V-Rod Design

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In the movie, the engineers at Harley Davidson decided to make a new model of motorcycle. A couple of the problems that they had determined were loss of sales, the rise of competition, and the need for a faster and still stylish motorcycle. Harley Davidson collected a team of their best engineers to research the problem. More problems were the cooling system had to be effective, the seat wasn’t fitting the frame, they needed a bigger gas tank, and the exhaust system was inefficient.

They suggested to first use a stronger engine, and then design a brand new frame around that. The naming process was all brainstorming, going from first the P4, then getting the nickname “Digger”, and finally resulting in V-Rod. They brainstormed the design of the cooling system, using cardboard as fins to funnel the air. They had to brainstorm different locations for the gas tank to fit more fuel in less space.

The team worked with Porsche on the engine, and had to compromise because Harley Davidson’s ideals weren’t all obtainable, showing that there is a fine line between expectations and reality. The entire design of fitting the engine had to be a compromise between the entire team. The name was derived from the combining of two ideas: The VR1000 engine and the bike having the style of a dragster like a Hot Rod.

Before actually constructing the prototype, the engineers designed their computer models. The advancements in technology allowed for a 3d interactive program on the computer. With the computer model, it was easy for the manufacturing engineers to build the first prototype. Also they used an aluminum-based clay model to illustrate the frame.

Some of the tests the team used were having it drive 500 miles straight, and having it withstand heat. When a test failed, such as the first time using the racing engine with the proportionally weak frame, they had to restart the cycle and redesign. They used the autobahn, a limitless highway, to test the bike’s speed. The design team rode the bike themselves for a first-hand testing experience.

Within the creation of the V-Rod they repeated the cycle hundreds of times to finally construct the model that could go on sale.