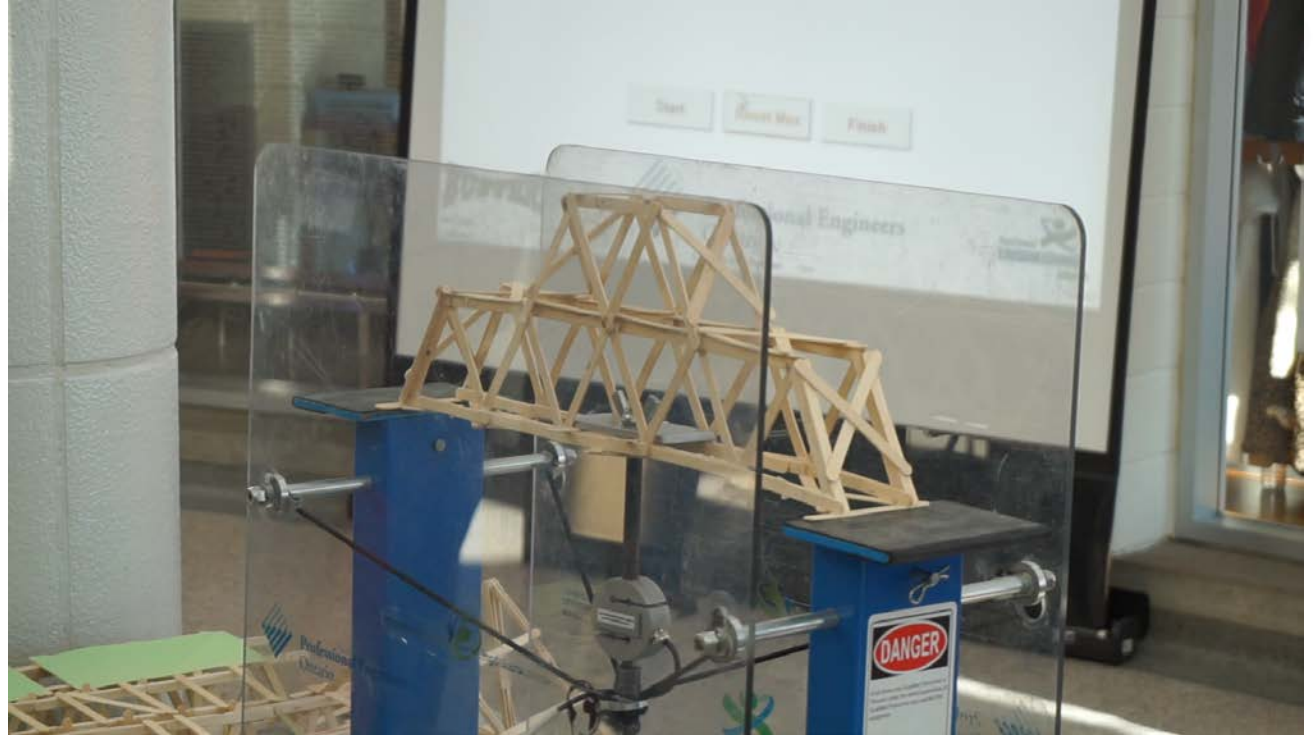
The Results



The Results – STC 2016 Champion



**Wyatt Lee,
10 years old**



Conclusion: Kids can inspire adults