

# Open Top Loading Rule: Tie Industry Embraces Safety Rules

By Liz Russell, RTA Safety & Material Processing Committee Chair, with Contributions from RTA Committee Members

*Editor's Note: Photos in this article have been compiled over a long period time and, in some of the non-compliant cases shown, the photos were taken prior to AAR Open Top Loading Rule (OTLR) revisions now in effect. They are used to illustrate why the rules must be followed as part of a best practices safety plan. Photos that note non-compliance should not be construed as depicting current practices and, in some cases, were "staged" to emphasize non-compliance.*

## Introduction

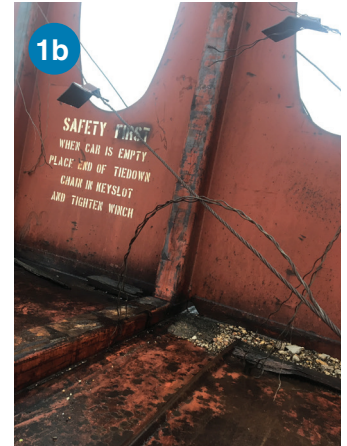
Centerbeam railcars have become one of the primary ways to ship railroad ties—whether untreated or treated. Their large capacity makes them a cost-effective freight alternative to shipping via gondola or truck. However, making sure the material loaded on these cars arrives at the destination in a condition that is safe to unload can prove a big challenge to shippers and receivers of centerbeam cars. The Association of American Railroads (AAR) has modified its loading rules at least four times in the last 12 years to try to improve how the material is secured to the car. Shifted loads present a huge hazard for railroad workers during transit and for the receivers of these cars during the offloading process. The AAR rules (revised April 2018) are available at <https://bit.ly/2Dz8IZM>.

## What To Look For & Eliminate

- 1 It is very important that shippers follow a few simple steps prior to loading the car. Cars should be inspected to ensure that the framework is in good shape.
- 2 When loading packs on cars, ensure that material is squarely set on blocking. Use blocks that are in good condition. Packs should be banded with strapping that has adequate break strength for the weight of the material being packaged. Whenever possible, 1-1/4" 029 steel strapping (or any AAR approved strapping) should be used, and the straps should be tight around the pack of material.



This car was immediately taken out of service once the defect was discovered. Note: Any car with large cracks should not be loaded. Cables should be inspected. Frayed or missing cables should be replaced.



Properly banded, but improper (square) blocking. NOTE: Current OTLR specifically spell out the size of the separators/spacers in Item C of the AAR Rules. "Width must be at least two inches greater than the height." This is critical as it reduces the chance that spacers will roll over. Square material is not acceptable, and some members find that 3-inch-by-five-inch spacers are best for forklift operation.

Note: AAR specifications do not require steel banding, only that enough strength (AAR approved) be used to assure pack integrity. Best practices allow either material if approved.

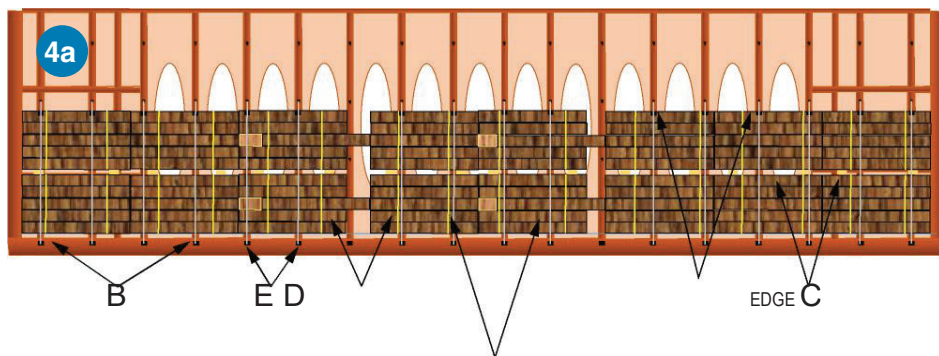
- 3 According to the AAR, load packages must be loaded end to end, keeping any void space to a minimum and left in the center of the load.



Improper loading. Note: The load should be flush against the bulkhead of the car.

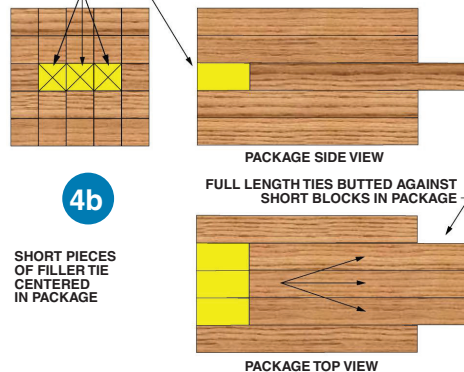


Properly loaded. Note: Flush and abutting the side of the car.



RAILROAD TIES, TREATED OR UNTREATED, PACKAGED, 8 FT LONG AND OVER - FLATCARS WITH CENTER A-FRAME, PERMANENT END BULKHEADS, CUSHIONING DEVICES, AND CABLE TIE-DOWN SYSTEM

THREE SHORT PIECES OF FILLER TIE NESTED WITHIN PACKAGE



Rule-compliant filler tie blocks in place. Note: Viewed from the filler piece block end.



Filler tie blocks in place. Note: Viewed from the tie end (Yard spacer blocks between packs are to be replaced with rule compliant spacer/support blocks during loading.)



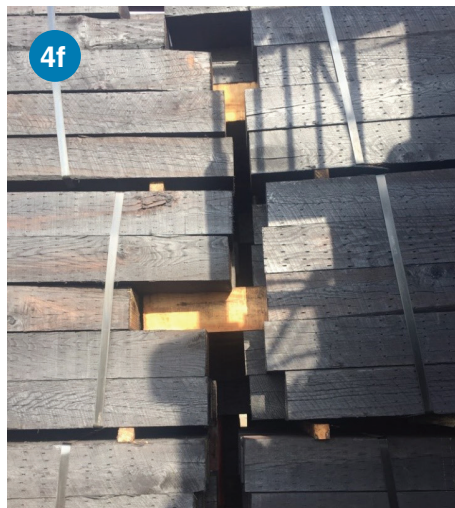
Load prior to shipment. Note: Rule-compliant filler tie pieces are used to create bracing in voids between stacks. In this picture, however, spacer blocks between packs are not current rule (4/18) compliant.

**4** Current AAR loading rules require void space to be less than 24 inches on the car. In cases where this is unavoidable, filler tie pieces should be used.

**5** When material is cabled to the car, all available cable should be used. Missing cables should be replaced. Cables should be spooled so that the cables are flat and not crisscrossed over each other. This ensures cables stay tight during transport.

**6** As noted above, prior to unloading cars, a pre-inspection must be performed. Individuals should look for frayed, worn, loose or missing cables. Shifted loads and broken bands on packs should be noted. Equipment should be used to remove cables whenever possible to limit danger to employees that are working on the ground. If necessary, **use a pusher bar** or some other type of equipment to push shifted loads back against the center of the car. It may even be necessary to keep the pusher bar in place while cables are being loosened and removed.

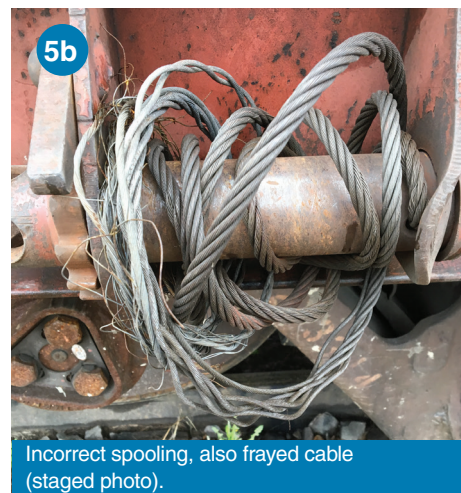
**7** Even with careful attention given when cars are loaded, there is still a ➤



Same load received at destination. Did the square non-compliant spacers contribute to load shift or did issues at a hump yard create it? Or, did both factors contribute? Note: Even properly loaded cars can be received at destination with shifted loads. This is most often due to improper handling enroute. Excessive speeds and/or other issues at hump yards or in-route can create difficult destination conditions. Great care must be taken to safely unload affected cars. Inspect loads at destination carefully prior to unloading. Utilizing checklists may help (example at end of article).



Correct cable spooling.



Incorrect spooling, also frayed cable (staged photo).



6 Example of pusher bar fabricated for forklift and used to brace packs during unloading

possibility of material shifting while in transit. Extreme care should be given when unloading material from rail cars. AAR believes it is imperative that the shipper and the receiver to do whatever they can to keep employees safe when working around center beam rail cars.

8 The following photos illustrate current best practices that are OTLR compliant. Shippers may wish to create a checklist for loading and unloading to assure OTLR compliance. In some cases, post-loading handling errors of cars enroute can create issues at the destination requiring extra measures be taken to safely unload the car.



7 How many non-compliance issues can you identify in this photo? Hint: there are at least four.



8a Load properly blocked and cabled with proper spacers and filler tie pieces.



8b Close-up of same.



8c Proper cable spooling.

All OTLR are free to view at <https://my.aar.org/OTLR>. Ties are covered under Section 5, available at <https://bit.ly/2Dz8lzM>.

**A-FRAME UNLOADING CHECKLIST – CONTACT FORM**

<b>Date:</b>	<b>Car:</b>			<b>Inspector Name:</b>
	<b>Yes</b>	<b>No</b>	<b>If Yes, How Many?</b>	Any shifted pack or stack that requires immediate unloading, after un-securing, prior to un-securing adjacent stack. If so, which one(s): _____
<b>Brake Set</b>				_____
<b>Wheel Chocks Placed</b>				Comments on load: _____
<b>Loose Bands on Packs</b>				_____
<b>Broken/Missing Bands on Packs</b>				Employees' Acknowledgement of Awareness of Hazards: Each grounds man working on this car sign contact form on other side, after reviewing and understanding inspection findings and hazards associated with this car (preferably just one, max two).
<b>Cables Stacks</b>				Any additional PIE operators working on this car, sign contact form on other side, after reviewing and understanding inspection findings and hazards associated with this car.
<b>Cables Frayed</b>				If new hazardous conditions are identified with load during unsecuring/unloading that warrant deviation from established procedure, that should be communicated on the contact form, on other side.
<b>Cables Missing</b>				
<b>Center Straps Present/Missing</b>				
<b>Compression Bands Present</b>				
<b>Shifted Packs</b>				
<b>Dunnage Missing/ Shifted Under Packs</b>				