

not more than nineteen (19) inches apart and with the bottom handhold located not more than twenty-one (21) inches from top tread of sill step, and top handhold shall coincide in height with horizontal end-platform handhold, a variation of two (2) inches being allowed. Spacing of side handholds shall be uniform within a limit of two (2) inches from top handhold to bottom handhold. Clearance of outer ends of handholds shall be not more than eight (8) inches from end of car.

(4) *Manner of application.* Same as specified for "Box and Other House Cars," except each bottom handhold shall have foot guard or upward projection not less than two (2) inches in height near inside end.

(f) *Horizontal end handholds*—(1) *Number.* Four (4).

(2) *Dimension.* Same as specified for "Box and Other House Cars."

(3) *Location.* One (1) near each side of each end of car on outer edge of end platform, projecting downward with clearance of outer end not more than sixteen (16) inches from side of car.

(4) *Manner of application.* Same as specified for "Box and Other House Cars."

(g) *Horizontal end-platform handholds*—(1) *Number.* Two (2).

(2) *Dimensions.* Same as specified for "Horizontal End Handholds" for "Box and Other House Cars," except length shall extend across end of car.

(3) *Location.* Extending across each end of car, not less than forty-eight (48) nor more than sixty (60) inches above tread of end-platform with clearance at each end of not more than four (4) inches from side of car, supported by an extra leg near center of handholds.

(4) *Manner of application.* Same as specified for "Horizontal End Handholds" for "Box and Other House Cars."

(h) *Vertical end-handholds*—(1) *Number.* Four (4).

(2) *Dimensions.* Minimum diameter five-eighths ( $\frac{5}{8}$ ) of an inch, wrought iron or steel. Minimum clearance, two (2), preferably two and one-half ( $2\frac{1}{2}$ ) inches.

(3) *Location.* One (1) on each side of each end of car, not more than four (4) inches from side of car, extending downward from end of horizontal end-

platform handhold to within eight (8) inches above tread of end-platform. One (1) continuous handhold with two (2) right angles, or two (2) right angle handholds, may take the place of two (2) specified vertical end-handholds and one (1) horizontal end-platform handhold, provided the dimensions and locations coincide, and extra legs at points of angle and center are provided and securely fastened to car.

(4) *Manner of application.* Same as specified for "Box and Other House Cars."

(i) *Uncoupling levers.* Same as specified for "Box and Other House Cars."

(j) *Painting and stenciling.* (1) That portion of each end of car more than fifteen (15) feet above top of rail shall be painted with contrasting reflectorized paint and shall bear the words "No running board" to the left of center and "Excess height car" to the right of center.

(2) Lettering to be not less than three (3) inches high. On each side-sill near end corner there shall be painted a yellow rectangular area with a three-fourths ( $\frac{3}{4}$ ) inch black border containing the words "This car excess height—no running board." Lettering to be not less than one and one-half ( $1\frac{1}{2}$ ) inches high. When car is equipped with center sill or underframe cushioning device having more than twelve (12) inches longitudinal impact absorbing travel, and a part of the uncoupling device and/or brake pipe is located parallel to the exposed end of the center sill, such part shall provide at least two (2) inches of clearance near the coupler of sufficient length to permit use as an emergency handhold during air hose coupling operation and the top of exposed ends of sliding center sill shall be coated with anti-skid paint.

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**§ 231.25 Track motorcars (self-propelled 4-wheel cars which can be removed from the rails by men).**

(a) *Handbrakes (includes foot operated brake).* Each track motorcar shall be equipped with an efficient handbrake so located that it can be safely operated while the car is in motion. Each handbrake shall be equipped with a ratchet or other suitable device which

will provide a means of keeping the brake applied when car is not in motion.

NOTE: The requirements of this rule will be satisfied if the ratchet or other suitable device operates in connection with at least one handbrake on track motorcars that may be equipped with more than one such brake.

(b) *Handholds*. One or more safe and suitable handholds conveniently located shall be provided. Each handhold shall be securely fastened to car.

(c) *Sill steps or footboards*. Each track motorcar shall be equipped with safe and suitable sill steps or footboards conveniently located and securely fastened to car when bed or deck of track motorcar is more than 24 inches above top of rail.

(d) *Couplers*. When used to haul other cars, each track motorcar shall be equipped with a coupler at each end where such cars are coupled (1) which provides a safe and secure attachment, (2) which can be coupled or uncoupled without the necessity of men going between the ends of the cars.

#### § 231.26 Pushcars.

(a) *Handbrakes*. When used to transport persons, each pushcar shall be equipped with an efficient handbrake so located that it can be safely operated while the car is in motion.

(b) *Handholds (includes handles)*. Each pushcar shall be provided with one or more secure handholds. When used to transport persons, each pushcar shall be provided with one or more safe and suitable handholds conveniently located above the top of the bed of each pushcar.

(c) *Sill steps or footboards*. When used to transport persons, each pushcar shall be equipped with safe and suitable sillsteps or footboards conveniently located and securely fastened to car, when bed or deck of pushcar is more than 24 inches above top of rail.

(d) *Couplers*. When moved together with other vehicles, each pushcar shall be equipped with a coupler at each end where such vehicles are coupled (1) which provides a safe and secure attachment, and (2) which can be coupled or uncoupled without the necessity of men going between the ends of the cars.

NOTE: Sections 231.25 and 231.26 are applicable only when the vehicles governed thereby are coupled together and moved together.

#### § 231.27 Box and other house cars without roof hatches or placed in service after October 1, 1966.

(a) *Handbrakes*. The handbrake may be of any efficient design, but must provide the same degree of safety as, or a greater degree of safety than, the following specifications:

(1) *Number*. (i) Each box or other house car without roof hatches shall be equipped with an efficient vertical wheel handbrake which shall operate in harmony with the power brake thereon.

(ii) The handbrake may be of any efficient design, but must provide a total braking force applied to brake shoes not less than the total force applied to the brake shoes by the brake cylinders at 50 pounds per square inch.

(2) *Dimensions*. (i) The brake wheel may be deep or shallow, of malleable iron, wrought iron, steel, or other material of equivalent strength.

(ii) Overall diameter of brake wheel nominally twenty-two (22) inches.

(iii) Depth of brake wheel hub shall be two and five-eighths (2<sup>5</sup>/<sub>8</sub>) inches with square taper shaft fit, taper two (2) inches in twelve (12) inches with small end of taper fit seven-eighths (7<sup>8</sup>/<sub>8</sub>) inches.

(iv) Brake wheel and drum shall be arranged so that both will revolve when applying and gradually releasing the handbrake. Handbrake shall be provided with means to prevent application of the brake by winding in a counterclockwise direction.

(v) Brake shaft shall be arranged with a square fit at its outer end to secure the handbrake wheel; said square fit shall be not less than seven-eighths (7<sup>8</sup>/<sub>8</sub>) of an inch square. Square-fit taper: Nominally two (2) in twelve (12) inches (see Plate A).

(vi) All chains shall be not less than nine-sixteenths (9<sup>16</sup>/<sub>16</sub>) inch BBB coil chain.

(vii) All handbrake rods shall be not less than three-fourths (3<sup>4</sup>/<sub>4</sub>) inch diameter.

(3) *Location*. (i) The handbrake shall be so located that it can be safely operated from horizontal end platform while car is in motion.