



# COMMERCIAL FLEET TIRE DIGEST

*The authoritative guide to reducing commercial tire expenditures from Pressure Systems International, the manufacturer of the Meritor Tire Inflation System by PSI™*

VOLUME 8 ISSUE 1

JANUARY 2014

## Tire Refresher Course for Drivers & Technicians

Happy New Year 2014!  
from PSI and Commercial Fleet Tire Digest.

For most commercial fleets tires continue to be their number one maintenance cost and follow only fuel in the hierarchy of overall vehicle operation costs. Commercial tire prices never go down, only up. In the last few years pricing for both new tires and retreads has been on a positive cost increasing slope. Depending on specific tire make/model and tread depth, pricing for eighteen linehaul tires can easily be in the \$7K - \$8K range. Even if you are specifying retreads on the drive and trailer position, you are still looking at a minimum of \$5K. So it is clear that tires are a major investment for every fleet and developing a serious and successful tire program is a priority for them. One of the keys to a winning tire program is the educational program established for every driver and technician in your operation.

It is quite common for fleets to talk about their tires and tire program with their new associates during the first day they hire into the organization but it is clearly not enough. It should not be a single time event. Drivers and technicians are the early warning system to maximizing tire removal miles. Everyone needs to understand the impact tires have on a fleet's bottom line. Increasing mileage and maximizing the number of retreads per casing can easily be improved through tire education. For instance they should know that maintaining the proper tire pressure will insure the tire footprint is optimal. Underinflation leads to a longer tire footprint (more rubber on the road) increasing tire rolling

resistance which has a significant negative impact on vehicle fuel economy. Underinflation also leads to irregular wear and premature tire removal miles. Retreadability will also be negatively affected because of the increased heat and flexing when running tires underinflated. On the flip side, too much overinflation is also a negative since the footprint becomes small and the shoulders will not be touching the ground as the tire was designed. However, fuel economy is a little better with tires slightly overinflated versus underinflated.

Drivers & technicians also need to understand that tire pressure gauges must be calibrated on a routine basis. Even a brand new stick gauge is only accurate to +/- 3 psi; and a few drops on the hard concrete floor and the gauge accuracy will continue to decrease.

Another way drivers can assist in maximizing their fleet's tire budget is to notify maintenance immediately if they notice tires developing uneven and irregular wear. There is a reason why a tire is not wearing smoothly and evenly. It may be vehicle alignment, over or underinflation, too much wheel end play, mismatched duals, or even driver abuse. The best source of information regarding why tires develop uneven wear is the TMC Radial Tire Wear & Conditions Analysis Guide. Every shop can use this bible of the tire world for training and reference purposes. If you don't have your own copy, order through the American Trucking Association at [www.truckline.com](http://www.truckline.com).

Your tire dealers should also be working with you to help train your team about tires and wheels.

### Q&A PSI ANSWERS YOUR QUESTIONS

- Q.** In my beverage fleet the tires running on the rear tandem drive axles have a much faster removal miles versus the same tires running on the front drive axle. Is that typical?
- A.** Yes. When a vehicle turns the pivot point is the first drive axle. The result is the rear drive tires tend to scrub tread off at a much higher rate. The more turning, the bigger the differential in removal miles between the 2 drive axles. Tires run on a linehaul vehicles show a much smaller difference in removal miles between the 2 axles.

.....  
**Visit us On-line**

For current and back issues of **Commercial Fleet Tire Digest**  
And to subscribe or submit your inquiries to be answered here, go to **www.psitiredigest**



# COMMERCIAL FLEET TIRE DIGEST

*The authoritative guide to reducing commercial tire expenditures from  
Pressure Systems International,  
the manufacturer of the Meritor Tire Inflation System by PSI™*

VOLUME 8 ISSUE 2

FEBRUARY 2014

## Inspecting Your Tires

Visit  
P.S.I. at  
TMC in  
Meritor Booth  
# 824  
We'll be at  
MATS too,  
in the  
Smartway area  
Booth #12069

Inspecting tires on a routine and regular basis is the key to succeeding in maximizing your tire removal miles. Drivers, technicians, and outside vendors who service your vehicles can all play a significant role in getting the most miles out of your tires. The goal of every tire program is to insure that the tires are running smoothly and evenly without irregular wear. Fuel economy is maximized when tires are running without irregular issues such as shoulder cupping, one-sided wear, fast shoulder wear on both shoulders, and heel/toe wear. Fuel economy will be adversely affected and tires will be removed prematurely due to uneven wear; and the cost/mile will show a dramatic increase.

Underinflated tires will lead to significant irregular wear since the tire footprint becomes longer and distorted. The added heat due to a combination of excessive sidewall flexing and the longer footprint (more rubber on the road) can also lead to major irregular wear and even tire failures.

Another major reason tires develop irregular wear occurs when vehicle loads change. Since air carries the load, the tire pressure specification must be based on the worst or heaviest load scenario. Fleets running 100 psi loaded could run somewhat less pressure unloaded, however, the higher the pressure the more it benefits fuel economy, which more than offsets the slight tire wear in unloaded back haul situations.

Training drivers, technicians, and your vehicle servicing network will go a long way to maximizing tire removal miles with the side benefit of fuel economy improvement. A serious on-going tire training program is essential and should include identifying specific wear patterns, their probable cause and how to correct the issue. A few facts your training should include:

Checking tires with a calibrated pressure gauge will identify tires running out of spec. The more frequently your team can check tire pressures the better. In the real world, just because you checked tire pressures before leaving the yard it has minimal benefit when the vehicle runs over a nail just a few minutes later.

Never take air out a hot tire as a hot tire is running about 15% higher pressure than the "cold" or room temperature pressure setting. Tires take four to six hours, depending on the size, tread depth, materials and tire pattern before cooling back down to its cold pressure setting after running on the highway fully loaded.

Steer tires develop different wear patterns versus drive, trailer, and dolly tires. Sometimes the irregular wear can be directly related to the vehicle alignment. Many times too much wheel-end play and worn suspension components can be the leading cause.

.....  
**Visit us On-line**

For current and back issues of  
**Commercial Fleet  
Tire Digest**

And to subscribe or submit your inquiries to be answered here, go to

**www.  
psitiredigest  
.com**

### Q&A PSI ANSWERS YOUR QUESTIONS

- Q.** Is there any update on the CSA program when it comes to tires?  
**A.** Not at this time. Penalty is 8 points for a flat tire, tires below the legal tread depth minimums, or any tire with visible steel or fabric. 3 points is the penalty associated with an "underinflated" tire.



# COMMERCIAL FLEET TIRE DIGEST

The authoritative guide to reducing commercial tire expenditures from Pressure Systems International, the manufacturer of the Meritor Tire Inflation System by PSI™

VOLUME 8 ISSUE 3

MARCH 2014

## Tires and Air Loss

Visit P.S.I. at MATS in the Smartway area Booth #12069

We have been preaching for years about the importance of maintaining the proper tire inflation pressure to insure that removal miles, fuel economy, and retreadability are all maximized. When tires are run smoothly and evenly, without irregular wear, at the recommended tire pressure, that is when rolling resistance is minimized and fuel economy is at its peak.

So why do tires lose air and what can fleets do to minimize air loss? Tires will lose air due to osmosis by just sitting in storage. Air will slowly migrate out through the tire casing over time, just like a balloon. But not all tires are the same. Depending on specific tire construction and compounding, some tires are more effective in trapping the air. The first line of defense for keeping air where it belongs is the tire innerliner compound. A combination of innerliner gauge and compounding will insure that air will remain inside the tire for a long time. Over the years, industry studies have shown that commercial truck tires can lose anywhere between 1 – 4 psi/month through osmosis.

Slow leaking punctures in the tread area are clearly the #1 reason why tires lose air. Truck tires tend to run in an environment where nails, screws, and bits of steel are vacuumed up into the hot tire tread at high highway speeds. Punctures can be picked up on the local city streets when you make your deliveries at lower speeds as well. Instead of losing a couple pounds of air per month via osmosis, a

16-penny nail embedded into one of the tread grooves will typically cause air loss of a few pounds a day. Before the week is out, tires will become significantly underinflated leading to a longer footprint, more heat being generated by the flexing sidewalls, and irregular wear may start to develop. A serious tire inspection program along with a tire inflation system will help to keep those pressures running at the recommended psi.

The second major reason why tires lose air is leaking valve stems. Sometimes the rubber becomes brittle and cracks and at other times the valve cores begin leaking air. Over tightening valve cores is a big industry problem. There is actually a recommended spec of 4 in-lbs of torque for a truck valve core. 4 in-lb valve core torque tools, such as offered by Myers Tire Supply, are available in the market and are highly recommended. Fleets that torque their valve cores to the proper value report less tire related roadside service calls.



Valve Core Torque Tool

Every good fleet tire program needs to have an initiative in place to insure tires are running at the recommended pressure. Using calibrated air pressure gauges is a must. The common stick type pressure gauges are only accurate to +/- 3 psi brand new out of the box. Dropping them a few times on the hard concrete floor will affect the accuracy further. Using a master gauge will insure that your stick gauges are accurate and should become standard practice.

### Visit us On-line

For current and back issues of

**Commercial Fleet Tire Digest**

And to subscribe or submit your inquiries to be answered here, go to

**www.  
psitiredigest  
.com**

### Q&A PSI ANSWERS YOUR QUESTIONS

- Q.** What pressure do you recommend for best tire performance on my new widebase trailer tires size 445/55R22.5?
- A.** It depends on your worst case load scenario. Use the load/inflation tables available on all the tire company websites.



# COMMERCIAL FLEET TIRE DIGEST

*The authoritative guide to reducing commercial tire expenditures from  
Pressure Systems International,  
the manufacturer of the Meritor Tire Inflation System by PSI™*

VOLUME 8 ISSUE 4

APRIL 2014

## Maximizing Overall Cost/Mile

See MTIS by  
P.S.I. at the  
ZONAR  
“ZONE”  
Event in  
April 22-25  
San Antonio  
Texas

A successful tire program means a lot to a fleet's overall financial success. You should not be tempted to purchase the least expensive tire available in the market as this is unlikely to result in overall tire cost reductions. A specific tire make/model may have a high initial cost but if it averages higher miles to removal along with more retreads per casing then the result is a big reduction in overall tire cost/mile. In addition, if the tire is a more expensive “fuel efficient” model, you may also be saving, over the life of the tire, an additional 1-2% or more from improved fuel economy. Fuel efficient tires may cost a little more but the savings on the back end makes up for that really fast.

Maximizing vehicle fuel economy, increasing tire removal miles, getting that extra retread out of every casing, and eliminating costly tire related roadside service calls goes a long way to a serious cost reduction program. The real measure of tire cost is cost/mile and cost/32<sup>nd</sup>. The factors you should consider include:

Choose the best tire for your specific service vocation: There are many available tire makes/model to consider for steers, drives, and trailers. Since no two fleets are the same, the only way to determine which tire is optimum for a specific application and wheel position is through real world testing. Working with your tire professional is the best way to develop a test program and track a statistically valid sample size.

Retreading: When it is time to choose a retread keep in mind not only do you have a choice of a specific tread design but there are several compounds to choose from as well. Fuel efficient compounds, high mileage, and high traction are typical options. You also need to determine what is the maximum casing age where retreading is a win-win option

in your fleet. Some fleets say a five year old casings is the limit for retreads while other choose six or seven years. This choice depends on the results of your scrap tire pile analysis. For instance, in your tire program you typically retread seven year old casings. You later discover that the majority of tires in your scrap tire pile are actually seven year old casings with plenty of tread rubber remaining. That would be a sign that a seven year old casing retread spec may be just too old for your operation. In this case, your fleet spec should be to only retread casings no older than 6 years.

Determine proper tire pressure for steer, drive, and trailer tires: Pressure should be based on the worst case load that tire will see in your various applications. Air is what carries the load so it is important to specify the correct tire pressure. Too high or too low a pressure will lead to irregular wear and early tire removals.

Determine the target tread depth when tires should come out of service and be sent to the retreader: Running tires down to the legal DOT limits of 4/32” for steers and 2/32” for drives and trailers can lead to casing damage and that will adversely affect the tire casing for retreading. There is a sweet spot when it comes to tread depth pull points for every fleet.

Tire rotation: There are different scenarios when it comes to the best tire rotation and moving sequence on your vehicles; for example, many fleets run their steer tires down to 6 or 8/32”, move them to the trailer position, and then run them down to 2/32” before sending to the retreader.

Every fleet should have a current cost/mile figure for their tires which is considered the baseline. Optimizing various components of your tire program as mentioned here can result in the best overall cost/mile for your individual fleet.

Visit us On-line

For current and back  
issues of  
**Commercial Fleet  
Tire Digest**

And to subscribe or  
submit your  
inquiries to be  
answered here, go to

**www.  
psitiredigest  
.com**



# COMMERCIAL FLEET TIRE DIGEST

*The authoritative guide to reducing commercial tire expenditures from  
Pressure Systems International,  
the manufacturer of the Meritor Tire Inflation System by PSI™*

VOLUME 8 ISSUE 5

MAY 2014

## Tire Mileage – Factors Affecting

Have a Happy  
and Safe  
Memorial Day.  
Please  
remember all  
men and women  
who have died  
in military  
service to the  
United States.

In the passenger car tire world, a 50,000 mile warranty tire can be purchased as well as a 70,000 mileage tire or even a 90,000 mile tire. With commercial tires, there is never a mileage guarantee. For these tires, there are many variables that have a significant impact on how they are going to perform - vehicle make/model, speed, route, load, service vocation, and the driver all have an impact on tire removal miles.

There have been a number of industry studies documenting how a driver can influence treadwear by as much as 35%. A young and aggressive driver that just received his CDL is typically hardest on tires while a driver that has been on the road for 35 years and highly experienced will usually have the highest removal miles and the best vehicle fuel economy. Driver training can seriously affect your overall tire costs.

Some vehicles are just harder on tires than others. Some tire brands may perform outstandingly on a specific vehicle combination but have deficiencies on other models. That is why a fleet manager cannot simply assume that just because a trailer tire that has been averaging 200,000 miles on one model configuration will be guaranteed to get the same miles on trailer model B or C.

Road surface will play a role in tire mileage up to 50%

Surface	Treadwear Rating
Asphalt	100
Concrete	95
Gravel	65
Dirt	50

On straight and level roads tires will get the highest mileage but will decrease significantly when driving over hilly, curvy, and mountainous terrains because of the

increased torque and increased tire tread scrubbing.

Terrain	Mileage
Sraight & level	100
Straight and slightly hilly	95
Hilly & curvy	75
Mountains	50

Driving speed always has a big impact on treadwear because of the increased heat being generated by the tires traveling at the higher speeds. Heat is a tire's worst enemy, especially truck tires with all of their mass.

Speed	Mileage
50 MPH	100
60 MPH	85
70 MPH	75
80 MPH	60

Specific service vocation always has the largest impact on tire mileage. Tires that are in linehaul operation driving in a straight line from New York to California typically have the highest removal miles. The same tires running in city service with a high amount of turning will tend to scrub the treads off very quickly. Running tires off road on dirt and gravel will also cause tires to wear out very rapidly.

No two fleets are the same when it comes to their vehicles and specific routes and loads. Tire loads will vary also affecting tire performance. Running tires underinflated will have a significant impact on tire removal miles because of a combination of additional heat and irregular wear that will develop because the footprint is no longer the optimal design shape. Educating your drivers about tires will go a long way in helping fleets increase tire mileage.

### Visit us On-line

For current and back issues of

### Commercial Fleet Tire Digest

And to subscribe or submit your inquiries to be answered here, go to

**www.  
psitiredigest  
.com**

## What are the Tire "Hot Buttons" for Fleets?

When it comes to the #1 maintenance cost, tires continue to deserve a lot of attention. A good tire program will go a long way in helping the company's bottom line. So what are fleets looking for when it comes to their tires?

- Maximizing fuel economy
- Maximizing tire removal miles
- Maximizing # of retreads/casing

Even a one or two percent increase in fuel economy can save millions of dollars/year in fuel depending on the size of the fleet. One of the past concerns with fuel efficient tires was the possible loss in removal miles. With the advent of new materials and innovative tire construction, a fuel efficient tire design may now yield similar miles to the non-fuel efficient or control tire. The heavier the tire, the more rolling resistance (RR) is generated. A 30/32" tread depth drive tire design will generate higher RR when compared to the same tire that has only 26/32" starting tread depth. Improving fuel economy pretty much always trumps any possible loss in removal miles.

SmartWay publishes a list of both new tires and retreads that meet their "verified" fuel efficient standards. This is helpful information when deciding which are the best fuel efficient (low rolling resistance) tire options.

<http://www.epa.gov/smartway/forpartners/technology.htm>

There are many variables that will affect how many miles a tire will go before reaching its pull point. The legal limit is 4/32" remaining tread depth for steer tires and 2/32" for any other wheel position. Taking a tire down to its legal limit will help on mileage but is not always the best idea for protecting the tire casing from cuts and stone damage. Historical data clearly shows that retreadability is adversely af-

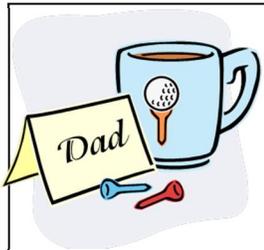
ected by running the tires down to the legal tread depth pull point. Protecting the casing and maximizing the number of retreads per casing is clearly in the fleet's best interest. A retread is typically a third of the price of a new tire.

With a plethora of tire makes/models to choose from including both new tires and retreads, every fleet should be evaluating tire models on a regular basis. It is not uncommon to find as high as a 15% difference in removal mileage from one tire model to another. This is why it is important to have an ongoing tire evaluation program running at your fleet.

Every fleet wants to maximize their tire removal miles and lower their cost/mile. It is important that you choose the proper tire design based on your specific service vocation, routes, loads and vehicle configurations. Working with your tire professional can help insure you choose the best tire for the various wheel positions.

To insure that your tires get the highest miles/32 it is imperative that you maintain the recommended air pressure in them. Running the correct pressure all the time will generate the optimum tire footprint and keep the tire running cool. Heat is a tire's worst enemy when it comes to generating casing issues and will reduce tire removal miles in the process.

Keeping the tire running at the correct tire footprint with the optimum tire pressure will only help maximize the number of casings that can be successfully retreaded. Your local retreader should be able to supply you with a report that details exactly why a casing was rejected for retreading. This is important information to analyze. A careful analysis of this data will help you determine what improvements are required in your tire program to continue to get one, two or even three retreads per casing.



Happy  
Father's  
Day!

.....  
**Visit us On-line**

For current and back issues of  
**Commercial Fleet  
Tire Digest**

And to subscribe or submit your inquiries to be answered here, go to

**www.  
psitiredigest  
.com**

## Commercial Tires and the Summer Season



Enjoy a  
Safe and  
Happy  
Summer

July and August are the two warmest months of the year. As temperatures rise, more and more of the rubber from tires that have failed can be found on the nation's interstate highways. This can become a safety nightmare for both truckers and the traveling public. These "road alligators" are clearly an issue when it comes to potential accidents. Both cars and trucks may swerve violently to avoid running over them. If the driver is not paying attention and it is too late for an evasive lane maneuver the result is potential damage to their own vehicle or another caused from flying debris. So why do tires fail more frequently in the summer versus the winter season? It's because of the heat which is a tire's worst enemy. The rubber compounds begin breaking down when the internal rubber temperature reaches approximately 200F. One of the best things you can do to insure that tires do not heat up too much internally is to keep them properly inflated. When tires run underinflated the result is a longer footprint (more rubber on the road) and more flexing of the tire sidewall during each tire revolution. When high speed and heavy loads are added to that, the result may be catastrophic.

The public generally believes that these road alligators are retreads. This is actually a myth as industry studies of rubber on the road clearly show that it could be new tires or it could be retreads. When a tire is run with low air for an extended period of time the result is another road alligator whether it's a retread or a new tire.

My favorite story on this subject occurred a few years ago on the Florida turnpike when a wife of a state representative ran over a road alligator and damaged her Lexus. The next week there was new proposed legislation in Florida to ban retreads without even determining if it was a retreaded tire that failed. This is exactly how trucking gets a bad reputation.

There is another reason why it is so important for fleets to properly maintain their

tires. When tires run underinflated they may not only fail but fuel economy drops significantly along with irregular tire wear leading to early tire removals. When a tire is not running smoothly and evenly, fuel economy will be adversely affected.

So what are the options for keeping a close eye on maintaining the proper tire pressure?

- TPMS (Tire Pressure Monitoring System)
- ATIS (Automatic Tire Inflation System)
- CTIS (Central Tire Inflation System)
- Manual

TPMS systems identify which tire or tires have low tire pressure. A signal is sent from pressure sensor chip mounted either on the wheel or on the tire valve directly to the driver in the cab. Depending on the system, the actual tire pressure may be displayed or it may be either a red light/green light option. Bottom line is that even though the driver has been notified of a low tire event, he still must physically go find air and get the tire repaired. Currently TPMS is a good option for tractor tires.

ATIS systems simply add air to the tire as the vehicle is moving down the highway. The air is "borrowed" from the air tank that is used for the braking system. When the tire is below the specified tire pressure, air is added and a tire warning light lets the driver know that the system is working as designed and air is being added.

CTIS systems are the ultimate tire pressure solution because they can adjust the tire pressure depending on the speed and load. It is not a practical solution for the trucking industry because these systems are very expensive. CTIS is used primarily by the military.

Manual systems rely on the use of a tire pressure gauge to measure the tire pressure. The problem with a manual system is that events can occur after a tire is checked in the morning which adversely affects inflation thus compromising tires during their daily operation.

Visit us On-line

For current and back  
issues of  
**Commercial Fleet  
Tire Digest**

And to subscribe or  
submit your  
inquiries to be  
answered here, go to

**www.  
psitiredigest  
.com**



# COMMERCIAL FLEET TIRE DIGEST

The authoritative guide to reducing commercial tire expenditures from Pressure Systems International, the manufacturer of the Meritor Tire Inflation System by PSI™

VOLUME 8 ISSUE 8

SEPTEMBER 2014

## Evaluating Performance of Improved Tire Designs

P.S.I. Europe will be exhibiting at the 65th IAA Commercial Vehicles show in Hannover, Germany Sept 23-Oct 2 Hall 26 Stand D35

Tire companies continue to make improvements to existing products on an ongoing basis. New materials in combination with new and improved design construction may significantly help tire performance. Improving tire mileage, increasing traction & decreasing stopping distance, increasing fuel economy, and improving casing retreadability are all reasons why it is important for fleets to give serious consideration to evaluating new tires and retreads.

For commercial truck tires, just because a particular tire make/model runs well on one model tractor or trailer does not guarantee that the same tire performs equally as well on another make model vehicle.

Take tread depths for drive tires as an example. Tread depths ranging from as low as 22/32" to as high as 32/32" are available in the market. Choosing a deep tread depth design does not always guarantee the highest tire removal miles. Too much tread depth can lead to increased heat buildup along with the deep tread lugs squirming as it rolls down the highway. The increased heat may adversely affect the tire casing when it gets to the retreading stage. Too much tread lug squirm will lead to early onset of irregular wear and adversely affect fuel economy

Tire compounds also play a major role in tire performance. Innovative tread compounds utilizing the latest and greatest materials can improve fuel economy up to two or three percent. Fuel economy is a major consideration for every linehaul and regional fleet so it is important to evaluate these new fuel efficient tires. Even a tenth

of a mile per gallon increase in fuel economy can save a fleet thousands if not millions of dollars per year in annual savings. Of course, if you do not keep your tires properly inflated the benefit of running these more expensive fuel efficient tires will be disappointing.

The following variables need to be considered when running a tire evaluation

- Vehicle make/model
- Route and service vocation
- Load
- Speed
- Tire pressure
- Drivers

This is why determining the proper sample size for the evaluation is so important. If the sample size is too small you will get inconclusive results. And, having too large a sample makes it very difficult to track and record the data because of errors in data entry. The TMC of the American Trucking Association recommends a sample size of thirty if the number of units in your fleet can support that.

As new products become available from the tire manufacturers, it behooves a fleet to determine if the specific "improvements/enhancements" are something in the best interest of their fleet operation. Will the new tires improve cost/mile while maximizing tire removal miles and increasing fuel economy? It takes a serious commitment from the fleet to run a good tire evaluation. Working with your local tire professional is always a good idea.

Visit us On-line

For current and back issues of Commercial Fleet Tire Digest

And to subscribe or submit your inquiries to be answered here, go to

www.psitiredigest.com

### Q&A PSI ANSWERS YOUR QUESTIONS

**Q.** Trying to determine best pressure spec for my trailer tires... Any recommendation?

**A.** Tire pressure is based on your worst case vehicle load scenario. Use the load/inflation tables available on-line on the tire company websites



## **P.S.I. By The Numbers**

MTIS by P.S.I.  
is in use on  
trailers operated  
by 70 %  
of the Top 100  
for-hire  
carriers.

## **Safety and Trucking**

Last month I had the opportunity to attend the Commercial Vehicle Safety Alliance annual conference and exhibition in Buffalo, NY. CVSA is an alliance of safety inspectors from every state, Canadian province, and Mexico. These law enforcement officials, industry experts and policy administrators gather to review and discuss current and future regulations targeting improvements to commercial vehicle safety. Annually, there are an estimated 4,000+ deaths and nearly 100,000 injuries associated with commercial vehicles.

The three North American government agencies responsible for commercial vehicles presented during the opening session: FMCSA from the USA (Federal Motor Carrier Safety Administration), CCMTA (Canadian Council of Motor Transport Administrators), and from Mexico the SCT (Secretaria de Comunicaciones y Transportes). They all have the same goal which is to make highways safer.

There are five priorities on which FMCSA is concentrating most of its effort:

- Electronic logging devices
- CSA Program (Compliance, Safety, Accountability)
- Safety Fitness Data (safety ratings based on roadside inspections)
- Unified registration system
- Roadside inspection software improvement program

The Canadian administrators have identified sixteen national safety codes that all provinces must follow. The Mexican officials are working primarily on size and weight rules along with the monitoring of over five million border crossings annually between the USA and Mexico. SCT spoke about the success of NAFTA.

The three organizations each spoke about the issues associated with distracted drivers, including cell phone usage and the wide array of information available to the driver as he or she is operating his/her vehicle. One very interesting piece of data presented showed that drivers delivering the best vehicle fuel economy also had the

lowest accident rate. That's because these drivers pay the most attention to their surroundings on a continuous basis (anticipating slower traffic and traffic lights for instance) leading to improved safety.

Another big issue for the roadside inspectors is aerodynamic tractor-trailers that are built with side skirts, trailer nose cones, and wheel covers. Inspecting vehicles with these devices significantly affects the inspector's ability to access the various components required in the inspection process such as brakes, tires, and wheel ends. When the three government officials were asked if they were taking this issue into account when coming up with new rules and regulations the answer was a disappointing "no----not really".

CVSA has many very active committees including:

- Vehicle committee
- Training
- Information systems
- Passenger carriers (busses)

I had the opportunity to speak to the training committee about inspecting tires and measuring tire pressure with trailers equipped with automatic tire inflation systems. Inspectors are reluctant to actually unscrew an inflation system hose to measure a tire pressure using a gauge. However they will ask the driver to unscrew the hand tight hose if they feel the need to actually measure a tire pressure. In most cases, inspectors still prefer to use the old, not very reliable, tire thumper to determine if a tire is flat or not. Inspectors all agree that if they inspect a trailer with an automatic tire inflation system installed, they understand that the tire pressure should be satisfactory and not underinflated or flat. For fleets, this means there are less potential roadside violations cited with the use of automatic tire inflation systems.

If fleets have recommendations for CVSA they can be contacted through their website at [www.cvsa.org](http://www.cvsa.org)

## **Visit us On-line**

For current and back  
issues of

### **Commercial Fleet Tire Digest**

And to subscribe or  
submit your  
inquiries to be  
answered here, go to

**www.  
psitiredigest  
.com**

The authoritative guide to reducing commercial tire expenditures from  
Pressure Systems International,  
the manufacturer of the Meritor Tire Inflation System by PSI™

VOLUME 8 ISSUE 10

NOVEMBER/DECEMBER 2014



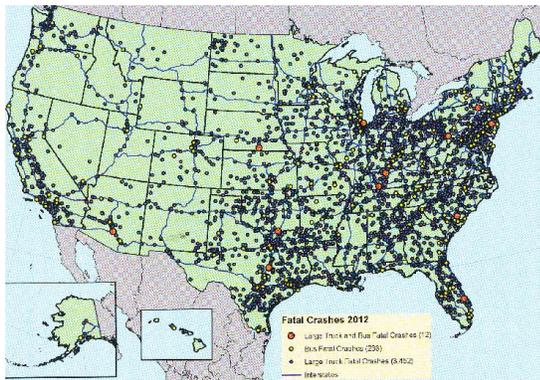
## P.S.I. By The Numbers

Over 5 million  
+ tires protected  
by MTIS  
by P.S.I.™

## Truck Statistics

Every year the Federal Motor Carrier Safety Administration (FMCSA) publishes truck statistics as part of their role in collecting and analyzing crash data & statistics which support their mission to prevent commercial motor vehicle fatalities and injuries.

According to the latest data available (2002) there were 3,702 fatal crashes involving trucks and buses with more than 75% occurring east of the Mississippi.



FMCSA counts 254 million registered vehicles and 5.6 million commercial drivers. Included in the vehicle number are 8.2 million straight trucks, 2.5 million tractor-trailers, and 764 thousand buses. The 10.7 million total trucks are owned by 539,000 interstate and intrastate motor carriers, pretty evenly split between for-hire and private carriers. FMCSA also reported that 68% of all domestic freight is moved by trucks with rail constituting 12% of the volume and pipelines moving 11%.

There are 3.4 million roadside inspections each year with 95% of them conducted by state inspectors and 5% by the feds. During inspections 5% of the drivers receive out of service (OOS) violations and 20% of the vehicles receive OOS violations. It has been the same result for the past 5 years. An OOS violation of either the driver or vehicle requires that the violation must be corrected before the driver or vehicle can return to service.

The three most common roadside inspection levels are:

Level 1: Full (25% OOS violations)

Level 2: Walk-Around (22% OOS violations)

Level 3: Driver only (6% OOS violations)

There are about 1.1 million inspections for each of these three levels every year.

It is always useful to review the most frequent driver and vehicle violations to better understand where a fleet needs to improve.

The top three driver violations for the year 2013 were: #1 - log violations; #2 - driver's record of duty status not current; #3 - the driver did not speak English. Rounding out the top six in the driver category were driving 6-10 miles over the speed limit, failing to use a seat belt, and no current copy of a valid medical certificate. On the vehicle side, the winner every year is always lighting - not having the required operable lamps. Tires and brakes flip/flop most years between #2 and #3.

The most common tire issues include running tires past the legal limit of 4/32" of tread depth for steer tires and 2/32" for all other wheel positions. Running flat tires or underinflated tires round out the major tire violations. Many tire issues can easily be spotted and resolved during the daily driver vehicle walk-around. A simple visual inspection should be able to determine tires that are worn past the legal limit. Measuring tire inflation requires the use of a calibrated tire pressure gauge. Thumping tires will not tell you anything except if a tire has zero psi. The vehicle inspectors use the following definition of a flat tire: If it is 50% or less of the maximum tire pressure molded onto the tire sidewall. A common size dual 295/75R22.5 shows the tire to have a maximum pressure of 120 psi. Therefore any tire measured to be 60 psi or below is a violation and considered out of service. The driver will not be allowed to drive to the nearest truck stop to get air, the vehicle is considered out of service and will require an emergency roadside service call. With an automatic tire inflation system or tire pressure monitoring system, this costly situation could be averted.

## Visit us On-line

For current and back issues of

### Commercial Fleet Tire Digest

And to subscribe or submit your inquiries to be answered here, go to

**www.  
psitiredigest  
.com**