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FIXTURE DESIGN IN HOLE MACHINE AT PT. FLEXINDO PLASTIC KARAWANG

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Abstract
The hole machine is a punching machine that is specially designed to punch holes in plastic bags, this machine is driven by a cylinder. Fixture is a tool that serves to direct one or more cutting tools in a position that is in accordance with the process of working on a product. After designing the fixture, the size of the fixture is 10mm thick, 900mm long, and 800mm wide. And the material used is multiplex, because this material has a smooth surface so it will not damage the texture of the plastic.
Keywords: *fixture design, hole machine, plastic hole*

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Introduction

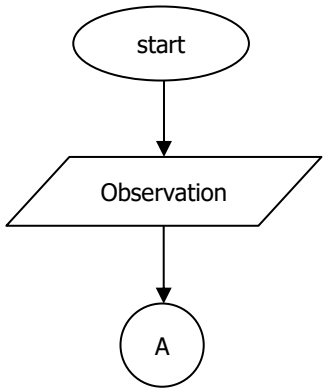
In the current era of globalization requires people to work effectively and efficiently it aims to achieve the maximum amount of production. Therefore, many parties are competing to create or develop technology that can be used effectively and efficiently, many new tools are made by people. This is intended to assist and simplify the work process. In addition to the work process, production results are also demanded for fast results, low costs, and can meet consumer demands so that their business can continue to run.

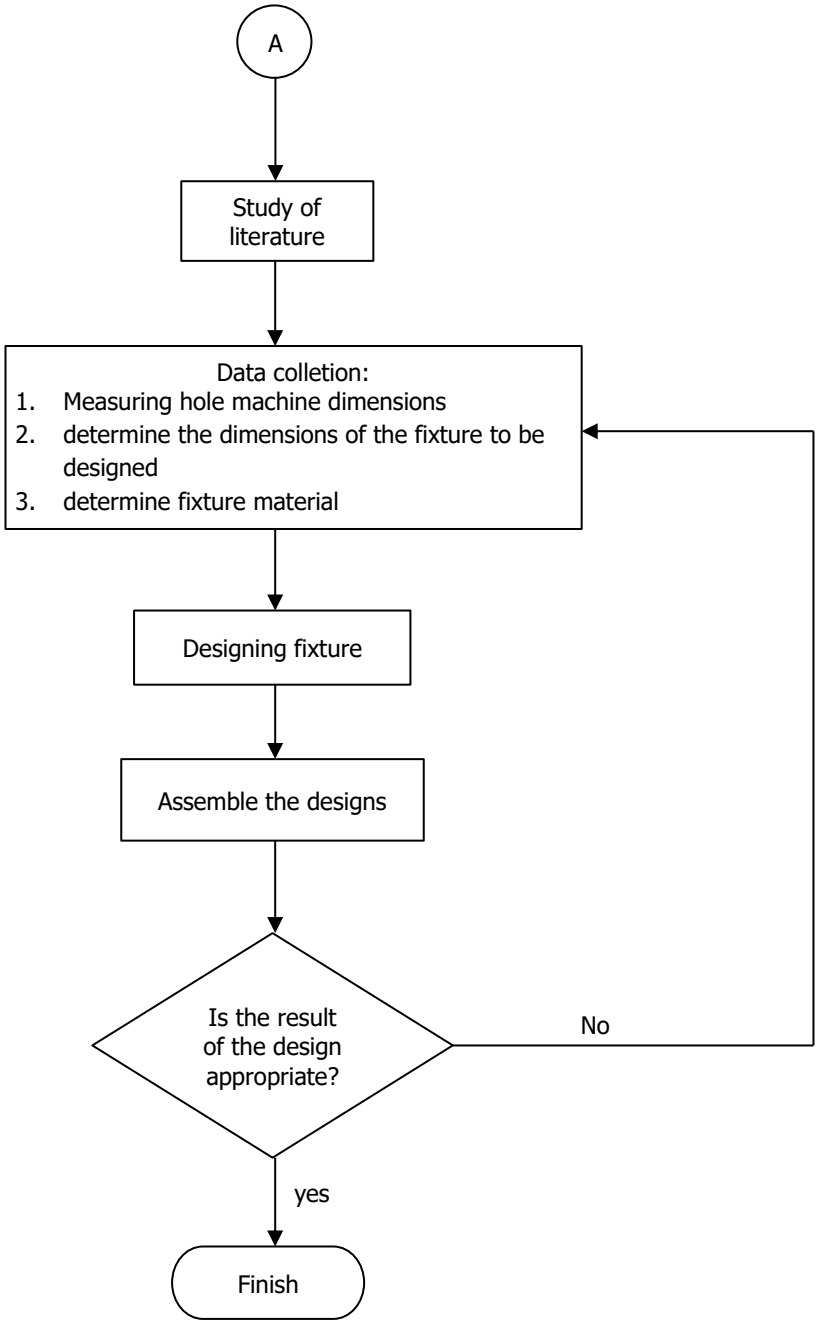
Currently at PT. Plastic Karawang Flexindo (PT. PKF) in plastic production there are several processes, including; Blowing, Cutting, Hole and Printing. In the hole process, less than optimal tools are used where the parts used are uneven, thus hampering the production process. With such an uneven surface, of course, the process of making holes in plastic will make it difficult for the operator because they have to adjust the plastic surface first, this will certainly take time which causes the production process on the hole machine to be less efficient.

From the situation above, the writer's interest is to help solve the problem, namely how to make the production process on a hole machine faster. Alternative assistance that can be done is to create a flat fixture so that it can make it easier for the operator. This fixture can make the production process on the hole machine faster.

Research Method

Process flowchart is a method used to present in the form of a flowchart or actual sequence a series of events in the process or service provided (Albert R. Robert: 2 2009). To design a fixture on a hole machine, the following is the flowchart:





Results and Discussion

Based on the research, the design results obtained:

The hole machine is a punching machine that is specially designed to punch holes in plastic bags, this machine is driven by a cylinder. The hole machine is a fairly economical piece of equipment when viewed from the performance achieved, especially for projects that are quite large in perforating plastic bags when compared to punching holes in plastic bags using human manual labor

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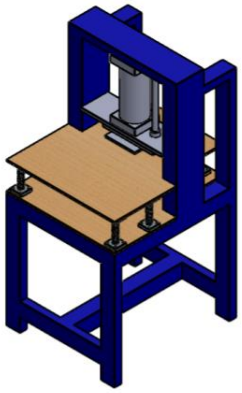

Figure 1. 3D design machine hole

The frame is the basis for the production of an object, as a support for parts such as machines or electronic equipment for the object. The frame on the hole machine is made of iron plates arranged in such a way that the design is in accordance with the function.

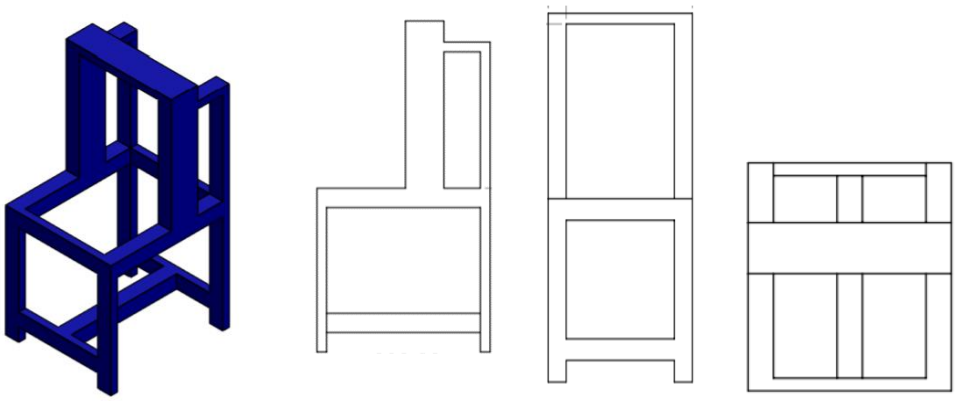

Figure 2. 2D and 3D design of frame machine hole

The frame of this hole machine has dimensions:
Leg height : 85 cm
Total height : 171 cm
Width : 80 cm

Fixture is a tool that serves to direct one or more cutting tools in a position that is in accordance with the process of working on a product. In the production process, fixtures are often used in the process of forming or cutting either in the form of perforation or expansion of the hole. This auxiliary tool is equipment that is permanently attached to the main engine.

Figure 3. 3D and 2D design fixture

I recommend using multiplex for this fixture because it has characteristics that are suitable for fixtures, namely having a smooth surface, water resistance, strong enough and relatively cheap price

Conclusion

Some conclusions that can be written are as follows:

1. The fixture is 10mm thick by 900mm long and 800mm wide
2. The material used is Multiplex because this material has a smooth surface so it will not damage the texture of the plastic, has a fairly hard strength and is able to withstand the plastic load that will be holed, has water-repellent properties and has a relatively cheap price.

Reference

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