

# Designing a Low Drag Coefficient Form of Supermileage Car

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## ABSTRACT

Designing the form of super-mileage car concerns the fuel economy and styling image. How to design a beautiful form with low drag forces requires both design and engineering considerations. This research aims to investigate the possibility of designing forms of super-mileage car with different images while not changing much of the drag coefficients. A form of fish type was first designed to envelop the car structure and driver, followed by a study on effect of tail length on drag coefficient. Two forms of different images, denoted as edge body and smooth body were then derived from the form of fish type. Computer program based on computational fluid dynamics was used to analyze the aerodynamic characteristics of three different forms. The results show that drag coefficients of fish type, edge body and smooth body differ from each other less than 3.5%.

Keywords : Styling design ; Image ; Super-mileage car ; Computational Fluid Dynamics ; Drag coefficient

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