

Redesigning the Razor Scooter

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Abstract

The Razor A-Type Foldable Kick Scooter was designed to improve the safety and maneuverability for the user. After research and consumer input, it was deemed most important to include an attached cup holder to allow the rider to use both hands since instability is a major issue while riding the scooter. This addition increases balance and the safety for the constomer. The base was then run through Inspire, an optimization program. After several tests and load cases, Vulcan Engineering found that the original base was just as, if not, more safe than the redesigned part proving both to be sufficient, especially since the load simulated was a 200lb person, above the recommended weight for the average rider. This comparison can also be made in reference to the displacement, which is highly similar in the original and redesigned bases. The new base however, would be optimal for older customers who favor aesthetics rather than recreation. In the future, the company hopes to tackle more of the user un-friendly aspects of the scooter like the wheel thickness. Conversely, the cup holder is extremely effective and will allow various sizes of cups and/or bottles and smaller objects to be securely held, free from major sway without interfering with vital mechanisms, the team plans to further perfect the holder by using a double screw set up rather than a single to secure it further. Vulcan Engineering worked to better the product for the user and meet their demanded needs.