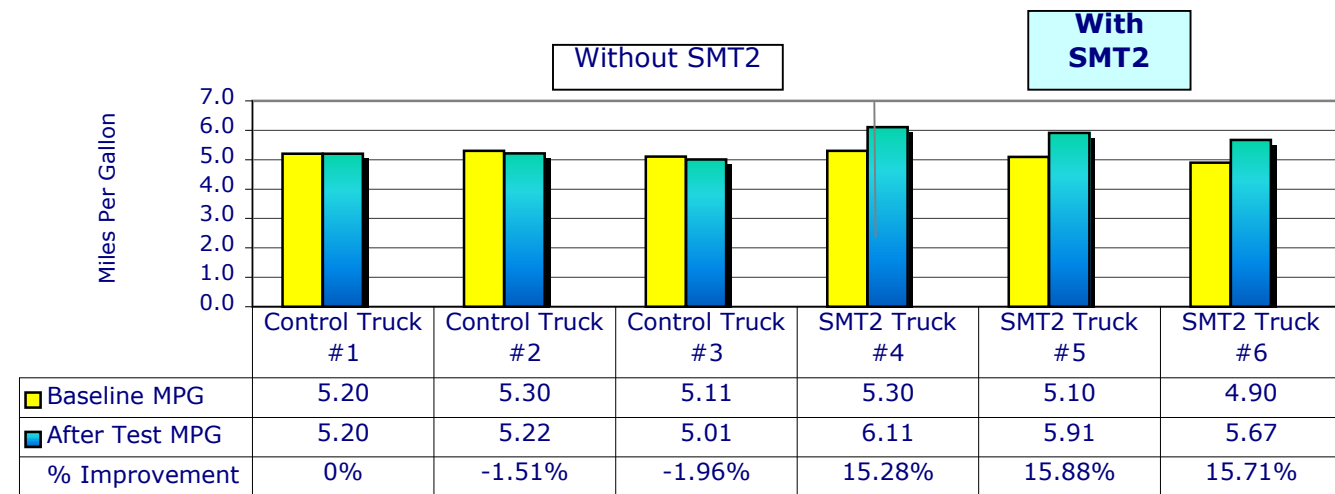


# SAE J1321 Fuel Consumption Test Results

Joint TMC/SAE test developed specifically to meet the needs of the trucking industry

## Mobile Test with 3 Control Vehicles & 3 Vehicles w/SMT2



Each Truck ran a baseline segment, using the same oils and fuels for 10 trips of the same route.

Conditions were consistent, including: speed, tire pressure, tread depth, using the air conditioning and electric fan.

Control trucks and test trucks ran the same route 10 times within concurrent times and mileage segments to make testing procedures precise.

This test was done using gallons of fuel used for a specific mileage period, not weights of fuels used in a 20 minute run session.

Testing was also done on two stationary pieces of equipment to determine value in generators and compression applications.

| DATA:                      | Control Trucks |                |                | Test Trucks with SMT2 |                |                |
|----------------------------|----------------|----------------|----------------|-----------------------|----------------|----------------|
|                            | Truck 1        | Truck 2        | Truck 3        | Truck 4               | Truck 5        | Truck 6        |
| Type                       | Mack           | Mack           | Mack           | Mack                  | Mack           | Mack           |
| Engine                     | E7-460         | E7-460         | E7-460         | E7-460                | E7-460         | E7-460         |
| Transmission               | FRO14210B      | FRO14210B      | FRO14210B      | FRO14210B             | FRO14210B      | FRO14210B      |
| Rear Axle                  | Mack           | Mack           | Mack           | Mack                  | Mack           | Mack           |
| Ratio                      | 3:86           | 3:86           | 3:86           | 3:86                  | 3:86           | 3:86           |
| Tire Size Truck            | 275/80R22.5    | 275/80R22.5    | 275/80R22.5    | 275/80R22.5           | 275/80R22.5    | 275/80R22.5    |
| Tire Tread Depth           | 22/32          | 23/32          | 22/32          | 22/32                 | 23/32          | 22/32          |
| Miles before Test          | 468212         | 465721         | 467830         | 472345                | 461333         | 451229         |
| Miles after Test           | 486212         | 483721         | 485839         | 490345                | 479344         | 469263         |
| Tire Air Pressure          | MAX            | MAX            | MAX            | MAX                   | MAX            | MAX            |
| Engine Oil                 | Delo 400       | Delo 400       | Delo 400       | Delo 400              | Delo 400       | Delo 400       |
| Gear Oil                   | Citgo 85w140   | Citgo 85w140   | Citgo 85w140   | Citgo 85w140          | Citgo 85w140   | Citgo 85w140   |
| Diesel Fuel                | Flying J # 2   | Flying J # 2   | Flying J # 2   | Flying J # 2          | Flying J # 2   | Flying J # 2   |
| Trailer                    | 48" Great Dane | 48" Great Dane | 48" Great Dane | 48" Great Dane        | 48" Great Dane | 48" Great Dane |
| Trailer Tires              | 24.5"          | 24.5"          | 24.5"          | 24.5"                 | 24.5"          | 24.5"          |
| Tread Depth                | 21/32          | 21/32          | 19/32          | 18/32                 | 21/32          | 22/32          |
| Route                      | SLC to LV      | SLC to LV      | SLC to LV      | SLC to LV             | SLC to LV      | SLC to LV      |
| Drivers Weight             | 182 LBS        | 264 LBS        | 224 LBS        | 233 LBS               | 194 LBS        | 287 LBS        |
| Total Weight               | 82,344 lbs     | 82,421 lbs     | 82,398 lbs     | 82,425 lbs            | 82,388 lbs     | 82,487 lbs     |
| MPG Before Test            | 5.20           | 5.30           | 5.11           | 5.30                  | 5.10           | 4.90           |
| SMT2 Treatment             | none           | none           | none           | 1 gallon              | 1 gallon       | 1 gallon       |
| MPG After Test             | 5.20           | 5.22           | 5.01           | 6.11                  | 5.91           | 5.67           |
| Increase/Decrease % in MPG | 0.0%           | -1.7%          | -2.0%          | 15.3%                 | 15.8%          | 15.7%          |