

# Securing shipments to help prevent cargo-related crashes.



Make sure drivers can spot the signs of an overloaded vehicle and poorly balanced weight.

When cargo isn't properly secured, the probability of a highway accident increases. Shifting loads affect vehicle stability and control, especially during turning, starting and stopping.

Unsecured cargo is of particular concern when transporting bulk materials, liquids or livestock, where the likelihood of a rollover is increased due to the shifting of the vehicle's center of gravity. Similar problems arise when light duty pickup trucks and medium-sized delivery vans are improperly loaded with storage bins and cargo racks.

Accidents caused by factors such as these can result in damaged goods, loss of vehicles and/or injured drivers, negatively affecting your fleet. They can impact other drivers and pedestrians on the road, as well.

## Your driver's responsibilities when hauling cargo.

It's important for each driver to know his or her vehicle's load carrying capacity and the weight of the load before getting underway. In addition, your driver should take the following steps to help prevent cargo-related accidents:

- Know the federal, state and local regulations for covering and securing loads and regulations for commercial vehicle weight restrictions
- Learn to spot the signs of an overloaded vehicle and poorly balanced weight
- Conduct pre-trip inspections that include verifying that the vehicle is not overloaded and that cargo is properly balanced and secured
- Re-inspect the cargo and securement devices after driving approximately 50 miles; the cargo may have shifted or settled and need adjustment
- On longer trips, check cargo and securement devices as often as necessary; a good habit is to make this check every three hours, 150 miles or after every break taken during the trip

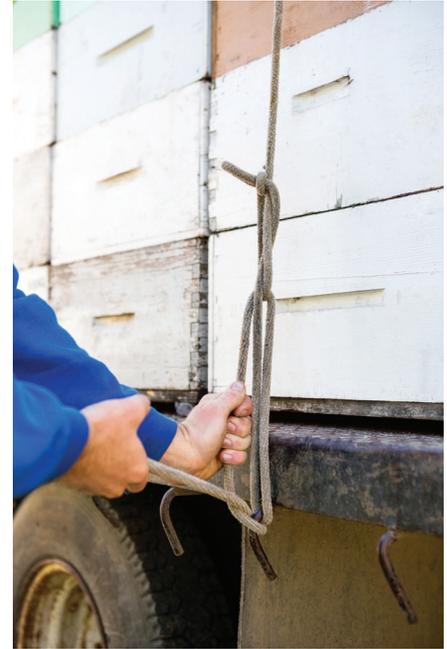
## Commercial Fleet Safety: Truck Cargo Securement

### The effects of vehicle weight and balance on drivability.

- Steering, braking and speed control are all adversely affected by overloading. Overloaded trucks climb hills more slowly, gain too much speed going down hills and require increased stopping distances.
- Weather and terrain should be considered prior to beginning a trip. Traction and control are affected by inclement weather. Steep grades and descents make controlling a vehicle more difficult.
- Vehicle height affects the center of gravity. A vehicle is more likely to tip while going around curves if there is a high center of gravity. Cargo should be distributed as low and as evenly as possible, with the heaviest part of the load on the bottom.
- If there is too much or too little weight over the front axles, this can make a vehicle difficult to steer.
- An improperly secured load on a flatbed vehicle can result in the load falling off onto other vehicles.

### Tips for blocking, bracing and tying down loads.

- Blocking the front, back and sides of cargo will help to immobilize the load. The block should be secured to the cargo deck and fit snugly against it.
- Bracing should go from the upper part of the cargo to the floor and/or walls of the cargo compartment to prevent movement.
- Hooks, bolts, rails and rings are used to attach tie-downs to vehicles. The tie-down should be the proper type and strength for the cargo being transported.
- Tie-downs are used with flatbed trucks or trailers. Common tie-down equipment includes ropes, straps, chains and tension devices such as winches, ratchets and clinching components. The Federal Motor Carrier Safety Administration has specific regulations that apply to the minimum number of tie-downs that should be used based on the cargo. There should be at least one tie-down for each 10 feet of cargo. All cargo, no matter how small, should have at least two tie-downs.



On flatbed trucks or trailers, there should be at least one tie-down for each 10 feet of cargo.

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