Section 7
Cabs, Controls & Platforms

Training Objective

At the completion of this section, students should be familiar with inspection and rejection criteria associated with crane cabs, controls and service platforms as established by:

- Manufacturers
- OSHA 1910.179
- ASME B30.2
- CMAA Specifications #70 & #74.


626

Which one would you rather be in?

Applicable Standards for CABS

Construction (B30.2-1.5.2)
Ladders (OSHA 1910.27)
Clearance (OSHA 1910.179)
Fire extinguisher (B30.2-1.5.5)
Cleanliness 1910.179(o)(2)(i)&(ii)
Visibility (B30.2-1.5.1(b))
Access (B30.2-1.5.3)
Controls (B30.2-1.5.1(a) & 2-1.13.3)
Disconnect (B30.2-1.13.5)
Lighting (B30.2-1.5.6)

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Crane Cab Inspection Items

- Cab cleanliness 1910.179(o)(2)(ii)
- Door opens inward (if no platform)
- Self closing & positive latching
- Fire extinguisher 10 BC Installed **in** the cab (check it) 1910.179(o)(3) (2-1.5.5)
- Disconnect lockable in the open position (in the cab)
- Clear unobstructed view
- Controls clearly marked
- Warning labels
- Warning device(s)

Construction (ASME B30.2-1.5.2)

- Bolts securing cab shall be in shear - ASME B30.2-1.5.2(a)
- If there is an integral outside platform, the door must open outward or slide. (b)
- If no platform, the door must open inward or slide and have a positive latching device. (c)
- If a platform exists, guard railings and toe boards are required. (f)

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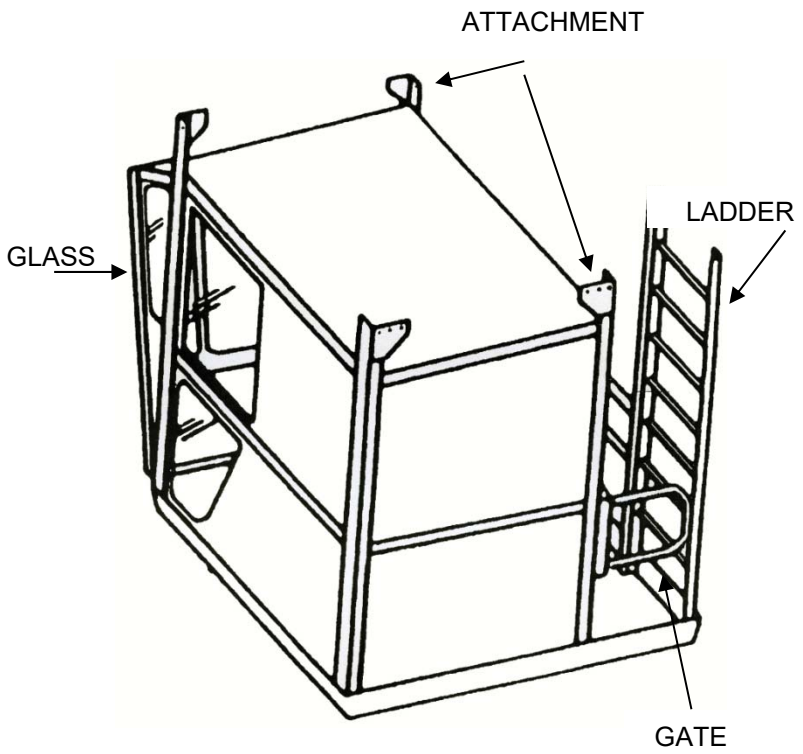
Crane Cabs

Reference:

- OSHA 1910.179(c)
- ASME B30.2-1
- CMAA Spec #70 & #74



INSPECT:

- Construction (B30.2-1.5.2)
- **Ladders (OSHA 1910.27)**
- Clearance (OSHA 1910.179)
- Visibility (B30.2-1.5.1(b))
- Access (B30.2-1.5.3)
- Fire extinguisher (B30.2-1.5.5)
- Controls (B30.2-1.5.1 & 2-1.13.3)
- Disconnect (B30.2-1.13.5(b))
- Lighting (B30.2-1.5.6)

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Crane Cabs

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Ladders (OSHA 1910.27)

- 7 inches (min) clearance behind rung
- 15 inches either side of center of rung

Clearance (OSHA 1910.179)

- 3 inches clearance between the cab and any fixed structures in the work area
- Entry to the cab or service platform shall require no step over any gap exceeding 12 inches.

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Fire Extinguisher (ASME B30.2-1.5.5)

A portable fire extinguisher with a basic minimum extinguisher rating of **10 BC** shall be installed **in the cab**.

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Fire Protection

OSHA 1910.179 (o) (3) Fire Extinguishers - The employer shall ensure the operators are familiar with the operation and care of the fire extinguishers provided.

ASME B30.2 Section 2-1.5.5 Fire Extinguisher - A portable fire extinguisher, with a basic minimum extinguisher rating of 10 BC shall be installed **in** the cab.

ASME B30.2 Section 2-3.7.3 - Fire Extinguishers - Operators shall be familiar with the location, operation and care of fire extinguishers provided.

OSHA 1910.179 (c) (3) Fire Extinguisher - Carbon Tetrachloride extinguishers shall not be used.

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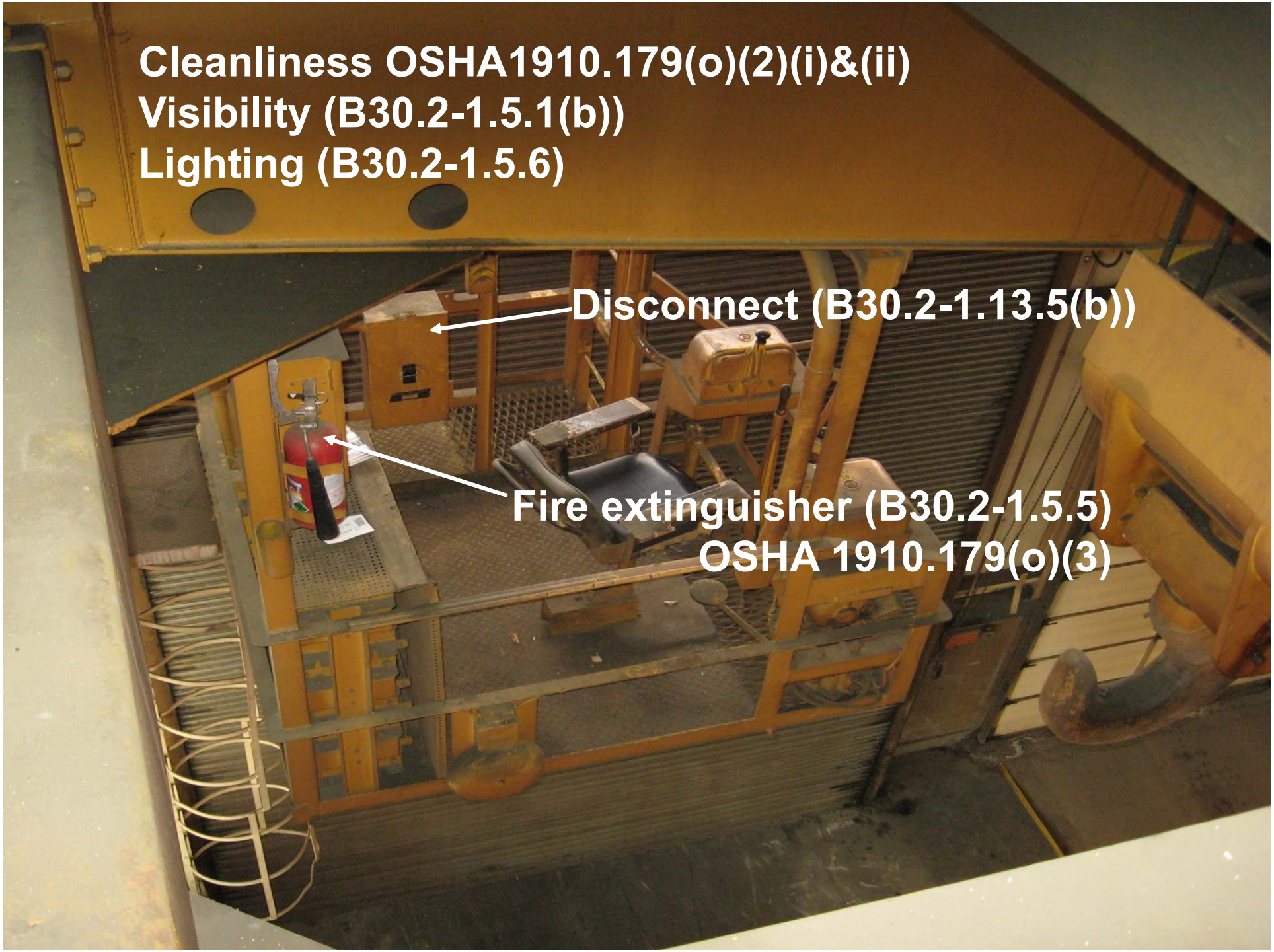
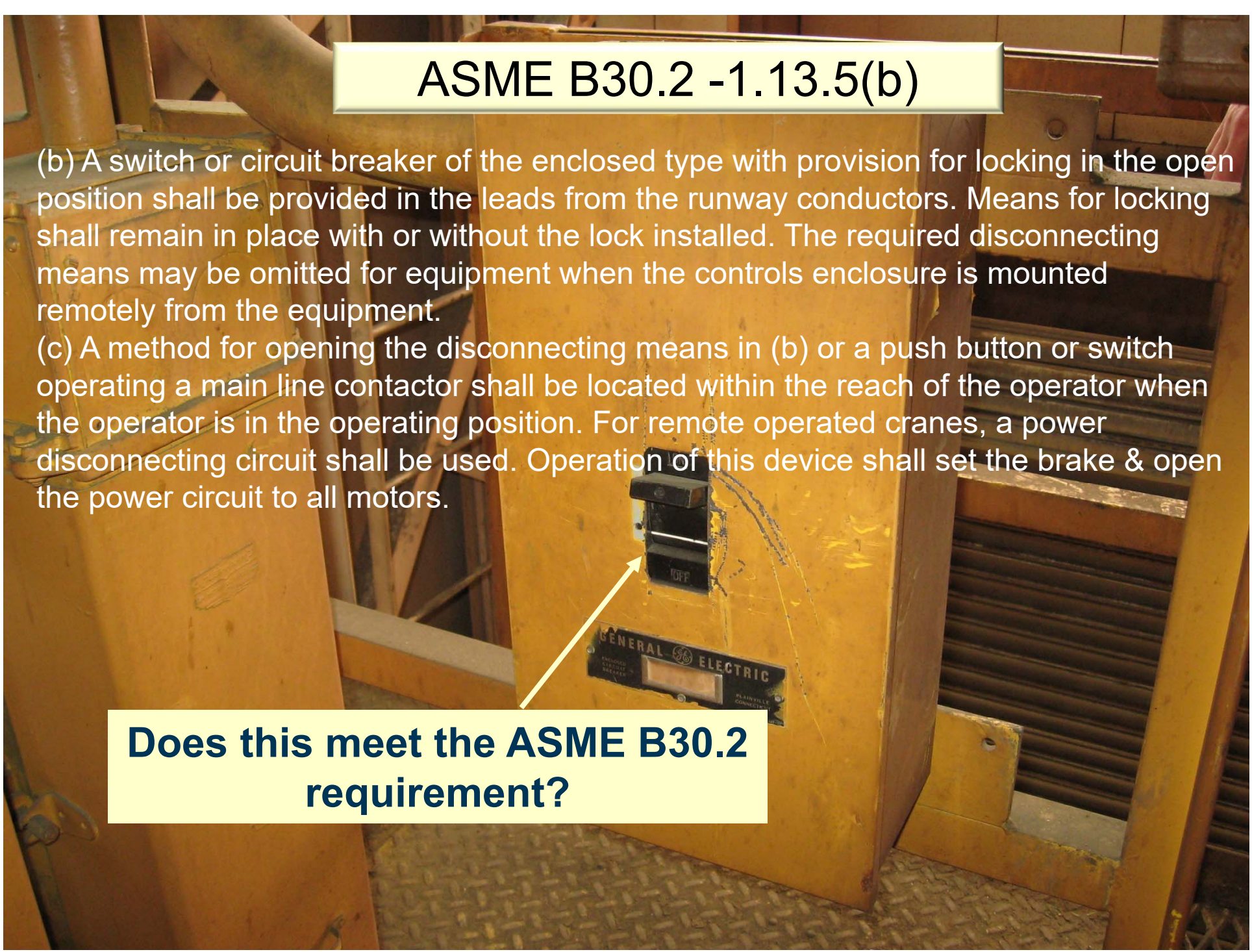

Cleanliness OSHA1910.179(o)(2)(i)&(ii)
Visibility (B30.2-1.5.1(b))
Lighting (B30.2-1.5.6)
Disconnect (B30.2-1.13.5(b))
Fire extinguisher (B30.2-1.5.5)
OSHA 1910.179(o)(3)

ASME B30.2 -1.13.5(b)

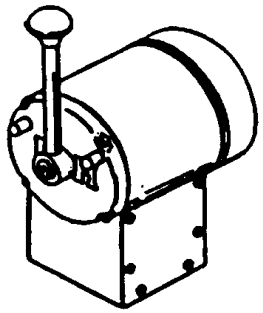
(b) A switch or circuit breaker of the enclosed type with provision for locking in the open position shall be provided in the leads from the runway conductors. Means for locking shall remain in place with or without the lock installed. The required disconnecting means may be omitted for equipment when the controls enclosure is mounted remotely from the equipment.

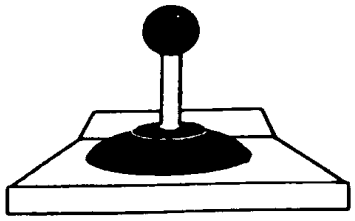
(c) A method for opening the disconnecting means in (b) or a push button or switch operating a main line contactor shall be located within the reach of the operator when the operator is in the operating position. For remote operated cranes, a power disconnecting circuit shall be used. Operation of this device shall set the brake & open the power circuit to all motors.

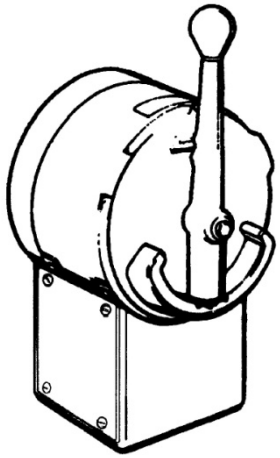


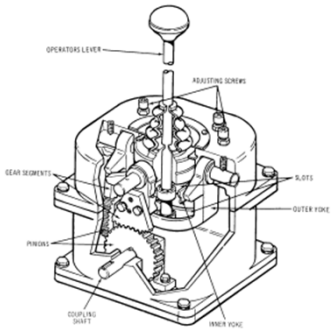
Does this meet the ASME B30.2 requirement?

Cab Controls (B30.2-1.5.1 & 2-1.13.3)









Reference:

- OSHA 1910.179(g)
- ASME B30.2-1.1.5
- ASME B30.2-1.5.1
- ASME B30.2-1.13.3
- CMAA Spec #70 & #74

INSPECT:

- Detent (OSHA(g)(3)(11)
- Markings
- Direction (g)(3)(iv)
- Warning labels 2-1.1.5(b)
- Warning Device
- Controls
- Control interlocks CMAA
- Disconnect (B30.2-1.13.5(b))
- Mounting hardware

Cab Controls (B30.2-1.5.1 & 2-1.13.3)

2-1.13.3 Controllers

(a) Cranes not equipped with spring-return controllers, spring-return master switches, or momentary contact push buttons, shall be provided with a device that will disconnect all motors from the line in the event of a power failure. This disconnect device shall not permit any motor to be restarted until the controller or master switch handle is brought to the "OFF" position, or a reset switch or power-on button is operated.

(b) For cab- or pulpit-operated cranes, lever-operated manual controllers and master switches shall be provided with a spring-return arrangement, off-point detent, or off-point latch.

(c) For cab- or pulpit-operated cranes, the manual controller or master switch operating handle shall be located within reach of the operator.

(d) For cab- or pulpit- operated cranes, the movement and arrangement of controllers or master switches should conform to Figs. 2-1.13.3-1 and 2-1.13.3-2.

(e) If a magnet controller is provided, the on (lift) direction shall be toward the operator and the off (drop) direction away from the operator.

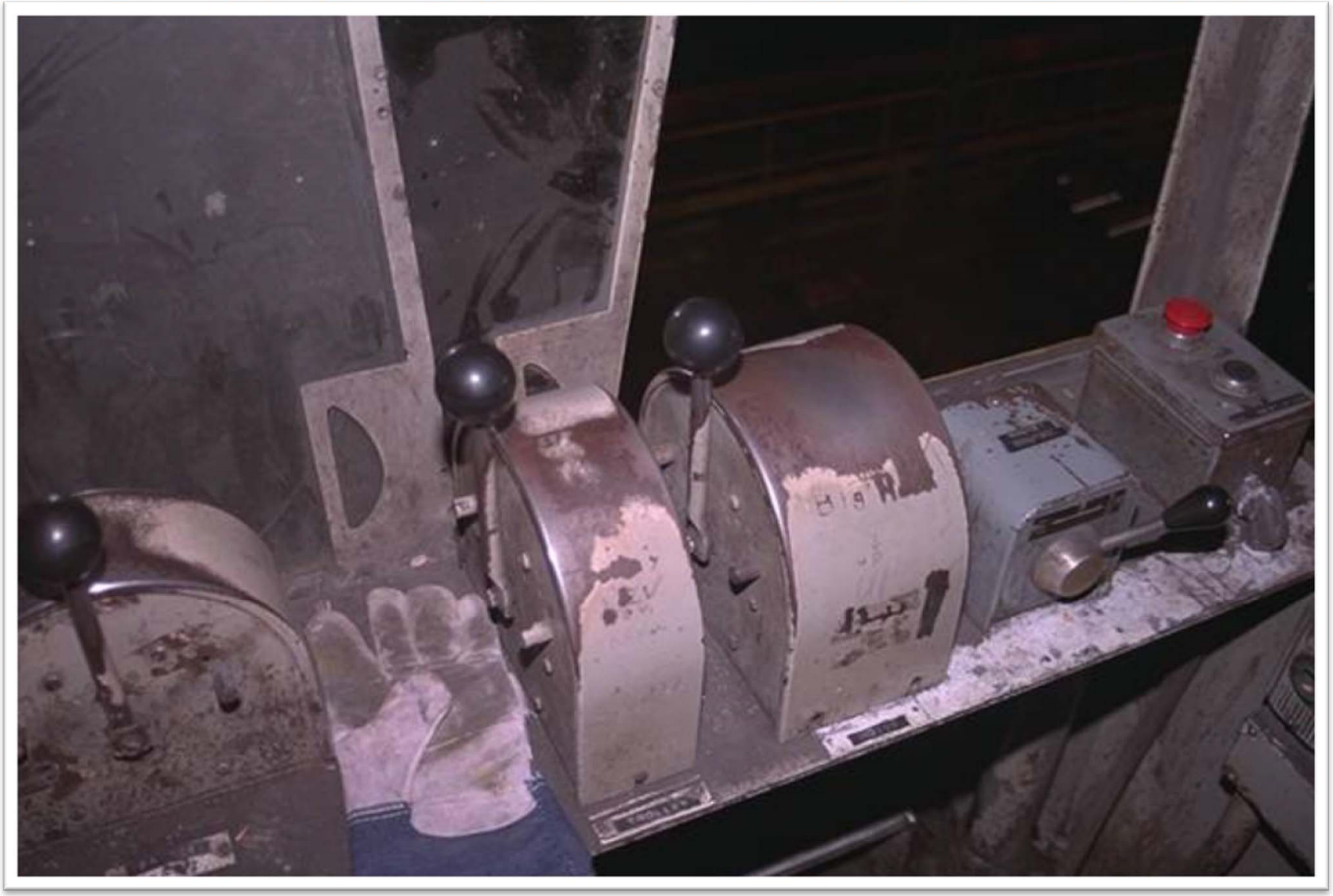
(f) For floor-operated cranes, the controller or controllers, if rope operated, shall automatically return to the "OFF" position when released by the operator.

(g) Push buttons in pendant stations shall return to the "OFF" position when pressure is released by the crane operator.

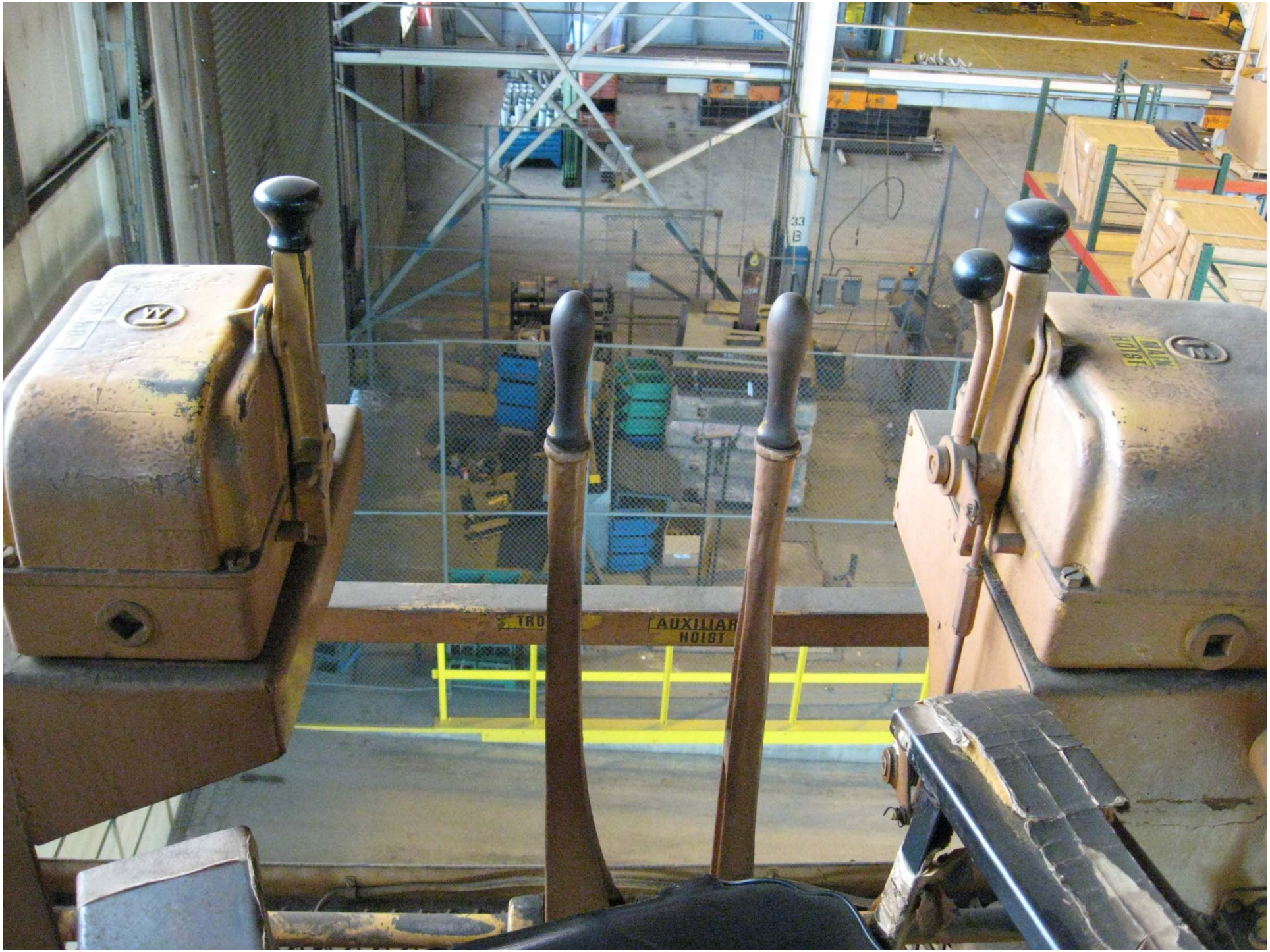
ASME
SETTING THE STANDARD

No Markings -- Very Old Controls

Poorly Marked If At All




BRIDGE
W
TROLLEY


AUXILIAR
HOIST

Properly Marked

Poor, But Meets Requirements

Pendant Controls

Reference:

- **OSHA 1910.179(g)**
- **ASME B30.2-1.1**
- **ASME B30.2-1.13.3**
- **ASME B30.16-1.1.2**
- **CMAA Spec #70 & #74**

INSPECT:

- Spring return (B30.2-1.13.3)
- Control Interlocks
- Condition of conductor cable
- Strain Relief1910.179(g)(1)(iv)
- Clearly & similarly marked 16-1.1.2
- Max voltage 150 VAC or 300 VDC OSHA 1910.179(g)(1)(ii)
- Condition of case1910.179(g)(1)(v)
- Warning labels (ASME B30.2-1.1.5)

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Pendant Controls

2-1.1.6 Controls

(a) Each controller shall be legibly marked to indicate the function and direction of movement.

(b) In locations or areas where multiple cranes are used, the arrangement of control markings for function and direction should be the same.

(c) Directional markings (e.g., north, south, east, west or forward, reverse, left, and right) shall be provided on the equipment or facility. These markings shall be legible to the operator and consistent with the direction of movement markings on the controllers.

ASME
SETTING THE STANDARD

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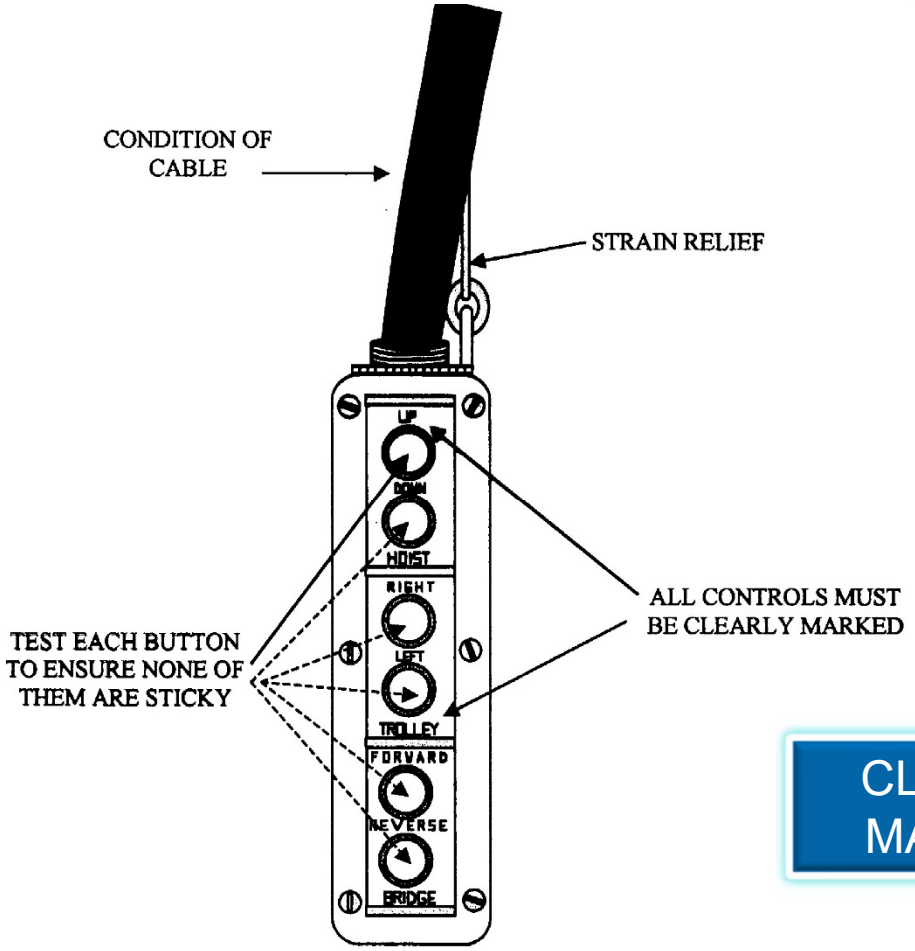
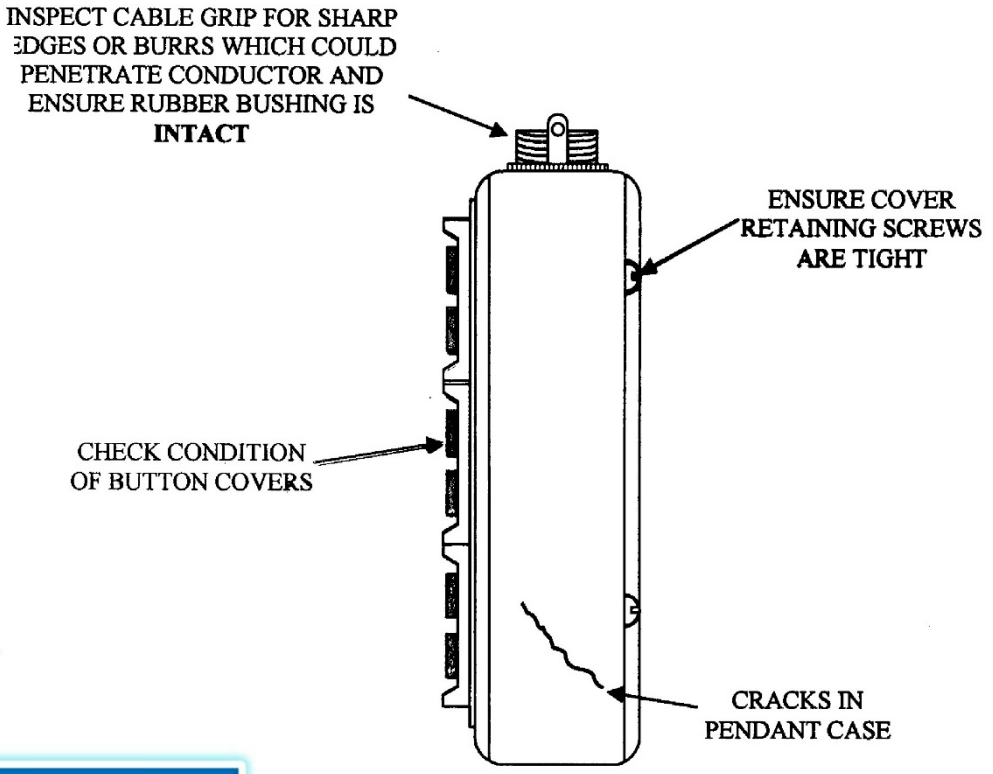
Pendant Controls





CLEARLY MARKED

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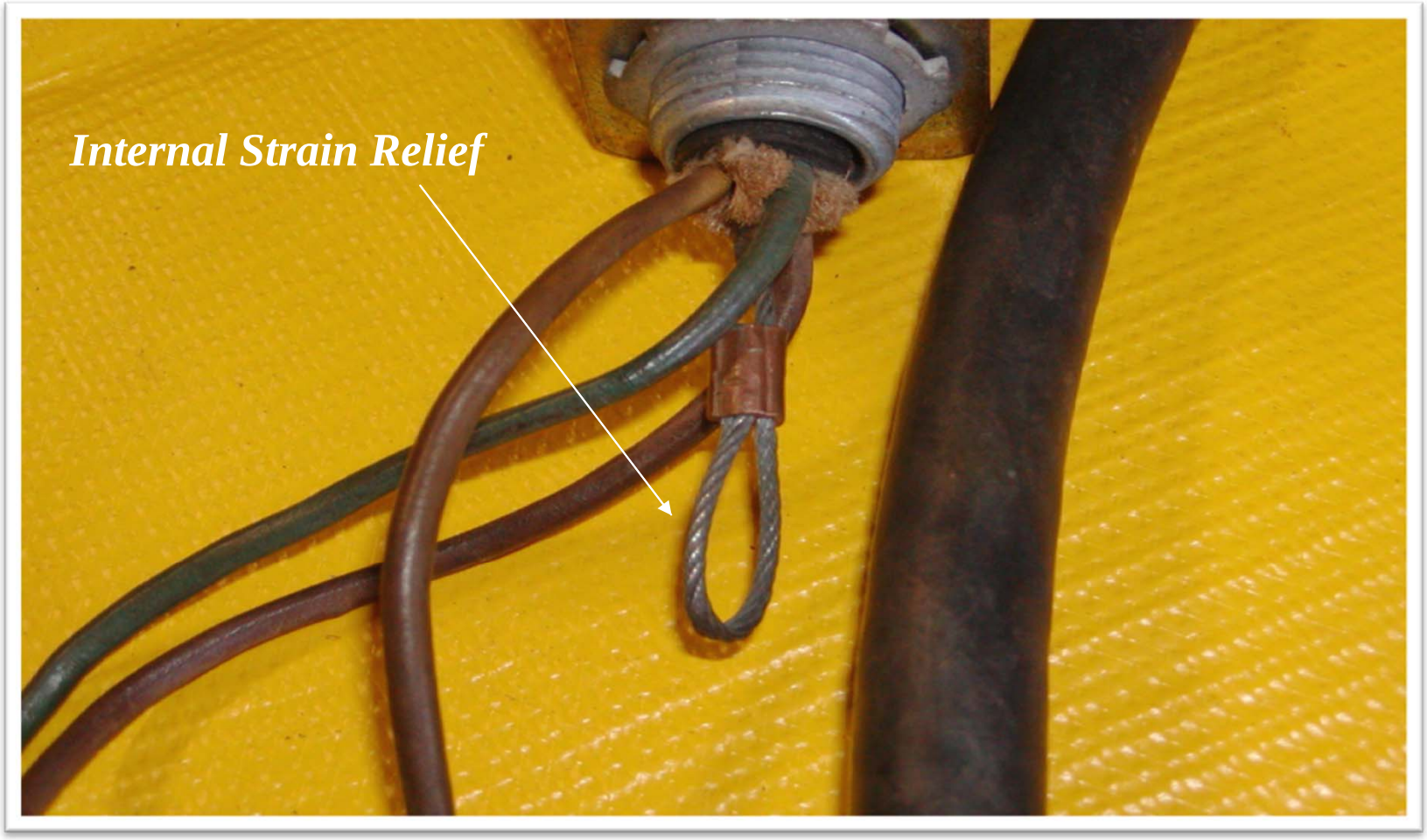
1/16 inch Aircraft Cable



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Use External Strain Relief with Plain Trolleys

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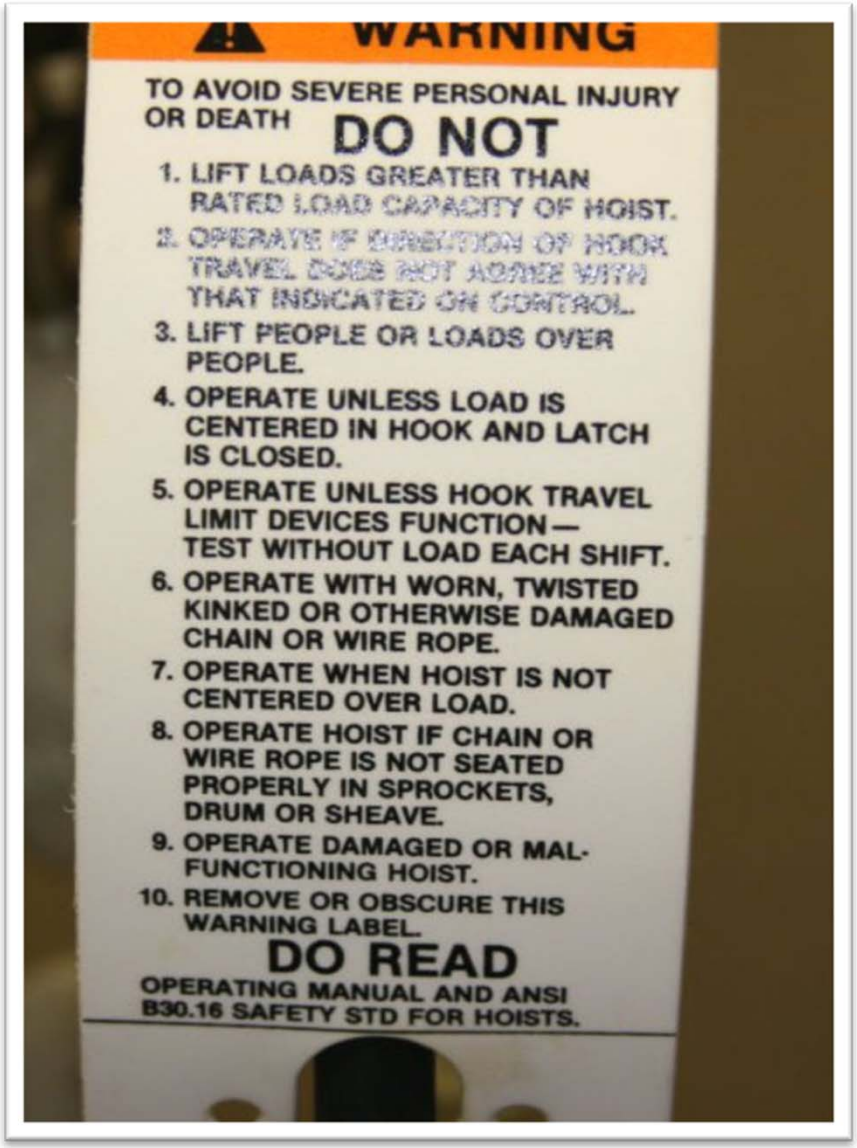
Warning Labels



ASME B30.2-1.1.5 Warnings

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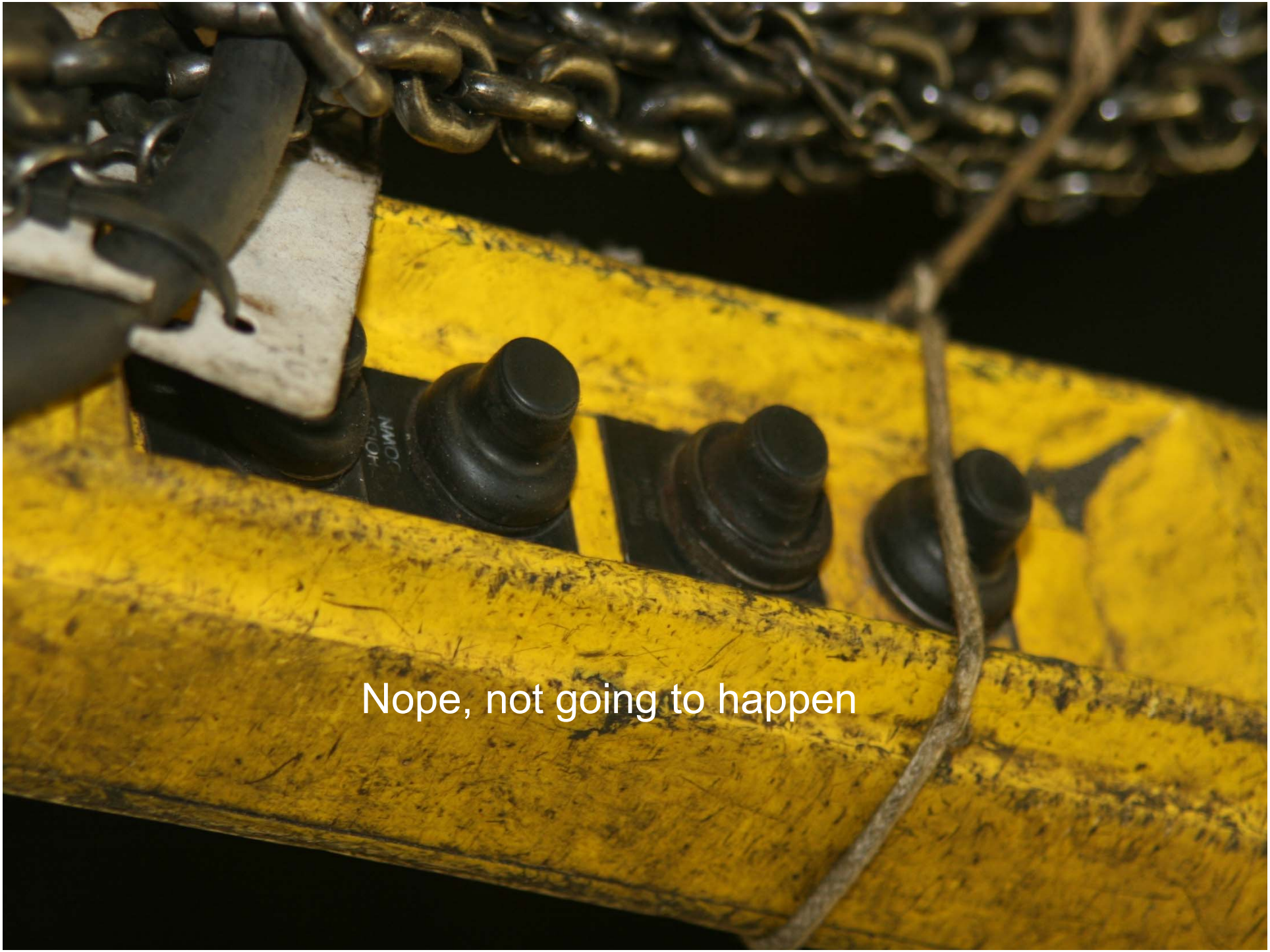
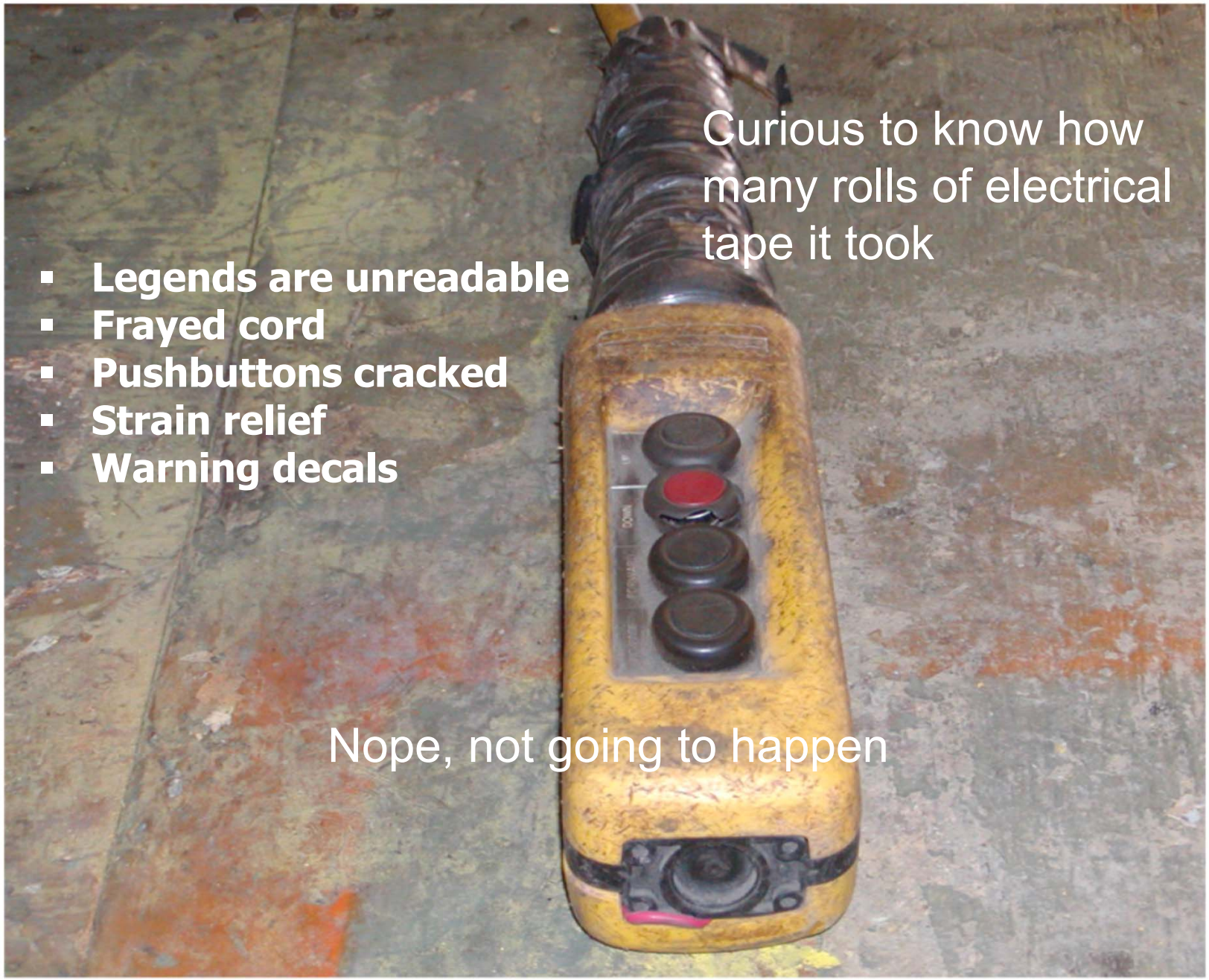
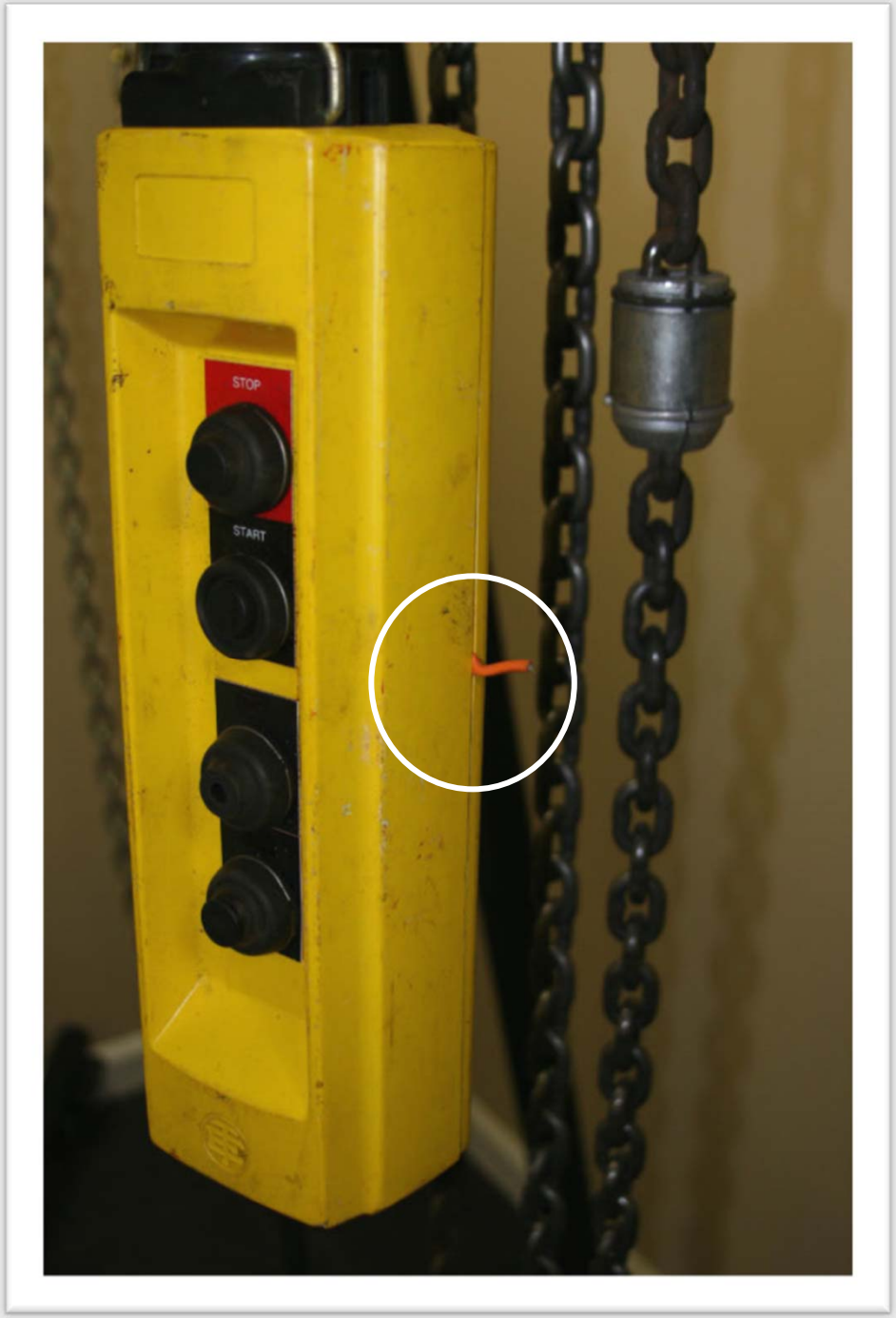
WARNING
DO NOT
DO READ

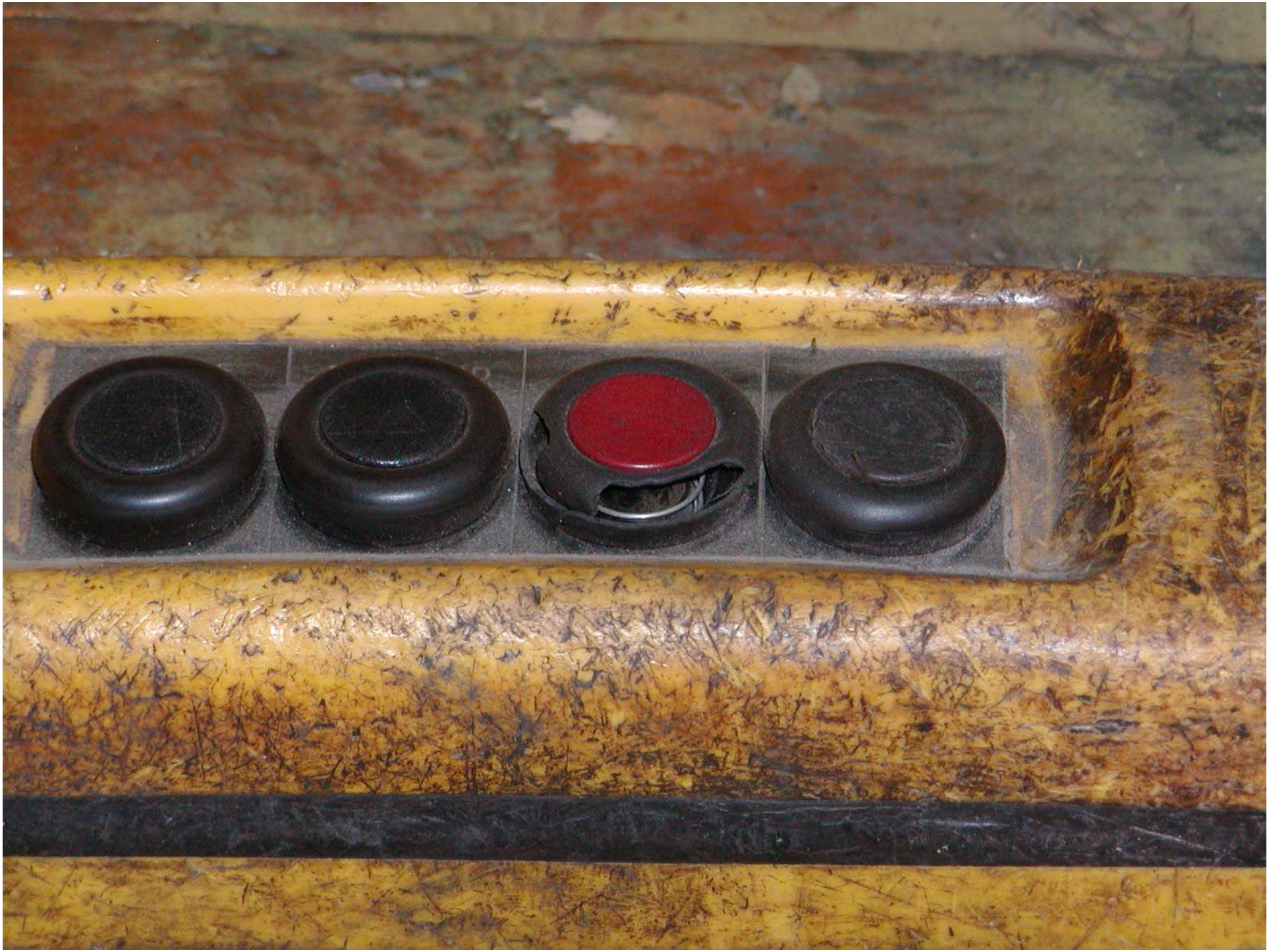

ADVERTENCIA
WARNING
TO AVOID INJURY/DEATH
DO NOT
READ
SAFETY PROVISIONS, INC.


Nope, not going to happen

Nope, not going to happen

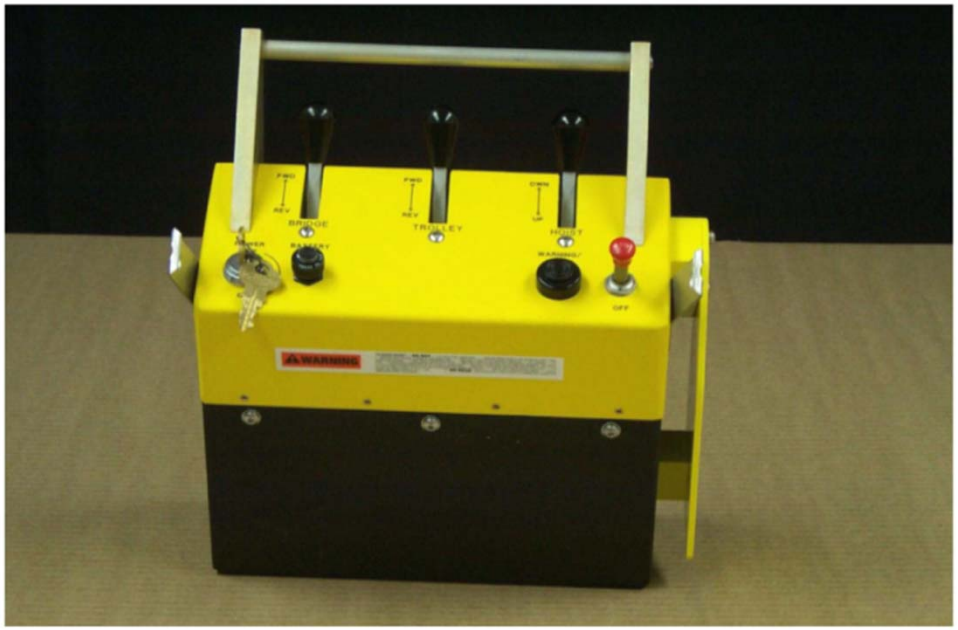

Curious to know how many rolls of electrical tape it took
Legends are unreadable
Frayed cord
Pushbuttons cracked
Strain relief
Warning decals
Nope, not going to happen


STOP
START



Remote Controls

- Warning label
- Warning device
- Controls clearly marked
- Spring return to neutral
- Test stop switch and key
- Switch guard
- Safety interlock



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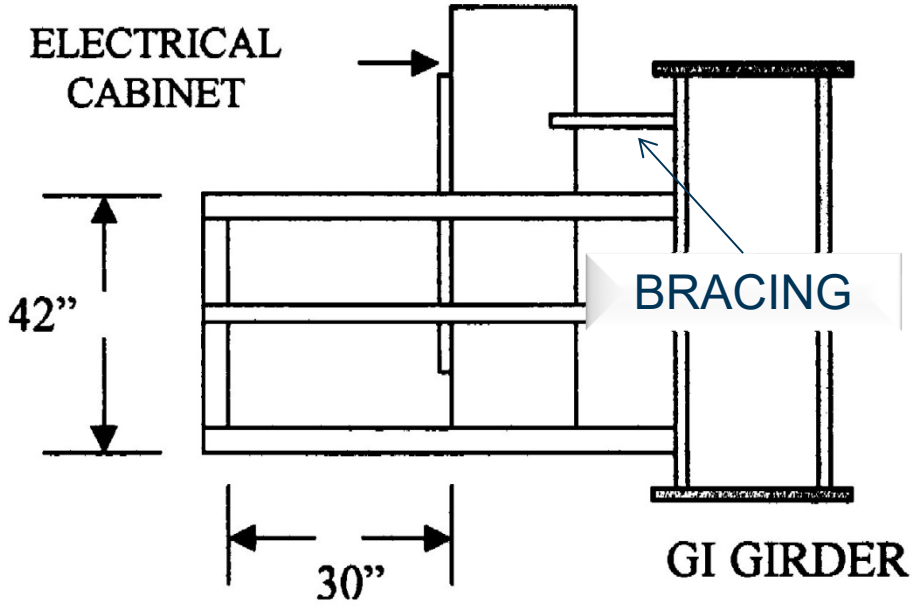
Service Platforms

DOORS must open 90° or be removable



Reference:

- OSHA 1910.27
- OSHA 1010.179(c
- OSHA 1910.179(d)
- ASME B30.2-1.5.4
- ASME B30.2-1.7.1
- CMAA Spec #70 & #74

INSPECT:

- Construction
- Clearance (3” overhead) (2” laterally)
- Cleanliness
- Access (B30.2-1.5.3)
- Ladders (OSHA 1910.27)
  (7” behind rung, 15” left & right of rung center)

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Service Platforms

ASME B30.2-1.5.4 Toolbox

ASME B30.2-1.5.4 Toolbox
If a receptacle is provided for the stowing of tools & oil cans, it shall be made of a noncombustible material & shall be securely fastened in the cab or on the service platform.

Service Platforms(footwalks) Access (B30.2-1.7.1)

Service platforms shall have a clear passageway at least 18” wide, except at the bridge drive mechanism where not less than 15” of clear passageway shall be allowed.

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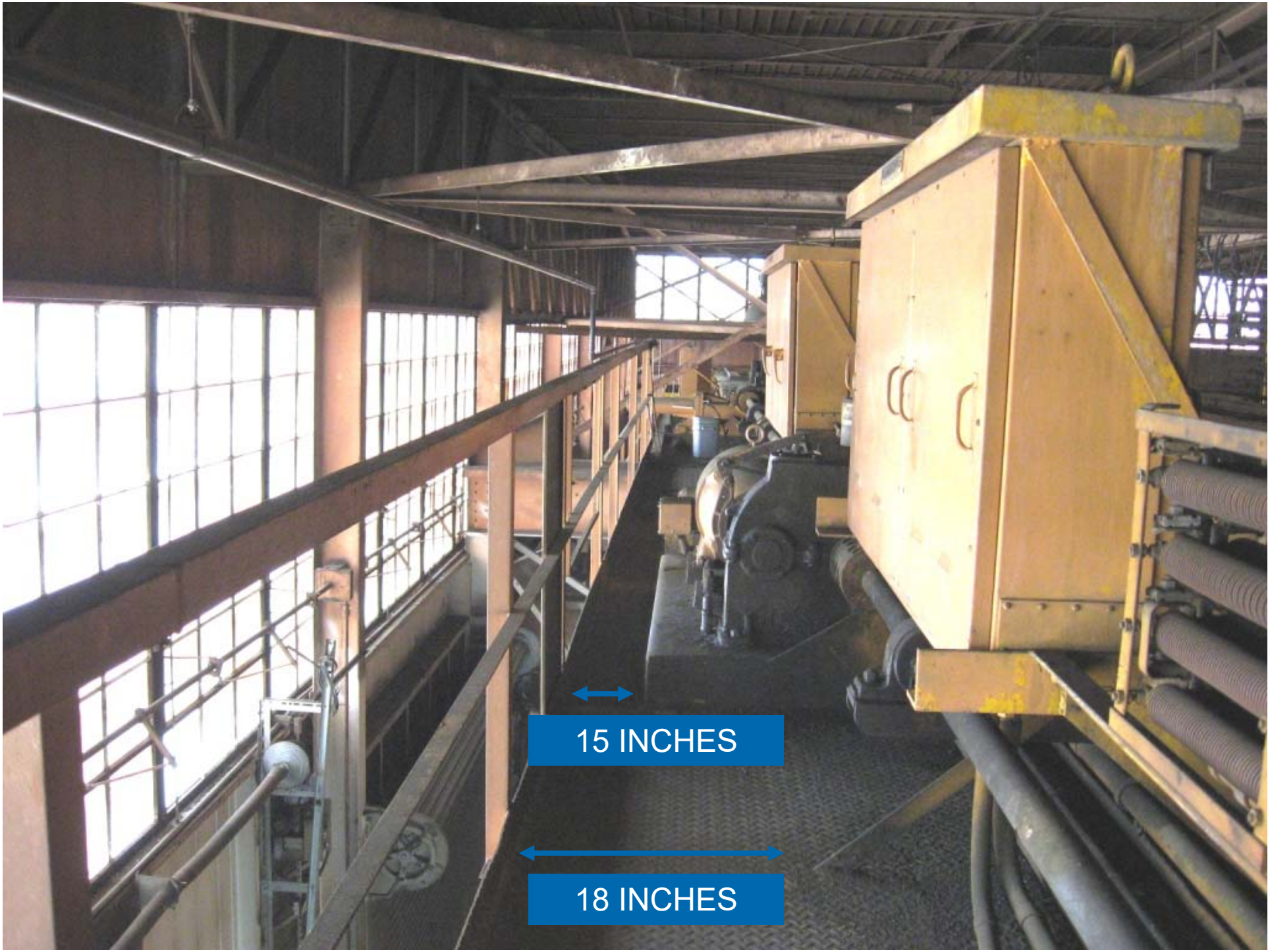
15 INCHES
18 INCHES

Questions??

Thanks for your attention,
let's take a break!

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