



SAE J1321 results differentiate Dipetane from the marketplace!

Dipetane Fuel Technology has just completed a TMC/SAE Fuel Consumption Test Type II, SAE J1321. The test reports follow this brief introduction.

What is a TMC/SAE J1321 Test?

In summary, the test protocol requires measuring the fuel consumption of a group of test and control vehicles by driving the vehicles over a fixed-length road course at a fixed rate of speed. The test is conducted in two phases, a baseline phase before any changes are made to the vehicles, and a test phase in which the test vehicles receive a change. The difference in fuel consumption between the baseline and test phases is used to calculate the change in fuel economy.

Why was this test conducted?

The J1321 is the nationally accepted test protocol for measuring fuel consumption by the trucking industry. At the request of several of the largest truck fleets in the US, Dipetane was tested to demonstrate its significant and repeatable improvement in fuel economy, increase in horsepower, reduction of blow-by and to confirm prior 3rd party test data from other international testing organizations.

Why was the Cummins ISX engine selected for testing?

The Cummins ISX represents the next generation of fuel efficient engines used by many truck fleets today. The fact is if Dipetane can perform well in highly efficient engines like the ISX, then it will deliver even better results in older, less technically advanced engines.

Who conducted the SAE J1321 and what are their qualifications?

Claude Travis & Associates is listed as one of the top three independent SAE testing firms in the trucking and shipping industries. Since 1978, Travis & Associates has aided more than 200 companies, associations and government agencies, including: TRW, Rockwell, Society of Automotive Engineers, Daimler Benz, Mercedes Benz, Dept. of Transportation, Dept. of Energy, Caterpillar, Cummins, Volvo, Eaton, General Motors, and many more. Assignments included fuel economy testing, motor carrier economics, fleet maintenance management, shop facility planning, cost analysis, and freight loading and movement.



Claude Travis, founder of CTA, is a nationally recognized specialist in on-highway commercial vehicle fuel economy testing and previous Chairman for the joint SAE/TMC Fuel Economy Test Procedure Task Force. Mr. Travis is the author of the "SAE/DOT In-Service Validation Test Program" and a past Chairman of the SAE Truck & Bus In-Service Test Procedure Subcommittee.

Personally, Claude Travis has spent 43 years managing the operation, maintenance, and testing of heavy duty on-highway truck-tractors and trailers and spent 53 years studying, operating, maintaining, testing and supervising transportation equipment, including ships, railroad locomotives, and highway trucks.



What makes Dipetane's test results significant to fleet managers?

According to Claude Travis the following are the most important points to fleet managers – especially the VP Maintenance position. This makes Dipetane different from all the other additives tested to date.

- **DIPETANE** was tested on 3 trucks. Most only test one.
- **DIPETANE is the most effective fuel supplement he has tested.**
- The reduction in blow-by is very dynamic showing that **DIPETANE reduces carbon deposits, especially on the rings.**
- Blow-by reduction contributes to **increased engine miles-to-overhaul.**
- Blow-by reduction reduces the particulates entering the exhaust system which in turn reduce the overall emissions and lowers DFE maintenance costs
- The trucking companies are focused on **cost-per-mile reductions.**
- Fleet managers **cannot afford to overlook** dynamic possibilities.
- We got strong results on the very efficient 2004 Cummins ISX engine. Fuel economy savings alone **more than pay for the cost of DIPETANE even on the '04 ISX.**
- Can you imagine the benefits to the older engines?

Value and Benefit focus:

DIPETANE Fuel Technology improves burn efficiency of petroleum fuels with a resultant improvement in:

- fuel economy
- horsepower
- exhaust emissions
- elimination of carbon deposits
- engine life

When added to the fuel of a fleet of diesel trucks, they all benefit to differing degrees.

Improved Fuel Economy

The newer, more fuel efficient models (i.e. 2004 ISX and newer) will get increased fuel economy to more than pay for the use of **DIPETANE**. Older, less fuel efficient units (2003 and earlier will see even more fuel savings providing savings in multiples of the **DIPETANE** cost (2-4 times). +

Horsepower

Increased horsepower means using less throttle and operating at lower RPM's, which in turn saves fuel. Especially under heavy load or climbing grade, the gear came be held or downshift delayed.

Exhaust Emissions

While not measured in this test, our existing tests and claims will support this presentation. The most immediate benefit is reduced smoke from the stacks.

Elimination of Carbon Deposits

This is huge in enabling rings to move and turn as they were designed to. Blow-by and sticking rings are tolerated because there are no simple solutions to resolve the issue. Properly functioning rings reduce compression loss and reduce wear on the cylinder walls. If a fleet can get 75,000 to 100,000 more miles before overhaul, the benefit can be quite substantial. The Travis report states it succinctly reduced blow-by will contribute to increased engine miles-to-overhaul.



The results:

On three 2004 Cummins ISX engines, the averages were:

- Fuel economy gain 3%
- Horsepower gain 13 hp
- Blow-by reduction 32%

Questions for the Fleet Manger

- What is the average age of your fleet?
- What are the newest and older units in the fleet as a percent of the total fleet?
- What does a 32% reduction in blow-by mean for you fleet?
 - What are the benefits to the engine?
 - What could it do in terms of lengthening time to engine rebuild?
 - How will it impact the frequency of oil changes?
- What are the total costs associated with an engine rebuild?
 - Parts
 - Labor
 - Downtime
 - Lost revenue
- What would a fuel cost reduction of 4-10% mean in terms of dollar to your company?
- What would a 10% increase in engine life mean in terms of dollars to your company?