UNIVERSITI TEKNOLOGI MARA

DESIGN AND FABRICATION OF PLASTIC WASTE CRUSHER

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ABSTRACT

This project aims to develop a plastic waste crusher that could help in crashing plastics. The crusher could crush several items such as plastic bottles where the main material for this object is plastic. A plastic waste crusher is a machine that helps in crushing plastic waste manually. People usually have a problem crushing their own plastic waste because they think that it causes a lot of inconvenience where one needs to crush it by themselves, and it needs a lot of energy to crush it. The method of making this machine is using a lot of machining processes such as joining and welding to produce a good and strong product. Any plastic waste can be put into this machine and the machine can help to crush the plastic into tiny pieces. It is more cost-effective when people crush their own plastic waste before throwing it out. Even though it may seem not important, everyone must know that there are many advantages to crushing the plastic waste before throwing it away. Other than that, this machine can also help small industries to crush their plastic waste and help to reduce the volume of plastic waste. In conclusion, this product will bring such a huge effect to the community and environment where it will make it easier for humans to crush the plastic waste and save the environment from plastic waste pollution.

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INTRODUCTION

1.1 Background of Study

Plastic waste crushers nowadays are compulsory, especially for helping house chores in clearing plastic waste. As many can imagine, crashing plastic is tiring and takes a lot of time. However, it is easy for machines to help humans in crashing the plastic waste. Maybe some people think that making this machine is a lot of hassle, but it is not impossible to produce this machine and it can be produced with a low-cost budget.

Recycle industry factories, garbage dump places and many factories have machines that can help them to crush plastic waste in a huge amount unlike plastic waste crusher machines that only are made to crush small amounts and small size of plastic waste so it will be convenient for individual and maybe small companies. These machines are typically huge in terms of size and require a small amount of energy to generate the machine. For small companies, the most famous machine in the market is called STPLAS but it costs higher and needs higher energy to generate it because it is using electrical energy because of higher intensity in crashing the huge amount of plastic waste. Our design is so affordable to achieve the similar function but in smaller amounts and lower energy consumption.

In this project, a plastic waste crasher that can save more cost is proposed. This is a very useful system for small industries or companies that use minor usage of plastic waste in producing their product. The plastic waste crasher uses a spinning handle, and the user needs to put the plastic waste itself at the crashing chamber, then the user needs to rotate the spinning handle to move the mechanism to crush the plastic into a tiny volume. This helps in reducing the volume of plastic waste. This design required little forces to crush the plastic waste.