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What Drivers of Large Passenger Vans Should Know to Prevent Rollovers



Large passenger vans handle considerably different than other vehicles. Drivers must be aware of their unique characteristics and safe operating procedures.

Considerable responsibility comes with operating large passenger vans. Their unique size and handling characteristics require additional caution, knowledge and skill. That, combined with the large number of passengers exposed to injury, heightens the need for safe operation. For the purposes of this article, a large passenger van is a van that seats 12 or more passengers, including the driver.

Rollovers

Large passenger vans have more instability than most other vehicles due to:

- Having a higher center of gravity, which moves higher as more passengers and cargo are loaded
- Width of stance (length-to-width ratio)
- Seating configurations that place excess weight on the left rear tire (due to walkway to the rear seats being on right side), contributing to instability
- Flat sides contributing to instability in crosswinds

In 2004 the National Highway Transportation Safety Administration (NHTSA) published a study highlighting major concerns regarding 15-passenger van roll-overs¹; The following were identified as major factors that increased the rollover propensity and resulting injury:

- Tire inflation, age and wear issues
- Over-correcting when driving off the pavement
- Speed
- Overloading (over 10 passengers) - Generally speaking, stability factors and dynamic rollover resistance of the vans degraded as the number of occupants increased
- Loading cargo on roofs
- Pulling trailers
- Inexperienced drivers
- Driver fatigue
- Occupants not using seatbelts

This study resulted in states banning 15-passenger vans for use in school transportation, mandated design changes to vans, and some manufacturers discontinued production. While the study focused on 15-passenger vans, 12-passenger vans have many of the same characteristics.

¹ Analysis of Crashes Involving 15-Passenger Vans, National Highway Transportation Administration, DOT HS 809 735, May 2004



Require seatbelts for all clients and aides. NHTSA found that 77 percent of fatally injured van occupants in rollovers were not restrained.³

Newer Vans

All 15-passenger vans model year 2006 and newer have Electronic Stability Control (ESC). Around the same time, electronic tire air pressure monitoring became a standard feature. While these features, and other design changes have made large passenger vans inherently safer, Nationwide, as well as several other organizations, feel large passenger vans still pose a higher rollover risk than other vehicles and drivers need to operate them with the utmost diligence.

Keys to Preventing Rollovers

Trip Preparation

- Ensure you are well rested, not feeling ill or under the influence of drugs or alcohol; including prescription drugs that could impede your performance
- Ensure your vehicle is in top operating condition; inspect it daily with a special emphasis on tire condition and proper inflation; The aforementioned study found a strong correlation between tire issues and rollovers; A NHTSA van tire pressure study found 74% of vans had at least one tire mis-inflated by 25% or more²
- Do not overload the vehicle. Limit passengers to 10, do not load cargo on the roof and do not pull a trailer
- Require all passengers to wear their seatbelt; 77% of occupants killed in single vehicle large van crashes were unrestrained³
- Ensure clients in wheelchairs and their wheelchairs are properly restrained.
- Set-up navigation systems in advance; Set your phone to go to voicemail and auto-reply "I am driving and will respond to your message later"

En Route

- Limit distractions:
 - Keep your mind focused on your driving duties and your eyes focused on the forward roadway
 - When checking mirrors limit glances to under 1.5 seconds - preferably less
 - Pull over to a safe place to park to address passenger issues
- Drive defensively:
 - Scan ahead, looking for potential hazards
 - Anticipate unsafe actions of others such as pulling out in front of you, not stopping at intersections, quickly changing lanes in front of you, stopping in front of you for no reason, etc.
 - Ensure you have adequate space before pulling onto roadways or merging

² 12 & 15 Passenger Vans Tire Pressure Study: Preliminary Results, National Highway Transportation Administration, DOT HS 809 846, May 2005

³ Fatalities to Occupants of 15-Passenger Vans, 2003-2007 National Highway Transportation Administration, DOT HS 811 143, May 2009

Human Services: Driving Large Passenger Vans: Rollovers

- Do not speed, be cautious on high speed roadways; The odds of a rollover on high-speed roads (50+ mph) are about five times the odds on a low-speed road (under 50 mph); Speed-related rollovers increase substantially when the van is at capacity¹
- Slow when going into turns, sharp curves, and ramps; Speed limits in these areas are designed for sedans, not large vans
- Maintain a proper following distance of at least four seconds behind the vehicle in front; Increase your distance as the van becomes full, during inclement weather, and at night when visibility is diminished.
- Try not to over-correct when taking evasive maneuvers; Over-correcting in vans often leads to instability and rollovers.
- Try not to over-correct if you leave the pavement; Try to keep your wheels straight on the shoulder and slow down gradually; Return to the pavement when at a safe speed



Obey speed limits. The odds of a rollover on high-speed roads (50+ mph) are about five times the odds on a low-speed road.

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