



Inspector(s): \_\_\_\_\_ Inspection Location: \_\_\_\_\_ Date: \_\_\_\_\_ Region: \_\_\_\_\_  
 Builder: \_\_\_\_\_ Car Initials & Number: \_\_\_\_\_ Car Type: \_\_\_\_\_ Cars to be Built: \_\_\_\_\_ Builder Job #: \_\_\_\_\_

Item	Number - Dimensions - Location - Manner of Application <small>(All brackets used solely to support safety appliances are mechanically fastened per MP&amp;E TB 98-14)</small>	CFR Reference*	Notes
Hand Brake	<p>Except for box and other house cars that comply with either 231.27 or 231.28, each box and other house car shall be equipped to meet the following specifications:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> One efficient handbrake which shall operate in harmony with the power brake installed on the car.</li> <li><input type="checkbox"/> Each such handbrake shall provide the same degree of safety as the design shown on plate A.</li> <li><input type="checkbox"/> Or provide the same degree of safety as that specified in 231.27.</li> <li><input type="checkbox"/> The brake shaft shall be not less than 1¼ inches in diameter, of wrought iron or steel without weld.</li> <li><input type="checkbox"/> The brake wheel may be flat or dished, not less than 15 inches in diameter of malleable iron, wrought iron, or steel.</li> <li><input type="checkbox"/> The handbrake shall be so located that it can be safely operated while car is in motion.</li> <li><input type="checkbox"/> The brake shaft shall be located on end of car to the left of center.</li> <li><input type="checkbox"/> There shall be not less than four inches clearance around rim of brake wheel.</li> <li><input type="checkbox"/> Outside edge of brake wheel shall be not less than four inches from a vertical plane parallel with end of car and passing through the inside face of knuckle when closed with coupler horn against the buffer block or end sill.</li> <li><input type="checkbox"/> Brake chain shall be of not less than ¾, preferably 7/16, inch wrought iron or steel, with a link on the brake rod end of not less than 7/16 inch wrought iron or steel. <sup>1</sup></li> <li><input type="checkbox"/> Brake wheel shall be held in position on brake shaft by a nut on a threaded extended end of brake shaft; said threaded portion shall be not less than three-fourths of an inch in diameter, said nut shall be secured by riveting over or by the use of a lock nut or suitable cotter.</li> </ul>	<p>231.1(a)(1) 231.1(a)(1)(i) 231.1(a)(1)(ii) 231.1(a)(2)(i) 231.1(a)(2)(ii) 231.8(a)(3)(i) 231.8(a)(3)(ii) 231.1(a)(4)(i) 231.1(a)(4)(ii) 231.1(a)(4)(vi) 231.1(a)(4)(xiii)</p>	

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Running Boards	<input type="checkbox"/> One continuous running board around sides and ends; or two running full length of tank, one on each side. <input type="checkbox"/> Minimum width on sides, 10 inches. Minimum width on ends, six inches. <input type="checkbox"/> Continuous around sides and ends of cars. On tank cars having end platforms extending to bolsters, running boards shall extend from center to center of bolsters, one on each side. <input type="checkbox"/> If side running boards are applied below center of tank, outside edge of running boards shall extend not less than 7 inches beyond bulge of tank. <input type="checkbox"/> The running boards at ends of car shall be not less than 6 inches from a point vertically above the inside face of knuckle when closed with coupler horn against the buffer block, end sill or back stop. <input type="checkbox"/> Running boards shall be securely fastened to tank or tank bands.	231.8(b)(1)  231.8(b)(2) 231.8(b)(3)  231.8(b)(4)(i)  231.8(b)(4)(ii)  231.8(b)(4)(iii)	
Sill Steps	<input type="checkbox"/> Four sill steps <input type="checkbox"/> Minimum cross-sectional area $\frac{1}{2} \times 1\frac{1}{2}$ <sup>2</sup> inches, or equivalent <sup>3</sup> of wrought iron or steel. <input type="checkbox"/> Minimum length of tread, ten inches. <input type="checkbox"/> Minimum clear depth, eight inches. <sup>4</sup> <input type="checkbox"/> One near each end on each side under side handhold. <input type="checkbox"/> Outside edge of tread of step shall be not more than four inches inside of face of side of car. <input type="checkbox"/> Tread shall be not more than 24, inches above the top of rail. <input type="checkbox"/> Sill steps exceeding 21 inches in depth shall have an additional tread. <input type="checkbox"/> Sill steps shall be securely fastened with not less than $\frac{1}{2}$ inch bolts with nuts outside (when possible) and riveted over, or with not less than $\frac{1}{2}$ inch rivets.	231.1(d)(1) 231.1(d)(2)  231.8(c)(3)(i) 231.8(c)(3)(ii)  231.8(c)(3)(iii) 231.1(d)(4)(i) 231.1(d)(4)(ii)	
Ladders	If running boards are so located as to make ladders necessary: <input type="checkbox"/> Two on cars with continuous running boards. Four on cars with side running boards. <input type="checkbox"/> Minimum clear length of tread, 10 inches. Maximum spacing of treads, 19 inches. <input type="checkbox"/> Wrought iron or steel treads, minimum diameter $\frac{5}{8}$ <sup>2</sup> of an inch. Minimum clearance, two inches. <input type="checkbox"/> On cars with continuous running boards, one at right end of each side. On cars with side running boards, one at each end of each running board. <input type="checkbox"/> Ladders shall be securely fastened with not less than $\frac{1}{2}$ inch bolts or rivets.	231.8(d) 231.8(d)(1) 231.8(d)(2)(i) 231.8(d)(2)(ii)  231.8(d)(3)  231.8(d)(4)	

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Side Handholds	<input type="checkbox"/> Four or more. <input type="checkbox"/> Minimum diameter, $\frac{5}{8}$ of an inch, wrought iron or steel. <sup>2</sup> <input type="checkbox"/> Minimum clear length, 16 inches <input type="checkbox"/> Minimum clearance, two inches. <input type="checkbox"/> Horizontal, one on face of each side sill near each end on tank cars with short side sills, or one attached to top of running board projecting outward above sill steps or ladders on tank cars without side sills. Clearance of outer end of handhold shall be not more than 12 inches from end of car. <input type="checkbox"/> If side safety railings are attached to tank or tank bands four additional vertical handholds shall be applied, one as nearly as possible over each sill step and securely fastened to tank or tank bands. <input type="checkbox"/> Side handholds shall be securely fastened with not less than $\frac{1}{2}$ inch bolts with nuts outside (when possible) and riveted over, or with not less than $\frac{1}{2}$ inch rivets.	231.8(e)(1) 231.1(h)(2)  231.8(e)(3)(i)  231.8(e)(3)(ii)  231.1(h)(4)	
End Handholds	<input type="checkbox"/> Four. <input type="checkbox"/> Minimum diameter, $\frac{5}{8}$ of an inch, wrought iron or steel. <sup>2</sup> <input type="checkbox"/> Minimum clear length, 16 inches, preferably 24 inches. <input type="checkbox"/> A handhold 14 inches in length may be used where it is impossible to use one 16 inches in length. <input type="checkbox"/> Minimum clearance, two inches. <input type="checkbox"/> Horizontal, one near each side of each end of car on face of end sill. Clearance of outer end of handhold shall be not more than 16 inches from side of car. <input type="checkbox"/> Horizontal end handholds shall be securely fastened with not less than $\frac{1}{2}$ inch bolts with nuts outside (when possible) and riveted over, or with not less than $\frac{1}{2}$ inch rivets.	231.8(f)(1)  231.1(i)(2)(i) 231.1(i)(2)(ii)  231.1(i)(2)(iii) 231.8(f)(3)(i)  231.1(i)(4)	
Tank Head Handholds	<input type="checkbox"/> Two. (Not required if safety railing runs around ends of tank) <input type="checkbox"/> Minimum diameter, $\frac{5}{8}$ of an inch, wrought iron or steel. <sup>2</sup> <input type="checkbox"/> Minimum clearance, two inches. <input type="checkbox"/> Horizontal, one across each head of tank not less than 30 nor more than 60 inches above platform on running board. <input type="checkbox"/> Clear length of handholds shall extend to within six inches of outer diameter of tank at point of application. <input type="checkbox"/> Tankhead handholds shall be securely fastened.	231.8(g)(1) 231.8(g)(2)  231.8(g)(3)(i)  231.8(g)(4)	

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Safety Railings	<input type="checkbox"/> One running around sides and ends of tank or two running full length of tank. <input type="checkbox"/> Minimum diameter, 7/8 of an inch, wrought iron or steel. Minimum clearance, 2½ inches. <input type="checkbox"/> Running full length of tank, not less than 30 nor more than 60 inches above platform or running board. <input type="checkbox"/> Safety railings shall be securely fastened to tank or tank bands and secured against end shifting.	231.8(h)(1) 231.8(h)(2) 231.8(h)(3)  231.8(h)(4)	
Uncoupling Levers	<input type="checkbox"/> Two uncoupling levers. <input type="checkbox"/> May be either single or double, and of any efficient design. <input type="checkbox"/> Handles of uncoupling levers, except those shown on Plate B or of similar designs, shall be not more than six inches from side of car. <i>(Plate B is the primary application you will see)</i> <input type="checkbox"/> Uncoupling levers of design shown on plate B and of similar designs shall conform to the following prescribed limits: <input type="checkbox"/> Handles shall be not more than 12 inches from sides of car. Center lift arms shall be not less than 7 inches long. <input type="checkbox"/> Center of eye at end of center lift arm shall be not more than 3 ½ inches beyond center of eye of uncoupling pin of coupler when horn of coupler is against the buffer block or end sill. <i>(See plate B.)</i> <input type="checkbox"/> End of handles shall extend not less than four inches below bottom of end sill or shall be so constructed as to give a minimum clearance of two inches around handle. Minimum drop of handles shall be 12 inches; maximum, 15 inches overall (see Plate B). <input type="checkbox"/> One on each end of car. When single lever is used, it shall be placed on left side of end of car.	231.1(k)(1)  231.1(k)(2)(i)  231.1(k)(2)(ii)  231.1(k)(2)(iii)  231.1(k)(2)(iv)  231.1(k)(2)(v)  231.1(k)(3)	
End Ladder Clearance	<input type="checkbox"/> No part of car above end sills within 30 inches from side of car, except buffer block, brake shaft, brake-shaft brackets, brake wheel, running boards or uncoupling lever shall extend to within 12 inches of a vertical plane parallel with end of car and passing through the inside face of knuckle when closed with coupler horn against the buffer block or end sill, and no other part of end of car or fixtures on same, above end sills, other than exceptions herein noted, shall extend beyond the outer face of buffer block.	231.8(j)(1)	

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Other CFR Sections	<input type="checkbox"/> Inspect all components to ensure compliance with the regulations. <input type="checkbox"/> Ensure all brake components are located so that an inspection can be safely conducted without an inspector placing himself in a precarious or unsafe position, <i>(TB MP&amp;E 98-32)</i> .		
Misc.	<input type="checkbox"/> Check for any sharp or protruding objects or areas on the equipment that may create a safety concern or personal injury. <input type="checkbox"/> Check for potential pinch points at all safety appliance arrangements. <input type="checkbox"/> Check to ensure that all brackets used solely to support a safety appliance are mechanically fastened. The use of weld on brackets is prohibited. <input type="checkbox"/> Check to ensure compliance <b>with all applicable federal regulations</b> . <input type="checkbox"/> Verify coupler height 31½ inch minimum, 34½ inch maximum.	231.31(a)(1)	
Digital Photos	<input type="checkbox"/> General Arrangement Photo Sheet ~ No Deviations Noted (six photos minimum, A & B ends, each corner at 45 degree angle) <input type="checkbox"/> Deviation Photo Sheet ~ Deviations Noted: As many photos as necessary to fully depict, document and illustrate CFR deviations (e.g. 215, 229, 231 & 232)		

\* The CFR reference sections noted throughout the check list refers to the *actual* regulatory requirement.

**Footnotes:**

- 1 TB MP&E 98-53 ...3/8 inch alloy chain and 1/2 inch steel alloy chain currently being used by new car manufacturers exceed the specifications.
- 2 TB MP&E 98-18 Ladder treads, handholds of circular cross-section, 13/16 inch diameter and sill steps, 5/8 inch thick and 2 inches wide, when constructed of 6061-T6 aluminum alloy exceeds the current Federal Railroad Administration's requirements.
- 3 Equivalent must meet or exceed the cross sectional area the result of which may not be less than 3/4 inch.
- 4 TB MP&E 98-13 Clear depth means a vertical space the width of, and above the sill step material or strap and should be clear and unobstructed for 8 inches
- 5 Variance allowed due to construction of car. Note exception on F6180.4.

**IMPORTANT NOTE: Equipment that is not adequately addressed in Part 231.** For examples: There are no ladder requirements in §§231.29 or 231.30. However, if additional safety appliances are used on *any type of equipment*, (i.e., §231.18 Cars of special construction), they must meet the dimension, location, and a manner of application requirements. This logic holds true regardless of the equipment inspected. When applying §231.6 during a sample-car inspection on an auto rack, you will encounter components not mentioned in that section such as ladders, stenciling, end ladder clearance, etc. These additional components must meet the appropriate requirements. If there is any doubt, consult your regional specialist.

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