



# National Bus Trader

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- Motor Coach Seat Belts
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# Motor Coach Seat Belts

## Regulations, Retrofitting, Safety and Liability

Article and photos by Larry Plachno



While the new seat belt mandate for motorcoaches goes into effect in November of 2016, many coaches currently in service have already been equipped with seat belts. For several years, seat belts have been optionally available on new coaches and have been retrofitted on older coaches. Shown here is a new MCI J4500 that came from the factory equipped with three-point seat belts.

The forthcoming federal mandate requiring seat belts on motorcoaches has prompted several questions from the readers of NATIONAL BUS TRADER ranging from the number of coaches with seat belts to what to do with coaches without seat belts. We will try our best to answer the questions that we can.

We admit to not being the first to tackle this topic. Our old friend Dave Millhouser recently wrote an article on what to do with seat belt-less motorcoaches and offered suggestions ranging from turning them into livestock carriers to using them as windbreaks (see the February 15, 2014 *Bus & Motorcoach News*). While obviously humorous, it did point out the fact that we need to deal with this situation and there are numerous questions to be answered.

### Seat Belts and Compartmentalization

The discussion on seat belts is not new and has been an ongoing topic for years. I should point out that it was not fostered by serious bus safety issues. For decades, buses have had an enviable safety record, due in large part to several factors including bus

size and weight, operator safety and compartmentalization.

In fact, many people in the bus industry took the position that seat belts were unnecessary because of compartmentalization. While experts argued that coaches did not have true compartmentalization, they did have large padded seats that contained the passengers and became a major safety feature (see the article in the March, 2009 NATIONAL BUS TRADER.)

An excellent argument was provided in support of compartmentalization instead of seat belts. The compartmentalization was actually built in the coach and would be there in the event of an accident. However, the seat belts were useless unless the passengers buckled up.

While the Europeans did mandate seat belts on coaches in 1997, their regulations were somewhat watered down by allowing two-point seat belts where three conditions for energy absorption were fulfilled. Meanwhile, the lack of seat belts became a possible major litigation item in the United States

in the event of accidents. The feds began looking at seat belts as a possible passenger restraint, particularly in answer to passenger ejections during rollover accidents. Seat belt legislation was proposed and comments were solicited.

### Federal Action

The National Highway Traffic Safety Administration (NHTSA) announced their final rule on November 20, 2013. It was 202 pages in length and required three-point belts on coaches starting in November of 2016. It amends the Federal Motor Vehicle Safety Standards (FMVSS) Standard 208 to require lap and shoulder seat belts for each passenger seating position in: (A) all new over-the-road buses; and (B) in new buses other than over-the-road buses with a gross vehicle weight rating (GVWR) greater than 11,793 kilograms (kg) (which amounts to 26,000 pounds), except transit buses and school buses.

It is noteworthy that the new law applies only to new coaches. It does not apply to existing coaches. In excluding existing coaches from the law, the feds cited the high

costs of engineering expertise for retrofitting seat belts on older coaches for bus operators, many of which are small businesses. It was also noted that there was no mandate for passengers to actually use the seat belts.

In justification of the new seat belt law, the feds named the high occupancy rate of the coaches, the speed at which they travel and occupant ejections in rollover accidents. While the number of fatalities is relatively small, the statistics made it obvious that most deaths during rollover accidents occurred because of ejection from the coach. Seat belts would reduce passenger ejections.

There is a great deal of information on the Internet if you are interested in reading it. You might want to start by searching for RIN 2127-AK56.

### Buses With Seat Belts

Seat belts were slow in showing up on this side of the Atlantic. Since customers and passengers did not ask for seat belts, the bus operators did not order them on their new coaches. I was involved as an expert witness in some litigation centering around the lack of seat belts on a coach built in 2001. Not only did the buyer not ask for seat belts, but they were essentially unavailable at that time.

Real interest in seat belts did not become obvious in our market until the second half of the first decade of the new century. A few companies began offering two-point seat belts on new coaches. Temsa was one of the first manufacturers to offer three-point seat belts, but they were already offering seat belts in Europe.

In January of 2009, American Seating and SafeGuard introduced a new motorcoach seat at the UMA Motorcoach Expo in Orlando. That seat combined three-point seat belts with features of compartmentalization. Greyhound specified them on their next new coach order in April of that year. Since then, three-point seat belts have been increasingly specified on new coach orders and they are now standard on some models.

Some recent figures I saw suggested that as many as 86 percent of new coaches were being ordered with three-point seat belts in 2013 and that percentage was increasing. Meanwhile, a significant number of current coaches were being retrofitted with seat belts during refurbishing.

Where will things stand in late 2016 when the new seat belt mandate goes into effect? The ABA Foundation suggests that there are about 36,000 commercial coaches in our market. While I have not seen any official numbers, my own estimate suggests that more than one third and probably closer to a half will have seat belts by November of 2016. As is obvious, most of the coaches with seat belts will be newer



Seat belts were still virtually unknown on the American market in the first years of the new century. However, in January of 2009, American Seating and SafeGuard introduced their new Premier motorcoach seat with three-point seat belts that helped move the industry towards seat belts. The Premier seat also offered features of compartmentalization.

models while most of the coaches without seat belts will be older models.

### Retrofitting Seat Belts

Can seat belts be retrofitted on older coaches? The answer is "yes" on coach models that are still fairly recent, but the cost may be prohibitive.

The first problem we face is that you simply cannot attach seat belts to existing seats. You need to order new seats with seat belts.

This will set you back somewhere in the neighborhood of \$26,000 to \$30,000 or more and may take from 45 to 60 days for production and delivery.

Add to this the fact that seats with seat belts place more stress on seat tracks and on the bus structure itself. Hence, some reinforcing may be required and this may be beyond the capability of the average small bus company. Hence, adding in labor, you are probably looking at a minimum of \$35,000 to add seat belts to even a relatively new coach.

Experts tell me that as your coach gets older, retrofitting seat belts becomes less practical because of costs and structure. You eventually reach the point where either the cost is prohibitive for the age and residual value of the coach, or the reinforcement becomes impossible because of coach structure. Hence, there are a lot of coaches out there that will be retired before they get seat belts.

The good news is that there are places where you can get seat belts retrofitted. MCI has been doing it in Loudonville other locations. ABC has also been doing some retrofitting, including a major program for Greyhound. A nice advantage of installing seat belts is that you can also install 110-volt outlets and Wi-Fi at the same time.

No matter what happens, the bus industry is faced with a problem of having a huge number of buses in operation without seat belts in late 2016. Will passengers and charter groups accept buses without seat belts? If not, what can we do other than turn them into livestock haulers and windbreaks?

Shown here is a new Temsa TS 45 coach equipped with seat belts. Temsa had experience with seat belts in Europe and was one of the first manufacturers to provide three-point seat belts as standard equipment. All of the coach manufacturers now offer seat belts as optional or standard equipment.





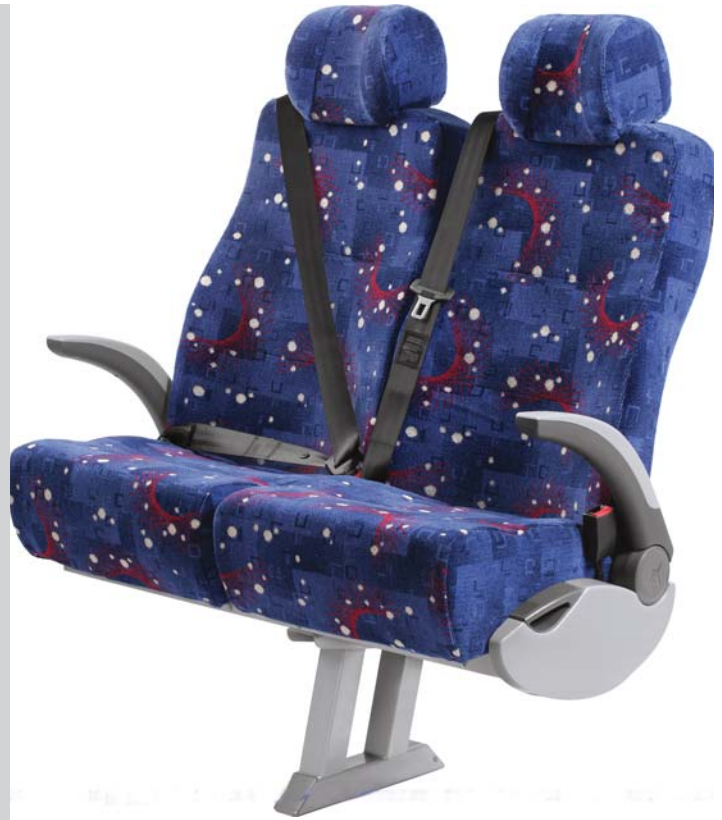
## Safety

Just how much do three-point seat belts protect passengers? While two-point seat belts have several negative features, the three-point seat belts are limited in positive features. The experts will point out that there are circumstances where three-point seat belts are more negative than positive. These would include evacuating a coach because of a fire or an oncoming train. Seat belts, and even three-point seat belts, may not add much safety in the event of a frontal or rear collision. Moreover, it is repeatedly pointed out that seat belts are of no value at all unless they are buckled.

The feds said that three-point seat belts do significantly add to passenger safety in the event of a coach rollover. Out of the total 122 bus fatalities from 2000 to 2006, 38 (about 31 percent) were caused by passengers being ejected from the coach. On the other hand, during that same seven-year period there were 15 bus rollovers, or an average of about 2.14 coach rollovers per year. Since the ABA Foundation says there are approximately 36,000 commercial coaches, this means that the average commercial coach will statistically be involved in a rollover accident once every 16,822 years. That seems like a huge number on which to base a demand for three-point seat belts. While any effort to save lives is commendable, one has to ask whether this money and effort would save more lives if placed elsewhere.

For example, one of the major reasons for coach ejections is push out windows that were mandated because of a bus accident and fire in 1952. The Europeans do not have push-out windows and instead provide little hammers to break the glass on passenger

All of the coach manufacturers selling in the United States now offer three-point seat belts as optional or standard equipment. Some of the seats come from Europe while others are domestically sourced. Shown here is the Amaya 2Ten seat with seat belts that is one of the more popular seats these days.



windows in the event of an emergency. To the best of my knowledge, more passengers have lost their lives from being ejected through push out windows in a rollover than have escaped fires using them. One would have to question whether it would save more lives to eliminate push out windows and increase compartmentalization rather than worry about seat belts.

## Liability and Litigation

I would be more concerned about liability and litigation over a lack of seats belts. While seat belts do not prevent bus accidents, their presence eliminates one possible avenue of litigation in the event of an accident, particularly a rollover. This may not directly affect the bus owner and operator. In the event of a major accident involving a rollover and fatalities, the bus company's insurance is usually quickly depleted. Then, the plaintiffs and their attorney will go after the bus and seat manufacturers.

There is probably no way you can demand that passengers buckle their seat belts. Nor can you send your bus driver or tour escort down the aisle to check seat belts like on a plane. However, it might be a good idea for your bus driver to announce that your bus is equipped with seat belts and their use is recommended for passenger safety. Hence, if passengers are injured because of not using their seat belts, they cannot claim that you did not warn them.

Finally, I might end by suggesting that the best way of dealing with a bus accident is to try to avoid it in the first place. If you take the time to review major bus accidents in recent years, you will find that many of them are single vehicle accidents in charter operations during the hours of darkness.

Conventional tours are rarely involved because they typically operate during daylight hours and drivers get to sleep at night so there is no fatigue factor. Scheduled ser-

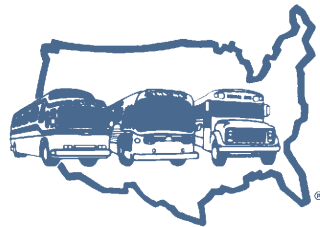
Seat belts can be retrofitted on newer coaches, but it can be expensive since new seats must be installed and the coach seat tracks and structure may need strengthening. One advantage of retrofitting is that the coach can also be updated with other features like Wi-Fi and 110-volt outlets at the same time. This coach was undergoing some updating at the MCI facility in Loudonville, Ohio.



vice night operations are also less likely to have problems. Drivers typically adjust their sleep habits to their route and regularity offsets the negative impact of night operations. Both fatigue and night operation could be

major negative factors on charters. I recommend reading Ned Einstein's column on "Bio-Sensitive Driver Assignment" in the April and May 2014 issues of NATIONAL BUS TRADER. □

One of the problems with seats is that many operators are very particular about the seats in their coaches. Some want to standardize their fleets with certain seat models while others are very concerned with the type of fabric and design. Shown here are a pair of seats with three-point seat belts in a new MCI coach.



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