

A large, complex metal structure, identified as a mobile mega ramp, is being assembled in front of a log cabin. The structure consists of a tall vertical support frame on the left, from which a long, inclined ramp extends upwards and to the right. The ramp is supported by a series of horizontal and diagonal beams. Several orange straps are visible, likely used for securing or moving the structure. In the background, a log cabin with a brown roof and a blue door is visible. To the right, there is a white garage door. The scene is set outdoors under a clear blue sky, with green trees and foliage visible in the upper right corner. A person wearing a yellow safety vest is partially visible near the garage door.

Mobile Mega Ramp

Jack Casdorff

Overview

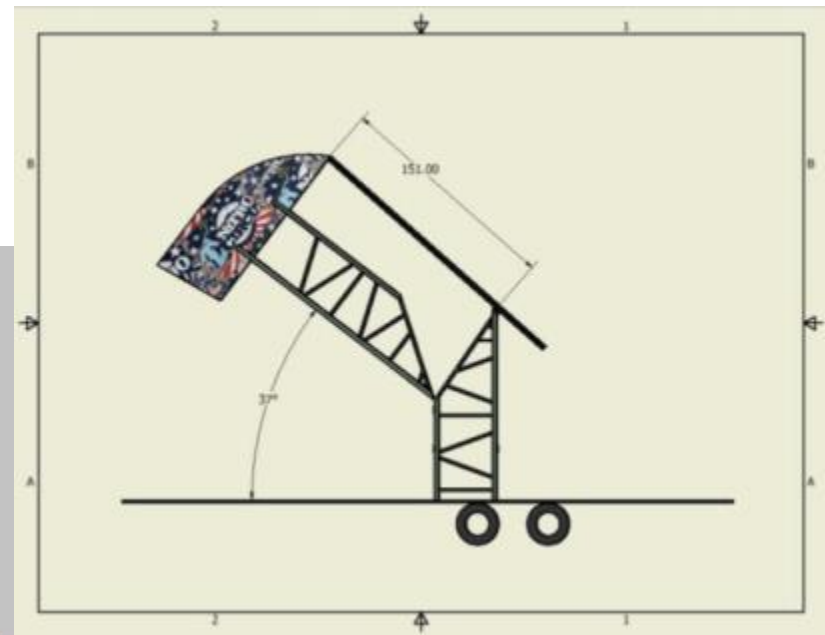
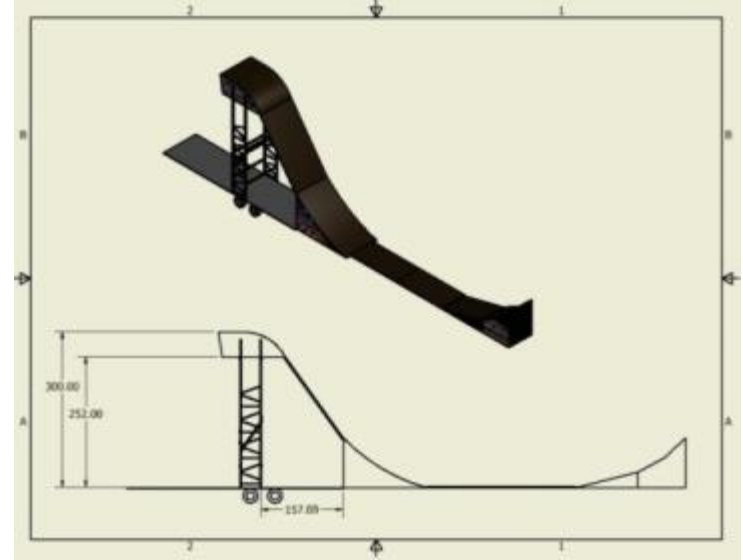
- Jared Willardsen approached CASSCO Inc., the company that I worked for, and asked us to create a Mega Ramp (a ramp that allows BMX riders, skateboarders and other daredevils to build up speed for spectacular jumps and tricks)
- The mega ramp had the following major constraints:
 - Must be 30 feet tall at assembled height
 - All major components must be able to fit onto a trailer in order to be hauled to events all over the western US
 - The trailer and everything on it must be within legal hauling dimensions
 - The ramp should include an intermediate height of about 15' for amateurs
 - The ramp must be assembled or disassembled on-site in various locations with little to no use of tools.

Design

- Because of my ability to use CAD programs, make force calculations, and general understanding of engineering principles, I was placed as head designer of the project.
- My boss and I met with the customer many times, went over drawings and ideas, and revised the design to meet the customer's needs

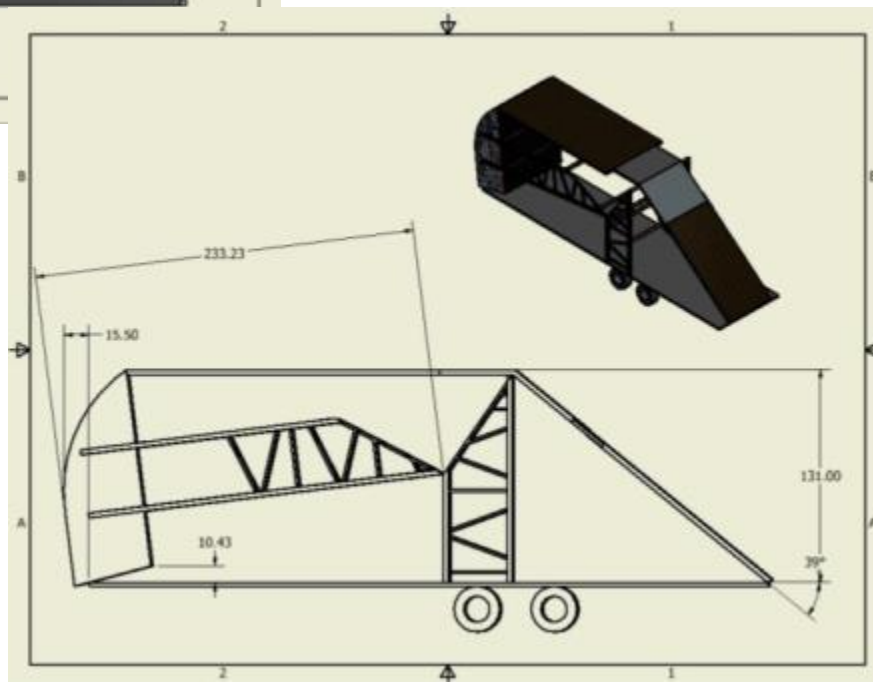
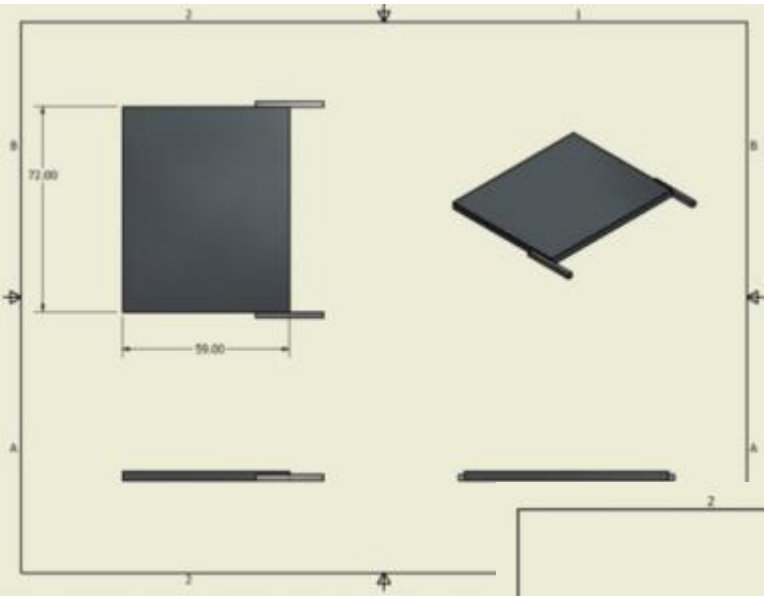
Basic Design

I drafted all major components in Autodesk Inventor, and submitted the plans for approval with both my boss and the customer. The design featured a large upper section that would fold down for transportation and be raised by an electric winch on-site



Working Drawings

I made dimensioned drawings of all parts, so that they could be made and assembled



Construction

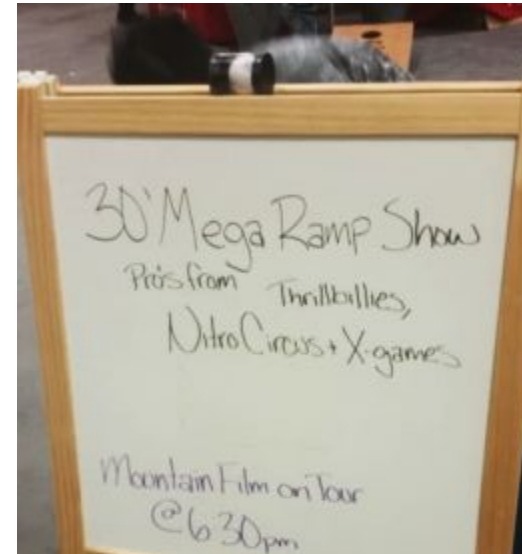


Finished Frame



Debut at Sowthtown expo center in Sandy, UT

- The ramp got its debut at the Adventure + Gear expo with professional athletes from Nitro Circus, The Thrillbillies and the X games trying it out for the first time in front of a couple hundred spectators.



The Salt Lake Tribune



Utah Adventure + Gear Expo

More than 80,000 square feet of displays, demos, exhibits and activities on all things outdoors. This season's expo features extreme sports athletes from MTV's Nitro Circus and Fuel TV's Thrillbillies showcasing their skills on a 30-foot mega ramp. Information, www.adventuregearexpo.com/.

When: Noon to 9 p.m. Friday, 10 a.m. to 8 p.m. Saturday

Where: South Towne Expo Center, 9575 S. State St., Sandy

UTAH ADVENTURE + GEAR EXPO DEBUTES FUEL TV'S THRILLBILLIES MINI MEGA RAMP AT THE 2014 WINTER EVENT

The winter Adventure + Gear Expo begins November 7 for a weekend of extreme sports demonstrations, local adventure gear brands and retailers, and activities for all thrill seekers

SALT LAKE CITY—OCT. 30, 2014—The 2014 Utah Adventure + Gear Expo opens its doors for another season of outdoor adventure and mountain recreation on November 7–8, 2014 at the South Towne Expo Center. Presented by Toyota, the Adventure + Gear expo is the largest public expo in the state for outdoor action sports, recreation, outdoor gear, and resources, which includes skiing, snowboarding, cycling, mountain biking, running, camping, climbing, and adventure travel.

This season's Adventure + Gear Expo welcomes well-known extreme sports athletes from the X-Games, MTV's Nitro Circus, and Fuel TV's Thrillbillies to showcase their skills on a 30-foot mega ramp. Also, for the first time at the Adventure + Gear Expo, a 15-foot mini-mega ramp jump to a cushioned air bag landing and the Thrillbillies base-jumping experience will be open to the public all weekend.

