

SAE FUEL CONSUMPTION TESTS for Andersen Mud flaps

In July of 2006, SAE Test J1321 Type II was performed by Transportation Research Center, Inc. (TRC) on Andersen mud flaps.

The purpose of the test was to gauge the aerodynamic improvement offered by the use of these new patented mud flaps for Class 8 equipment, and to measure any associated improvement in fuel economy.

TEST SETTING

For this SAE procedure, 45 miles were driven per test run. This consisted of 6 laps of driving on a 7.5 mile looped track.

3 runs with results within + or – 1% are deemed to be a successful test segment, or 135 total miles

Two trucks consisting of 2004 Freightliner tractors and S53 (53') Great Dane trailers were used to conduct the tests.

Total truck weights were 66,000 lbs. during the test runs, including fuel.

Average speeds were 61 to 61.2 MPH, with 60% of the testing done on track straight-aways, and 40% on curves.

Wind speeds during testing were less than 5 MPH.

Mud flaps were mounted 8" behind tractor wheels, and 10" behind trailer wheels.

Total miles driven by each truck during the measured test procedures exceeded 400 miles.

RESULTS

For most precise results, per SAE procedures, fuel consumption is measured for each test segment by weighing the fuel consumed, giving values in lbs. of fuel used.

#2 Diesel fuel weighs 7.05 lbs. per gallon, so conversion of test results to MPG is straight forward.

***Overall baseline fuel economy* for the two trucks tested by TRC was 6.37 MPG and 6.54 MPG. This was measured fuel economy while conventional mud flaps were installed on both trucks.**

When outfitted with Andersen flaps, each truck's fuel economy increased to 6.71 MPG and 6.77 MPG, or improvements of 5.3% and 3.5% respectively.

With weighted average calculations between baseline and test segments, comparing both truck's performance, the official % fuel saved per SAE metrics was 1.7%.

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In today's market, for every 1% fuel savings achieved under SAE test track conditions, Class 8 fleet operation savings would equate to a minimum of \$1,400 per truck per year.

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