

# **CARGO TRANSPORT REGULATIONS FOR HAULING HAY: THE LATEST**

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## **BACKGROUND**

In 2002, the Federal Motor Carrier Safety Administration (FMCSA) at the Department of Transportation adopted new cargo securement rules. The new rules were based on a multi-year research program to evaluate regulations and the industry's best practices in the U.S. and Canada. The underlying goal was to harmonize the transport of goods, the safest way possible, between Canada, Mexico and the United States as a result of NAFTA.

The new regulations set minimum performance criteria for cargo securement systems to withstand forces associated with various movements of the truck. The minimum performance criteria are:

- 0.8 g deceleration in the forward direction;
- 0.5 g acceleration in the lateral direction; and
- 0.5 g acceleration in the rearward direction.

To meet these criteria, FMCSA developed a set of "General Cargo Securement Rules" for any cargo that has not been granted a commodity-specific rule. Commodity specific rules have been granted to logs and dressed lumber, automobiles, light trucks and vans, heavy vehicles, equipment and machinery, flattened or crushed vehicles; roll-on/roll-off containers, metal coils, paper rolls, concrete pipe, boulders, and intermodal containers. All other products, including agricultural commodities, fall under the General Cargo Securement Requirements.

Commercial motor carriers had to adopt the new rules for interstate commerce by January 1, 2004, while the states had to adopt them for intrastate commerce by January 1, 2007. These regulations apply to all cargo-carrying commercial motor vehicles as defined in 49 CFR 390.5, excluding bulk commodities that "lack structure or fixed shape (e.g. liquids, gases, grain, liquid concrete, sand, gravel, aggregates)".

## **GENERAL CARGO SECUREMENT REGULATIONS**

The general cargo securement requirements (49 CFR 393.100-114) provide thresholds for a minimum working load limit for cargo securement systems, and a minimum number and location of tiedowns. The aggregate working load limit of the cargo securement system must be at least one half of the weight of the cargo. The minimum number and location of the tiedowns depends on the length and weight of the cargo and whether or not the cargo is blocked to prevent movement in the forward direction.

For truck trailers with no header board or front-end protection, and cargo greater than 10 feet in length and weight exceeds 1,100 lbs., there must be:

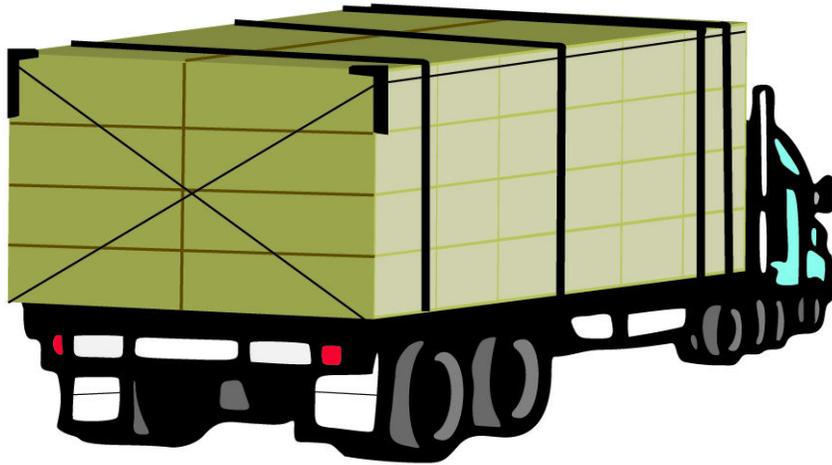
- two lateral tiedowns for the first 10 feet; and
- one additional lateral tie down for every additional 10 feet in length or fraction thereof.

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For truck trailers with front-end protection such as a header board or bulkhead, there must be at least one lateral tie down for every 10 feet of length or fraction thereof.

The General Cargo Securement Requirements consider longitudinal tie down assemblies as part of the aggregate working load limit for cargo securement system. They DO NOT consider them for the minimum number of tiedowns. For a 32' trailer with no header board, using longitudinal binders could look like this:

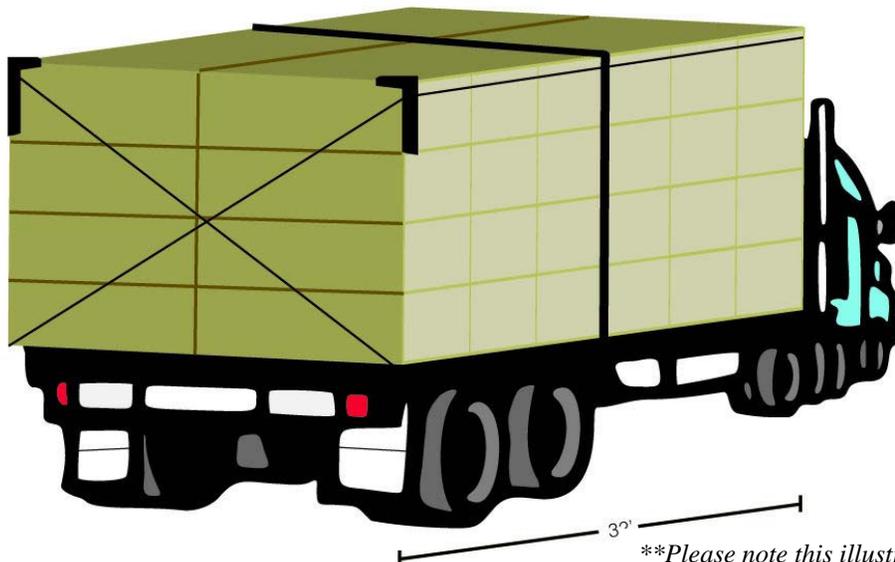


*\*\*Please note this illustration is not drawn to scale.\*\**

### **LOOKING FORWARD: EXPECTED CHANGES FOR HAY HAULING**

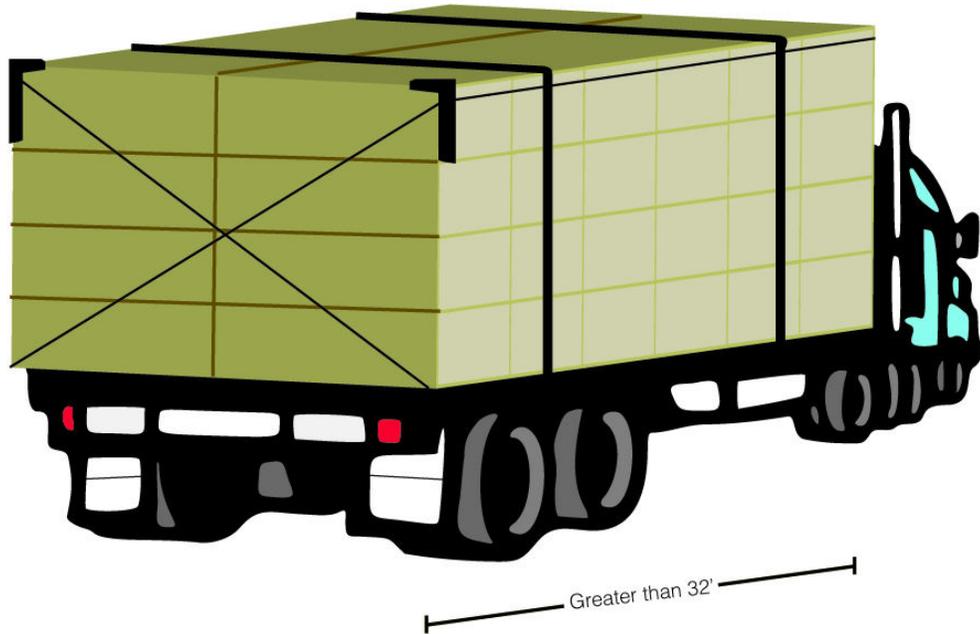
In 2004, an independent engineering firm tested various methods for securing square bales of hay to evaluate whether or not the industry's best practices meet federal requirements for the minimum performance criteria to protect against shifting and falling cargo. The study demonstrated that the combination of longitudinal tie down assemblies with a loading pattern that unitizes the load, should only require one or two additional lateral straps depending on vehicle length.

For rectangular bales of hay or straw using longitudinal tie down systems, truck trailers 32 feet or less would require one additional lateral strap in the center of the length of the trailer (as seen below).



*\*\*Please note this illustration is not drawn to scale.\*\**

For rectangular bales of hay or straw using longitudinal tie down systems, truck trailers greater than 32 feet would require two additional lateral straps at approximately one-third and two-thirds of the length of the trailer (as seen below).



*\*\*Please note this illustration is not drawn to scale.\*\**

In both cases, working load limits for the tie down assemblies still apply.

In September 2007, the Federal Motor Carrier Safety Administration (FMCSA) issued a technical finding document, titled "Technical Review of Industry Cargo Securement Practices for Square Bales of Hay and Straw," which recognized these findings. California Highway Patrol (CHP) raised a number of legal concerns about this document, which required additional analysis of the 2004 tests. While reports are mixed as to whether or not enforcement agencies in other states are allowing for the new configuration, California Highway Patrol (CHP) is still requiring hay haulers to move cargo using the General Cargo Securement Regulations<sup>2</sup>.

The additional analysis of the 2004 testing was completed in conjunction with other cargo securement tests in November 2007, at the CHP Academy in West Sacramento. All parties involved expect an expedited response to the issues surrounding hay and straw securement that will satisfy CHP's concerns by 2008. We are working closely with all agencies to ensure a smooth transition.

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<sup>2</sup> CHP is still enforcing hay haulers to utilize the General Cargo Securement Requirements as November 28, 2007.

## **LITERATURE CITED**

Federal Motor Carrier Safety Administration. 2002. Understanding the Federal Motor Carrier Safety Administration's Cargo Securement Rules. Department of Transportation, Washington DC

Federal Motor Carrier Safety Administration. 2007. Technical Review of Industry Cargo Securement Practices for Square Bales of Hay and Straw. Department of Transportation, Washington DC