Consumers were looking for a new motorcycle from Harley. With many new motorcycles going faster such as Suzuki and Ducati, Harley needed to keep up by introducing a brand new bike that would be comparable to their competitors' speed bikes. They needed to develop a bike that would keep the preexisting customer base all the while developing something completely different.

Harley ran into many problems when coming up with a new design. They needed to come up with a whole new bike while maintaining the classic Harley style. This was difficult because Harley had never come up with this type of bike before, so they had to design it from the ground up. They would need to build this model so that it kept the signature Harley look that the customer base was looking for while also providing the speed that they wanted.

The team developing this bike turned to their speed bike race team to find characteristics of their bike that would be useful in producing this new consumer level speed bike. When developing the frame and body of this bike, they looked at previous popular models to come up with similar characteristics from those bikes to put on this new model.

There were many new ideas that came to the forefront of this bike. The team had to first design the frame then the body would follow. They introduced a dual rail on the top of the frame to provide better stability over a single rail. The team also wanted to put a fast engine into the
bike so they took the idea of the VR1000 from their race team's bike to use for this new model. With a faster engine they knew they needed to provide better stability so that the rider would not lose control of the bike. One thing that they thought would solve this problem was increasing the angle of the front forks.

The stylist team and engineer team had to compare and combine ideas in order to come up with a final product. The stylist team would want something to happen and the engineers would often say that it wouldn't work. Harley partnered with Porsche to come up with an optimized engine that would meet regulations but also provide the same power that the VR1000 provided. Between the many teams at Harley there was a lot of communication going on to make sure that ideas and concepts were heard and tested.

The stylist teams and engineers would fabricate the ideas using either clay or CAD programs to make virtual models of the bike. After virtually designing the model, they would then move to fabrication. Many times the engineers would build something that was functional, but the stylist team would come back and tell them that it doesn't look right and that they need to redo that part of the bike. At that point, the stylist team and engineers would work together to design with something that they could both agree on. After that, fabrication of the final design would take place and tested it to see if it would work. They would test the individual parts and style first, then add them onto the overall bike. Piece by piece of designing and redesigning, the bike started to come together as one machine. The process was trial and error until they came up with solid ideas. Some things that needed to be solved were problems with the fuel tank location, the radiator, the amount of space available overall, the exhaust pipes, and the materials. The final bike was pushed to its limits under a series of rigorous tests. These tests insured Harley that the bike would be market ready and would hold up under the elements.
Harley communicated their design many times during the engineering process by using CAD and clay models. Once the design was finished, they unveiled their new bike to the public at a Harley convention. This communication showed the public their wonderful new bike.