

NSC Cargo Securement Standard  
Implementation Information

Part 2, Division 1: Logs

Shortwood Loaded Crosswise – Tiedowns and Automatic Tensioning Devices

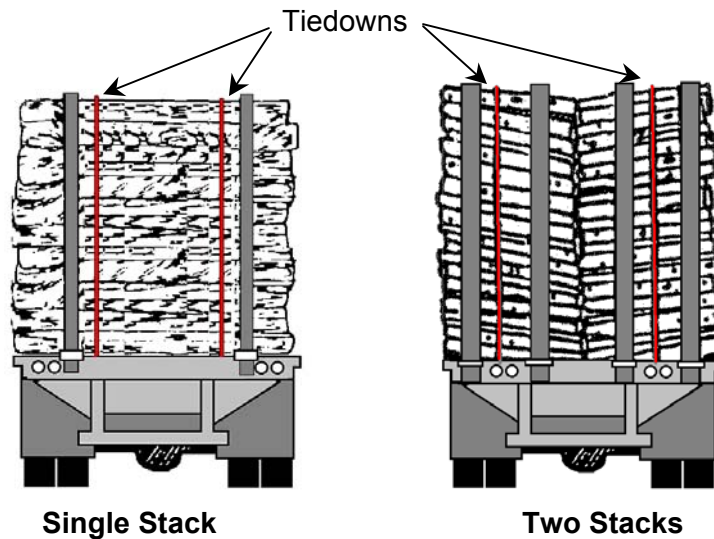
**Issue:**

Use of automatic tiedown tensioning device mechanisms on shortwood loaded crosswise.

**Context:**

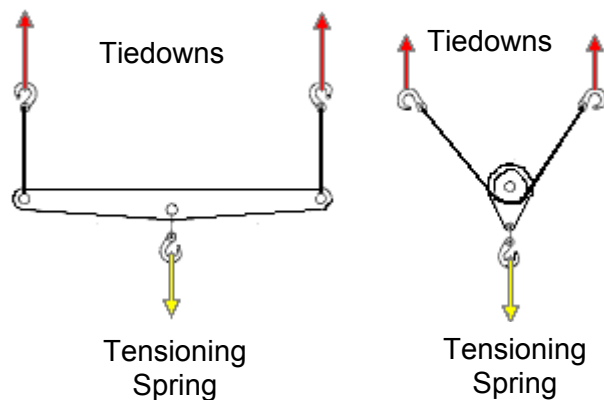
NSC Standard 10 requires the use of longitudinal tiedowns to secure stacks of shortwood loaded crosswise on vehicles:

- At least two tiedowns for a single stack
- At least one tiedown per stack if two stacks are loaded side by side on a vehicle



There is provision in the standard that will require vehicles built on or after January 1, 2010 to be equipped with a device "that maintains a tension not less than 900 kg at all times, and automatically takes up slack in the tiedown as the logs settle".

Automatic tensioning devices have been in usage on some of these configurations for several years. These systems typically use an air or mechanical spring to apply tension to the tiedowns, usually through lever or pulley based equalization system:



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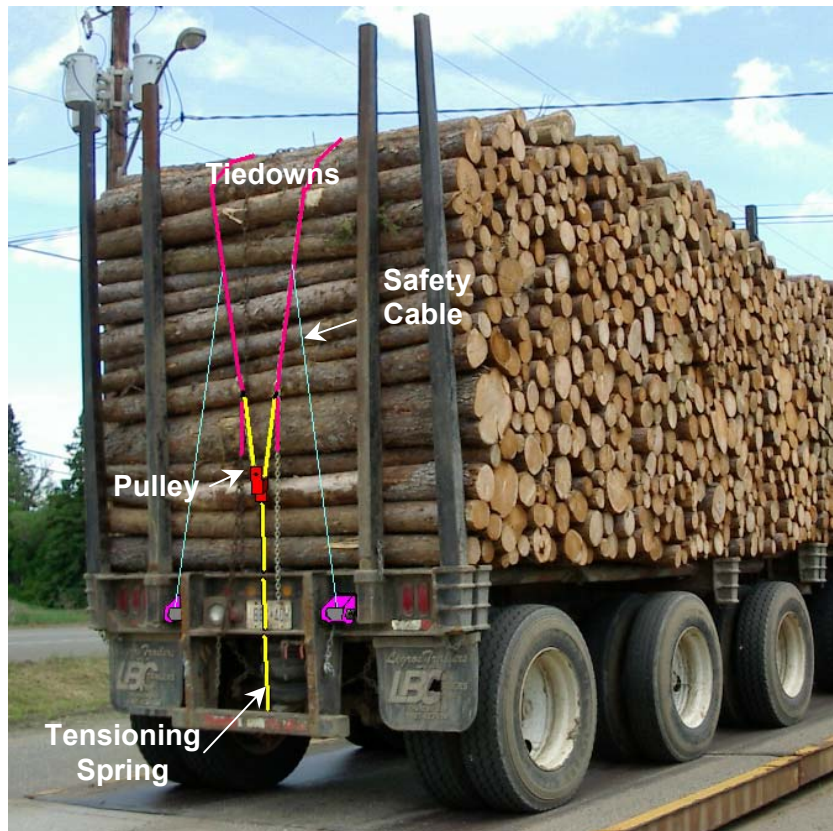
### Concerns

The use of tension equalization mechanisms as shown above results in the ends of both tiedowns being connected together at a common point. Consequently, failure of either tiedown will result in loss of tension in both. In addition, it could be argued that the requirement for at least two tiedowns on a single stack of shortwood is not met (by the definition of a tiedown), as linking two tiedowns through a pulley effectively results in a single tiedown.

Experience has shown that the automatic tiedown tensioning mechanisms currently in use are very effective, and are substantially more reliable than the alternative manual tensioning systems. From the perspective of improving highway safety, the use of automatic tensioning systems should be strongly encouraged.

### Implementation Approach

By January 1, 2010 nationally acceptable automatic tensioning devices mechanisms must include supplementary safety chains or cables, as depicted below. This will ensure that some level of tension is maintained in one of the tiedowns in the event of failure of a single tiedown or the tensioning device.



To allow industry in different regions of the country opportunity to modify existing equipment or to plan new purchases individual provinces or territories may choose to phase in the requirement for supplementary safety chains or cables over a suitable time frame.

**However, carriers operating interprovincially should be aware of the status of implementation in each province, and may be required to comply with this requirement in some jurisdictions prior to January 2010.**