

## Can LEER Tonneaus Improve Gas Mileage?

YES they can, and here is information on the study that proves it.

The Specialty Equipment Marketing Association (SEMA) published the results of research done to analyze how different pickup bed configurations change the coefficient of drag and gas mileage. The results showed that a tonneau cover offers a significant reduction in drag, and a corresponding increase in gas mileage.

It is well known that an open pickup truck bed causes significant turbulence when the truck is in motion and that turbulence equates to inefficiencies that increase gas consumption. The research looked at several common ways to try to improve pickup gas mileage, and the effects on drag are shown in the chart below.

The coefficient of drag is a way of comparing the amount of air that has to be pushed out of the way when a vehicle moves. While drag is a primary factor in gas mileage, there are many others, including vehicle weight,

cargo weight, tire pressure, engine condition, transmission/gearing, slope of the road, wind, temperature, driving habits, fuel quality, etc. The researchers in this study kept as many of these variables as possible unchanged, by concentrating on specific trucks (Full size Dodge Rams) and modifying only the pickup bed.

With so much emphasis on gas mileage and the rising cost of fuel, it is great to know that an investment in a LEER tonneau can easily pay for itself over time in reduced fuel expenses. The study shows conclusively that the best way to reduce the drag and increase the gas mileage of the typical pickup truck is to add a tonneau cover. The improvement provided by this accessory is significantly better than that obtained by lowering the tailgate, removing it, or replacing it with a cargo net.



The chart below shows an improvement of almost 12% in gas mileage when a tonneau cover was installed on the Dodge Ram test truck; this means a truck getting 16 mpg without a tonneau can expect over 17 mpg with a tonneau installed. Of course, these are representative figures obtained under research conditions. Actual results may vary.

Drag Condition	% Change Coefficient, Cd	From Baseline	MPG
Baseline (std bed)	0.432	N/A	16.00
Cargo Net	0.461	6.71%	15.33
Removed Tailgate	0.447	3.47%	15.65
Lowered Tailgate	0.414	-4.17%	16.42
Tonneau Cover	0.381	-11.81%	17.18

Source: Improving Aerodynamic Characteristics of a Dodge Ram Pickup Truck, copyright 1997 by Todd J. Ortolani and Vanwijak (Kehm) Ewosakul, Department of Engineering, Western New England College.