Oregon Department of Transportation

Truck Inspection Safety Notice

March 22, 2019

Subject: Cargo Securement
Unitized LARGE Bales of Hay and Straw

Hay / straw may be secured in accordance with general securement regulations 393.100 – 393.114.

V-boards and longitudinal straps are NOT required when using general securement.

Below are **alternate / excepted methods** of securing hay and straw.
If all requirements of the alternate method are not met, the load would be considered in violation of general load securement regulations and would be OOS based on 393.100(b).

General Information

- Hay/straw is considered "unitized" when longitudinal ropes or tiedown assemblies are present.
  - Hay not "unitized" must be secured in accordance with general securement regulations.
- A **large bale** is rectangular having one or more dimensions measuring 2 ½ x 3 ½ x 6' or greater.
  - These bales generally weigh **750+ pounds each**.
- Tie-downs may consist of chain, wire rope, manila rope, synthetic fiber rope and/or synthetic webbing.
- **The incidental blow-off of individual stems of hay or straw is not a violation.**
- Loss of load occurs with the disintegration and/or loss of a complete bale, flake, or cluster of hay or straw. If this occurs, the vehicle should be placed OOS based on 393.100(c). (Be reasonable)

Alternate Method 1

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Lateral Tie-Down(s)

If securement device is less than 2 inches in width/diameter, V-boards must be utilized.

- Trucks/trailers (**32 feet or less**) require a minimum of **1 lateral** tie-down positioned at approximately center of the truck or trailer.
- Trucks/trailers (**32 feet or greater**) require **at least 2 lateral** tie-downs positioned at approximately 1/3 and 2/3 the length of the truck or trailer.

Longitudinal Tie-Downs

- Two longitudinal tie-downs are required and **must be applied over V-boards**.

V-Boards

Must be positioned at top edge of the load beneath the tiedowns. Must consist of two parallel pieces of lumber, metal, or other material (having a strength no less than that of a nominal size 1x3 piece of Douglas fir) not more than 12 feet in length, attached together near each end by flexible material. If V-boards are more than 6 feet in length they must also be attached at the approximate midpoint.

V-boards must be of sufficient length to restrain at least ½ of each bale to which they are applied. As far as is practicable, multiple tiedowns must be uniformly spaced over the entire length of a V-board.

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Alternate Method 2

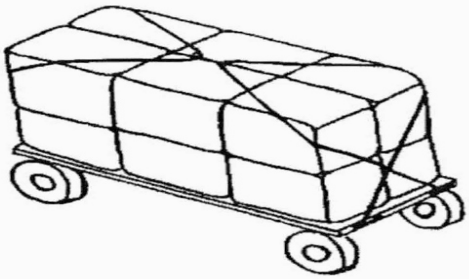

Figure 7 Alternate Securement of Jumbo Bales

Two longitudinal tie-downs, with the ends of one tiedown fastened to separate anchor points not less than 48 inches apart on the vehicle at the front of the load, crossing as it extends up the vertical end of the load and passing to the outside around the upper comers of the top bales, forming a loop on top of the load. A second tiedown must be similarly positioned over the rear of the load, with the two tiedowns connected near the top center of the load by a winch or ratchet-type tightening device.

V-boards are not required for this alternate tie-down method.

Working Load Limit

The “standard” aggregate working load limit (WLL) noted in FMCSR 393.106 **DOES NOT** apply. However;

- Each longitudinal tie-down must have a WLL no less than 2,100 pounds.
- Each lateral tie-down must have a WLL of at least 4,000 pounds. If not, multiple tied-owns may be used, but each must have a minimum WLL of 625 pounds and cumulatively must total at least 4,000 pounds.

Load Construction

Loads must be constructed so the outermost bales at the sides of the load cannot be in the same direction in more than three successive tiers.

Load Projection

If bales project beyond the front and/or rear of the vehicle bed, **no portion** can extend beyond the vehicle bed **into the area between** a truck and trailer or semi-trailer and trailer. Loads **must not extend more than 1/3 bale length beyond the rear** of the bed surface on a **single vehicle** or the **last vehicle in a combination** of vehicles.

Loads may only extend beyond the front end of the truck bed over the driver’s compartment or sleeper berth if this portion of the load is supported by permanent, substantial steel (or equivalent) construction and tied into the remainder of the load by interlocking construction. The load or supporting structure cannot obstruct the view of the driver to the front or sides of the vehicle.

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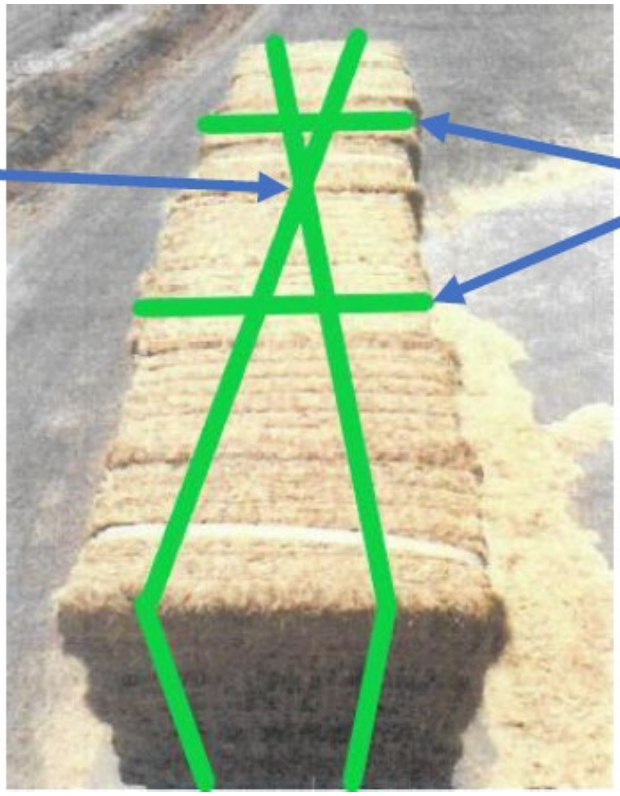
Alternate Method 3

Trailer in picture is 45 feet long



ALL synthetic webbing straps used MUST be a minimum of 4 inches wide.

Longitudinal Tie-Downs

Two longitudinal tiedowns must cross and must each have a WLL on not less than 2,100 pounds.

Transverse / Lateral Tie-Down(s)

Each transverse / lateral tiedown must have a WLL of not less than 4,000 pounds.

- Trucks/trailers (**32 feet or less**) require a minimum of **1 lateral** tie-down positioned at approximately center of the truck or trailer.
- Trucks/trailers (**32 feet or greater**) require **at least 2 lateral** tie-downs positioned at approximately 1/3 and 2/3 the length of the truck or trailer.

V-boards are not required if utilizing this option.
Green lines in the picture above depict the proper means of this securement method. Disregard the appearance of any other strapping.