Emergency Stopping Distances for Trucks, Buses and Passenger Cars.

The distances shown involving emergency stopping hereafter are for roadways that are level, dry, straight and free of debris with mild ambient temperatures at the surface.

As has been documented by countless articles involving panic/emergency braking actions by a driver, when you double the speed of a vehicle you quadruple the stopping distance.

There are several reasons why factors in achieving a minimum speed of a vehicle at the start of a braking event even though anti-lock braking systems (ABS) are prevalent in modern vehicles including air brake equipped vehicles such as large trucks and trailers and buses when they are articulated when towing a secondary trailer-bus behind them.

Any air brake equipped vehicle has as one main factor to assume and that is a "Brake Lag" component when calculating minimum speed from available tire marks on the roadway. That brake lag is that is calculated from the time a foot (treadle valve) on a truck when activated in a panic stopping action has a range of .35 of a second to a maximum of .75 of a second used in calculations in determining the minimum speed of a truck when braking to avoid a hazard ahead.

The proper or improper inflation of a tire is one factor that I see seldom used in the calculations used by law enforcement personnel and expert accident reconstructionists. Tire manufacturers use tire pressures of their individual tire design and manufacturer for use on the vehicles for which they were designed. Look not in the glovebox door for recommended tire manufacture ratings if you have replaced the tires the vehicle came from the factory with your choice of tires. Use the sidewall tire pressures as recommended for cold tires each day before you drive a commercial motor vehicle out on the road as part of your demanded Driver Vehicle Inspection Report. Under inflated tires increase your ability to stop successfully in the clear distance ahead by approximately 16.5% from a desired 14.154%.

The last paragraph reflects a portion of page 6 from a 13 page paper written by Vladimir Rievaj Jan Vrabel and Anton Hudak in the International Journal of Traffic and Transportation Engineering 2013. This paper was a part of their work at the University of Zalina in Slovakia from within the Faculty of Operation and Economics of Transport and Communications. Note that these figures are in European Metric equations.

Check those tire pressures!

The following chart on page #3 as shown, is a product of the California Northern Division MAIT Team and the Southern California MAIT Team.

These teams were led by CHP Sergeants Philip James O'Sullivan from Northern California and Sgt. Joseph W. Thompson for the Southern California Division.

The Southern Division California team conducted their tests at Los Alamitos Naval Air Station and the Northern California Team conducted their testing at Mather Air Force Base in what is now Rancho Cordova, California.

The following analysis is subject to many factors but all the air brakes and hydraulic brake systems were inspected by the CHP officers, Automotive Service Mechanics and Multi Disciplinary Accident Inspection Team brake Team, both levels of these technicians and mechanics were employed by the California Highway Patrol