

AERODYNAMIC DRAG REDUCTION IN CAR

M.TECH DISSERTATION

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ABSTRACT

Now-a-days the reduction of drag coefficient is becoming a very important challenge for all the Car manufacturers. The exterior styling and aerodynamically efficient design for reduction of engine load which reflects in the reduction of fuel consumption are the two essential factors for a successful operation in the competitive world. The aerodynamic effects play a role in reducing the coefficient of drag of the vehicle, which may benefits for increasing the fuel efficiency. The exterior design of Car body is helpful in reducing the drag coefficient which results in reducing the load on the vehicle and leads to low fuel consumption. Even though the various techniques are found by researchers for improving vehicle performance and its stability still we are in need of further improvement. The main purpose is to propose a concept car model which will face very small drag force and also to reduce the corresponding drag coefficient. The purpose is served by analyzing different shapes of the car and incorporating necessary changes to it to achieve the desired outcome. The Two prototype car body has been modeled and analyzed by using CFD to reduce the drag force. These are namely Baseline model and Modify model. Baseline Model is existing car model and Modify model is modification of existing car. Model 2 is to modify and analyze by using CFD to reduce the drag force, which results in increased performance.