

## **Application Essay Example (Common App): Building Projects**

When I was 12 years old, I got a mini-bike and rode it everywhere. Soon, I had to rebuild the single piston engine. It was my very first “engineering” project. A few weeks later, the engine blew up between my legs while I was riding down the road. This forced me to save up money to purchase a new engine, but that was okay. I learned how to rebuild an engine AND that I should not remove the governor - the device that adjusts the throttle!

Another one of my projects was building a bridge over a creek that sits on our property. I was a high school freshman, and this was much bigger than my mini-bike experiment. I drew up my ideas and presented them to my dad for approval. With the help of some friends, we used twenty-one feet long, old telephone poles and 3/16 galvanized steel plates to create a structure that covers an eighteen-foot span and has survived several major flooding events.

One of my latest projects was building my first rocket out of miscellaneous parts I found in my family’s garage. I welded, soldered, and riveted the pieces together and fueled the fuselage. I later realized I accidentally made somewhat of a bomb, so I redesigned the rocket nose with a PVC pressure relief. It was not until I modified the sugar to potassium nitrate ratio that the rocket took flight. One of the valuable lessons I learned through my rocket experiment was the importance of safety measures...and to immediately tell Dad AFTER it blows up!

To help me learn more about engines, my father purchased an old 1992 Toyota pickup for us to fix up. When we purchased the truck, we did not anticipate the extent of rust and neglect, so instead of junking the truck, we got a 220-volt MIG welder and learned how to weld. I had to cut the rotten frame and weld in patches. I had to visualize how the brackets would be

welded together before I cut the rust out of the frame. The frame is now stronger than when it rolled off the factory floor!

My most recent project took me to new heights...literally. I built a 55-foot tower for access to broadband addressing the nonexistent WIFI issue we have on my family's rural property. After online research and reviewing the manufacturer's design specifications, I drew up my plans and took them to my dad for approval. I discovered that I am not fond of heights, but this project taught me that one could overcome fears as long as you take safety precautions. We hope to have broadband soon!

I feel like I have been preparing for engineering school ever since I took apart my mini-bike's engine. I have learned many things from each project, and now I feel I am ready to move to a higher level of learning to develop my engineering skills. My projects helped me and my family, and now I want to be able to help others. To do that, I know I need to move on to my next project – college.