Hydraulically Driven Log Splitter Killian Quinn – K00287615

Aim of Project

The aim of my project was to design and manufacture a hydraulically driven log splitter that can be mounted to the back of a tractor.

Background

Market Research

Malone Engineering Ltd. Have had a market leading log splitting product for many years. The company has grown massively in Ireland and the build quality of their machinery is second to none. Their log splitter is sturdy and powerful and the product I would choose if I was to buy one.



Acquiring the Materials

I took some base measurements and created my design adding in my own measurements. I then created my cutting list for my steel.

Process

I Began by cutting out and drilling everything I needed to before I started welding. I chose a 14 Ton Ram as most other companies use these.



During the making of the components, I used a band saw, plasma cutter, pillar drill, angle grinder and a few other pieces of equipment.

| <u>Item</u> | Quantity | Size |
|-------------------------|----------|----------------------|
| RSJ / H Iron | 2 | 1800 x 180 x 90 |
| 50mm Box | 1 | 850 Long (Heavy Box) |
| 8mm Sheet | 1 | 500mm x 500mm |
| 6mm Sheet | 1 | 1350mm x 550mm |
| 10mm Sheet | 1 | 900mm x 700mm |
| 10mm Sheet | 1 | 360mm x 360mm |
| 10mm Flat | 1 | 650mm x 150mm |
| Cat 2 Male Threaded end | 2 | |
| Top Link Pin | 1 | |

After making all the components, I then started welding. I had to change a couple of things during the assembly that I knew would improve my initial design.

















Ollscoil Teicneolaíochta na Sionainne: Lár Tíre, An tIarthar Láir Technological University of the Shannon: Midlands Midwest

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Conclusion

I've enjoyed the process so far and everything has gone pretty smooth. I have welded up most of the splitter now and need to weld on the link system, table supports and the holder for the control valve. After I pipe it, it will be ready to test and then paint.

