

Review Report Of

**INVESTIGATION OF EFFECT OF SPOILERS OVER THE CAR BODY USING ANSYS  
CFD**

A thesis submitted in the partial fulfillment of the requirement for the award for the degree of

**BACHELOR OF TECHNOLOGY  
IN  
MECHANICAL ENGINEERING**

**Submitted by**

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**AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY**

(PERMANENTLY AFFILIATED TO JNTU-KAKINADA, ACCREDITED BY NBA & NAAC, APPROVED  
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## DEPARTMENT OF MECHANICAL ENGINEERING

### CERTIFICATE

This is to certify that project report is entitled “**INVESTIGATION OF EFFECT OF SPOILERS OVER THE CAR BODY USING ANSYS CFD**” was carried out by **K SRINIVAS (18815A0384)**, **M CHAITANYA (18815A0337)**, **CH NANI BABU (18815A0311)**, **M BGARGAV (18815A0385)** in partial fulfilment of requirements for the award of the degree of bachelor of technology in “**MECHANICAL ENGINEERING**” by Jawaharlal Nehru Technological university, Kakinada During the years 2018-2021

*S. Reddy*  
9/12/24  
(PROJECT GUIDE)

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EXTERNAL EXAMINER

## ABSTRACT

With growing public awareness about the importance of conserving non-renewable energy sources such as fossil fuels, researchers and scientists are working hard to find ways to reduce the consumption of these fossil fuels, either through the use of alternative fuels or by improving the performance of devices such as automobiles, aero planes, and other energy-converting devices. With the focus on enhancing vehicle fuel efficiency to battle growing fuel prices and environmental issues, auto makers are looking beyond traditional vehicle systems and concentrating on aerodynamics. At speeds above 70 km/hr., aerodynamic drag exceeds 50% of total resistance to motion, and at speeds above 100 km/hr., it is the most important factor. This work focuses on study of lift and drag effects over the car body at increasing velocities. This is further enhanced by studying the effect of spoiler attached at the rear end of the car body and how the lift and drag coefficients are affected. The design is done using CATIA V5 R20 and analysis is carried out using ANSYS Fluent.

*Keywords: CFD Analysis, Study of Spoiler Effect, Car Simulation*