4. LOAD DIMENSION AND WEIGHT RESTRICTIONS

4.1 The height, width, and length of a load on one car for unrestricted movement must be within the "Outline Diagram for Single Loads, Without End Overhang, On Open Top Cars" as published in the "Railway Line Clearance" section of the *Official Railway Guide*, and in Appendix A, page 185.

4.2 Refer to Part 5 for recommended procedures for measuring loads that exceed published railway line clearances and the method of determining combined center of gravity above top of rail.

4.3 Loads of dimensions and/or weight that make it necessary to handle them under restricted speeds must be reported by the originating carrier to all carriers involved in the shipment's routing.

4.4 The dimensions for single loads having end overhang, and those loaded on two or three cars, must be in compliance with General Rules 29 and 30.

4.5 Loading tracked machinery/vehicles with treads extending (laterally) beyond the floor of the car is permitted, provided the machine/vehicle is centrally located on the car and not more than one half of the tread extends beyond the outside face of the side sill.

4.6 Shippers and originating carriers must verify clearances over the entire route for any load having one or more dimensions exceeding the above-referenced outline diagram or as shown in General Rules 29 and 30. This rule does not authorize shippers to exceed height, width, or length dimensions when shown in specific figures.

4.7 Trailers with Load Overhang

Loads that are longer than the trailer must be within the following limitations for load overhang.

4.7.1 The overhang must not project beyond the end sill of the flatcar on which the trailer is loaded unless an idler car is used.

4.7.2 The length of the overhang measured from the end of the trailer (or end bearing piece when used) is not to exceed 25% of the length of the load. If the load consists of more than one pile, the 25% limitation applies to the length of the end pile containing the overhang. Individual pieces not exceeding 10% of the total number of overhanging pieces in the load may exceed the 25% overhang limit if all other conditions are met.

4.7.3 The length of the overhang, even within the 25% limit, shall be of such length as not to produce injurious bending or deformation of the load or pieces in the load because of weight or conditions incidental to TOFC movements. The length of the overhang in this case will depend upon the weight, cross section, and strength of the material in the load.

4.7.4 For any objects subject to rotating or swinging, refer to Rule Rule 6.

5. LOAD RESTRAINT

5.1 Load Restraint Types

5.1.1 Floor Blocking

Lumber or steel dunnage is secured to the railcar via fasteners (nails or bolts) or fastening agents (weld). The primary purpose is to prevent movement of the load on the car by blocking around points or perimeter of the load.

5.1.2 Tie-Downs

Tie-downs can be any material (cable, rod, strap, chain, flat bar) used to generally secure the load above the floor to an anchoring point on the car.

5.2 Load Restraint Applications

5.2.1 Floor blocking must be attached to a sound floor free from defects that could hinder solid application of securement. For maximum restraint, all fasteners must be perpendicular, or at 90° to the floor, because by definition, floor blocking is designed for lateral and longitudinal restraint. If plate welded to the car is used for floor blocking, provide a vertical component by adding a lip or catch to the securement to prevent any vertical movement. The lip is parallel to the car floor. Provide filler as needed for solid or full contact.

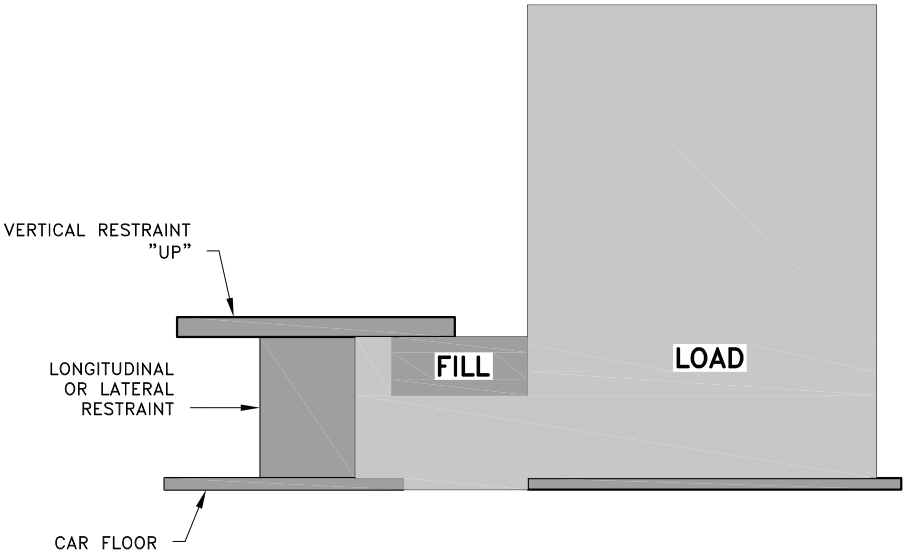

Fig. 5.1 Floor blocking with vertical restraint

5.2.1.1 Floor blocking and tie downs may be used together to meet load restraint requirements.

5.2.1.2 Tie-downs may be used as securement for all three directions—longitudinal, lateral, and vertical. However, securement using this approach is not always practical for heavier loads because of the number of tie-downs required. When tie-downs are applied for vertical restraint only and are positioned over the load car side-to-car side, they must be applied at approximately right angles to the car whenever possible unless an alternate method is specified in a figure.

5.2.1.3 If tie-downs are for restraint for more than one axis (e.g., vertical and lateral; vertical and longitudinal), then tie-down restraint values must be modified using the tables in Appendix E.

5.2.1.4 On General Rules loads, Type 1A nonmetallic strapping, Grades 6, 7, and 8, may not be used to provide the required longitudinal or lateral restraint. Approved Type 1A nonmetallic strapping, Grades 6, 7, and 8, may be used to provide only the vertical load restraint. **Note:** An object must be secured with a minimum of two tie-downs.

IMPLEMENTED 11/2015