

ns This study aimed to conduct calculations and testing on two aerodynamic attachments for a motorcycle using SolidWorks software. While SolidWorks simulations provided fundamental insights, further comprehensive analysis and real-world testing are necessary to verify and refine this data. While the initial focus was on understanding the impact of aerodynamics on motorcycles, testing revealed that the second component didn't decrease drag as anticipated and failed to improve stability. SolidWorks simulations have been crucial in assessing the reliability of aftermarket parts, accurately modeling bike dynamics including wind factors. The 29 initial component demonstrated favorable outcomes in reducing drag forces and enhancing efficiencies, whereas the second fell short of expectations. This new design not only surpasses its predecessors but also delivers optimal results, markedly enhancing efficiency while significantly reducing drag force and drag coefficient in a professional and clear manner. SolidWorks, while a powerful tool for initial assessments, is just one part of the broader validation process necessary for ensuring the reliability of aftermarket components. An alternative method sheds light on the conceptual design of these attachments, illustrating the complexity of aerodynamic design processes.