

CARGO TANK ROLLOVER



A Driver's Guide to Cargo Tank Truck Rollover Prevention

MYTHS & TRUTHS



Our nation relies on the goods transported by commercial motor vehicles on our roadways. Among the products moved each day are hundreds of thousands of shipments of hazardous materials, such as crude oil, gasoline, and flammable gases. Most of these shipments arrive safely, but hazardous materials have the potential to harm the public and the environment by causing injury, death, and property damage when trucks roll over.

Over 1,300 cargo tank rollovers are reported each year—an average of nearly 4 rollovers every day. **Don't be a statistic.** Keep the Load on the Road!

What causes cargo tank rollovers and how can they be prevented?

To prevent cargo tank rollovers, it's important to understand the reasons they occur. This means dispelling some common misconceptions about why they happen.

MYTH #1

Poor driving conditions lead to most rollovers.

Drivers might *think* most cargo tank rollovers happen at night, in the rain, and/or on a curvy road or on entrance and exit ramps. The truth is, less than 4% of single vehicle rollovers are caused by roadway and environment-related reasons.

- Over half (56%) happen on straight roads—not on curves or ramps.
- Approximately 2/3 of rollovers occur in daylight rather than in the dark.
- 93% of rollovers occur on dry roads.

MYTH #2

Most rollovers occur when a driver speeds or drives carelessly.

Drivers might *think* most cargo tank rollovers are caused when a driver speeds or drives carelessly. The truth is:

- Excessive speed is a contributing factor in less than half of all rollovers. In fact, only 28% of all cargo tank accidents involve driving too fast for conditions.
- Evasive maneuvers are a factor in only a small percentage (5-10%) of rollovers.

MYTH #3

Rollovers only happen to inexperienced drivers.

Drivers might *think* having years of experience helps them prevent rollovers because they've been doing it for years. But that may not be true, either.

- Approximately 66% of rollovers involve drivers with more than 10+ years of driving experience.
- Most rollovers occur among drivers between the ages of 25 and 55.

*Cargo tank rollover statistics are from the 2007 Cargo Tank Roll Stability Study, located at: <http://www.fmcsa.dot.gov/safety-security/hazmat/cargo-tank-roll-stability-finalreport-april2007.pdf>.

So, if most rollovers aren't caused by external conditions, speed, or inexperience, what does cause them?



Driver error. Rollovers can happen to anyone at any time, so drivers can never be too comfortable behind the wheel. Some 78% of rollovers involve some kind of driver error, and over 90% of the time, the rollover is not the “first” event. In other words, some other dangerous event occurs before the rollover. It might be drowsiness or inattention, which together contribute to 1 in 5 cargo tank rollovers, with running off the road due to inattention being the leading cause of serious crashes. The event might be a cargo tank driver drifting over onto a soft shoulder, riding up over

a curb, or incorrectly making a turn at an intersection. Attentive driving can prevent most rollovers.

Vehicle condition plays a role in some rollovers. In one study,* for example, 54% of vehicles in rollovers had a brake defect of some sort.

Load size is also a factor in some rollovers. Some 63% of rollover crashes occurred with cargo tanks carrying partial loads, so drivers must understand the “slosh and surge” effect of liquid loads.

Owners, managers, and others in the industry play a big part in helping drivers **Keep the Load on the Road** by:

► **Providing drivers with training tools.**

Motion-based simulators can serve as very effective training tools for new drivers due to their ability to place drivers in simulated dangerous situations without actually posing a danger. Vehicles equipped with electronic stability aids provide ongoing training by alerting drivers when they have taken a curve too quickly. Other in-cab devices offer drivers continuing education by automatically slowing a vehicle that enters a curve too quickly, warning drivers of upcoming sharp curves and analyzing the likelihood of rollovers on past curves. Providing drivers with the right training tools can have both short- and long-term effects on driver safety. In fact, improved training programs can eliminate an estimated 10% of rollovers experienced by drivers under 35 years of age.

► **Sharing the FMCSA Cargo Tank Truck Rollover Prevention video with drivers.**

Research shows that watching a video yields a higher retention rate than just reading or hearing about why rollovers occur. Help improve and enhance the consciousness of cargo tank drivers—preventing rollovers can save time, money, and lives.

► **Maintaining a heightened awareness of rollover causes.**

Fleet managers and dispatchers serve as a driver's co-pilot and have the most day-by-day influence over the driver's world. They can remind drivers of the importance of Hours-of-Service regulations to help ensure they are rested and alert. This lets drivers know carriers care about their safety. Drivers who are satisfied with the way a carrier treats them maintain a better awareness of safe driving practices.

Rollovers can happen at any time, so drivers can never be too comfortable behind the wheel.

Scan this code to learn more about cargo tank rollovers.



Or visit www.fmcsa.dot.gov/rolloverprevention

