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KANSAS CITY • 2022

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## Rail Safety Training



Can't work on Railroad equipment and not about talk SOFA...

***SWITCHING  
OPERATIONS  
FATALITIES  
ANALYSIS***

# PROBLEM.....



***Nationally there have been 231 fatalities in railroad operations since inception of recording statistics in 1992.***

***Average about 8 fatalities per year.***

***This figure based on records thru December 2021.***

***11 switching fatalities RECORDED IN 2021!!!***

***What about your industry?***

***SOFA vs. OSHA? How many fatalities per month?***

# SOFA - VS - OSHA



- *11 Total RR WORKERS KILLED IN THE USA IN 2021*
  - *Operations*
  - *Mechanical*
  - *Track*

- *According to OSHA statistics, there are an average of 13 on-the-job fatalities in the U.S. workforce each day.*
  - *All types of industry*

# Industrial Rail Movements Include Employees On Top and Bottom of Equipment.



# **FACT...**



- 18** deaths because of lack of communication.
- 22** deaths because of inadequate job briefings.
- 26** deaths because of Close Clearances.
- 16** deaths because of exposure to Main Line trains.
- 84** deaths because of shove movements
- 19** deaths because of slip, trip, or falls.
- 14** deaths because of unsecured cars moving
- 16** deaths because of being struck by free rolling cars

***35% of fatalities occurred during summer months  
Let's start with communication first.....***





***FACT. 18 died because of lack of communication.***

# One -way communication

Sender

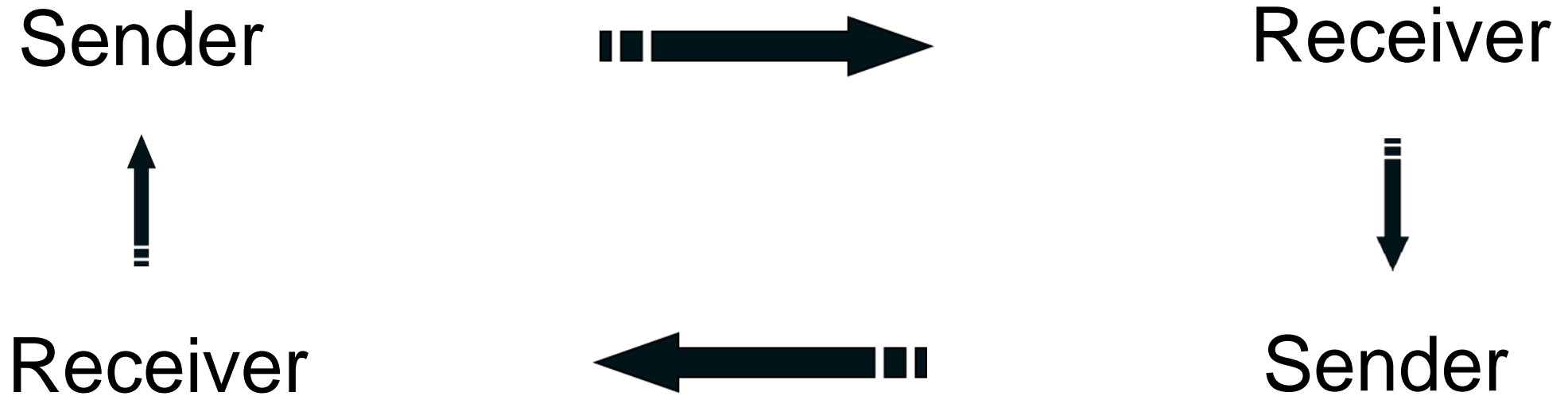


Receiver

***FACT. 18 died because of lack of communication.***



# Two -way communication





## When communicating

1. Use the engine number or Track Mobile name
2. Provide compass direction if possible, East, West, North or South.
3. When communicating by radio instructions are to be repeated
4. Ensure no one is speaking and radio is clear before transmitting
5. Use "OVER" when a response is expected and "OUT" when you are done

**Example: Switchman** contacting the engine operator to initiate a move. *"Engine 123, Move East 5 cars to a coupling OVER. **Operator** repeats "Engine 123 Moving East 5 cars to a coupling OVER. **Switchman** repeats "That is correct, switchman **OUT**" (2-Way Comm)*



**No movement is to take place until the instruction is clearly communicated and confirmed**

**Movement must stop in half the specified distance, if no further communication is received.**



***FACT- 22 deaths can be attributed to inadequate job briefings.***

## **Conduct a Job Briefing/Tool Box Meeting**

1. What is to be done
2. When is it to be done
3. Where is it to be done
4. How is it to be done
5. Who does what
6. Identify potential hazards that are present and need to be considered
7. Identify the safety precautions to be taken

# FACT- 26 died from Close Clearances.



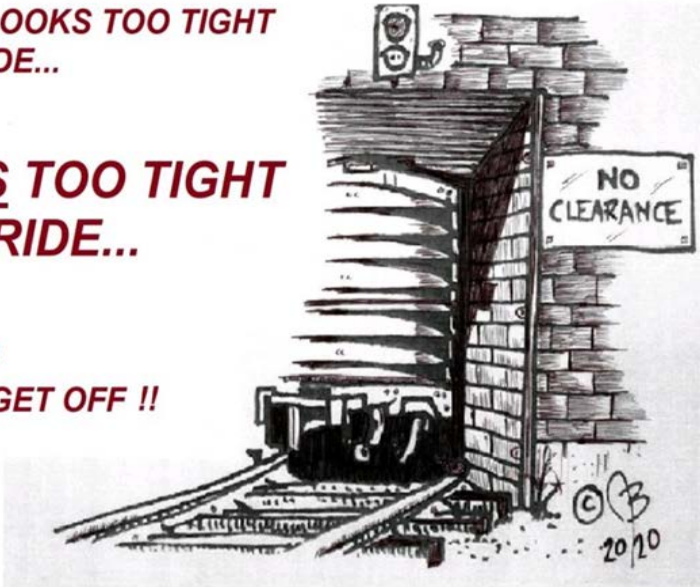
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**BACK 2 BASICS**

**IF IT LOOKS TOO TIGHT TO RIDE...**

**IT IS TOO TIGHT TO RIDE...**

**STOP AND GET OFF !!**



**THE LIFE YOU SAVE MAY BE YOUR OWN.**

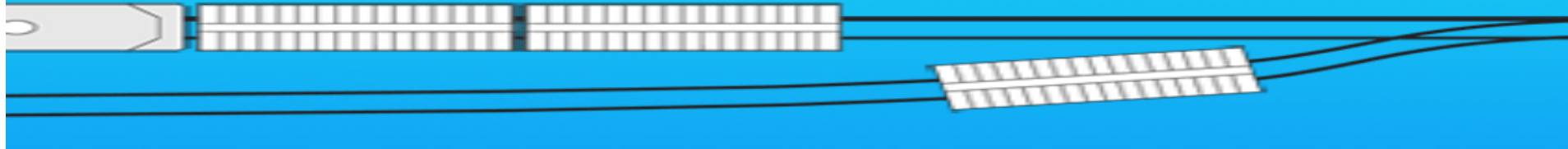
© B 2020

A cartoon illustration showing a train car wedged against a brick wall. A sign on the wall reads "NO CLEARANCE". The train car is tilted, and the wheels are visible. The artist's signature "© B 2020" is in the bottom right corner of the illustration.

Artwork compliments of John D. Brahaney FRA



# DON'T FOUL THE SWITCH



***FACT-16 died from exposure to ML trains.***



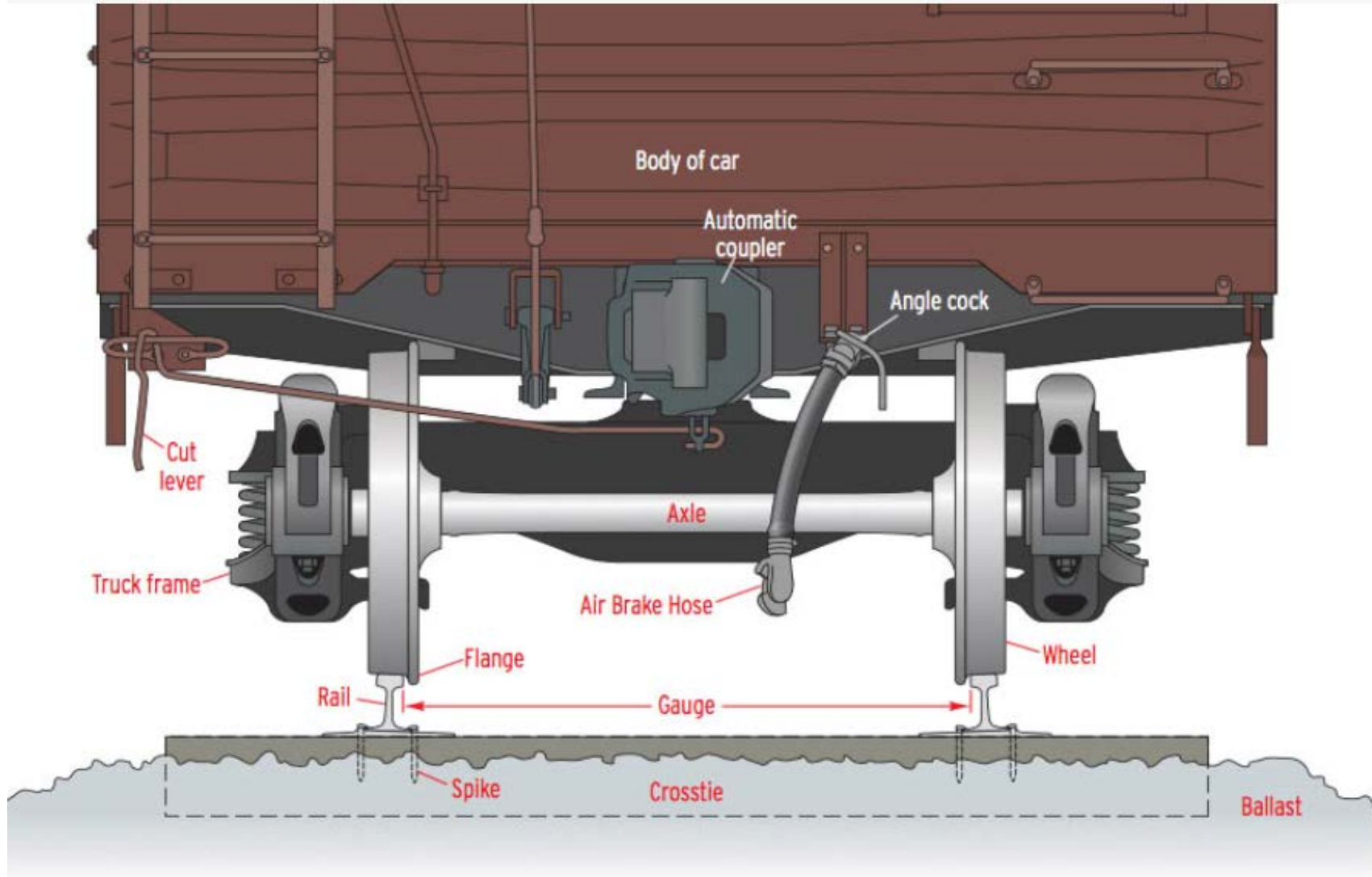
# Riding The Point? Be on the lookout !!! ...And Never Ride Into a Coupling!





***FACT- 84 died during shove movements.***





# Ensure Flangeways Are Clear





# ***What Do You Think Is The Most Dangerous Month For Fatalities Around Railroad Equipment?***

*35% of fatalities occurred during summer months.*



**July-** is historically worst of summer months for fatalities

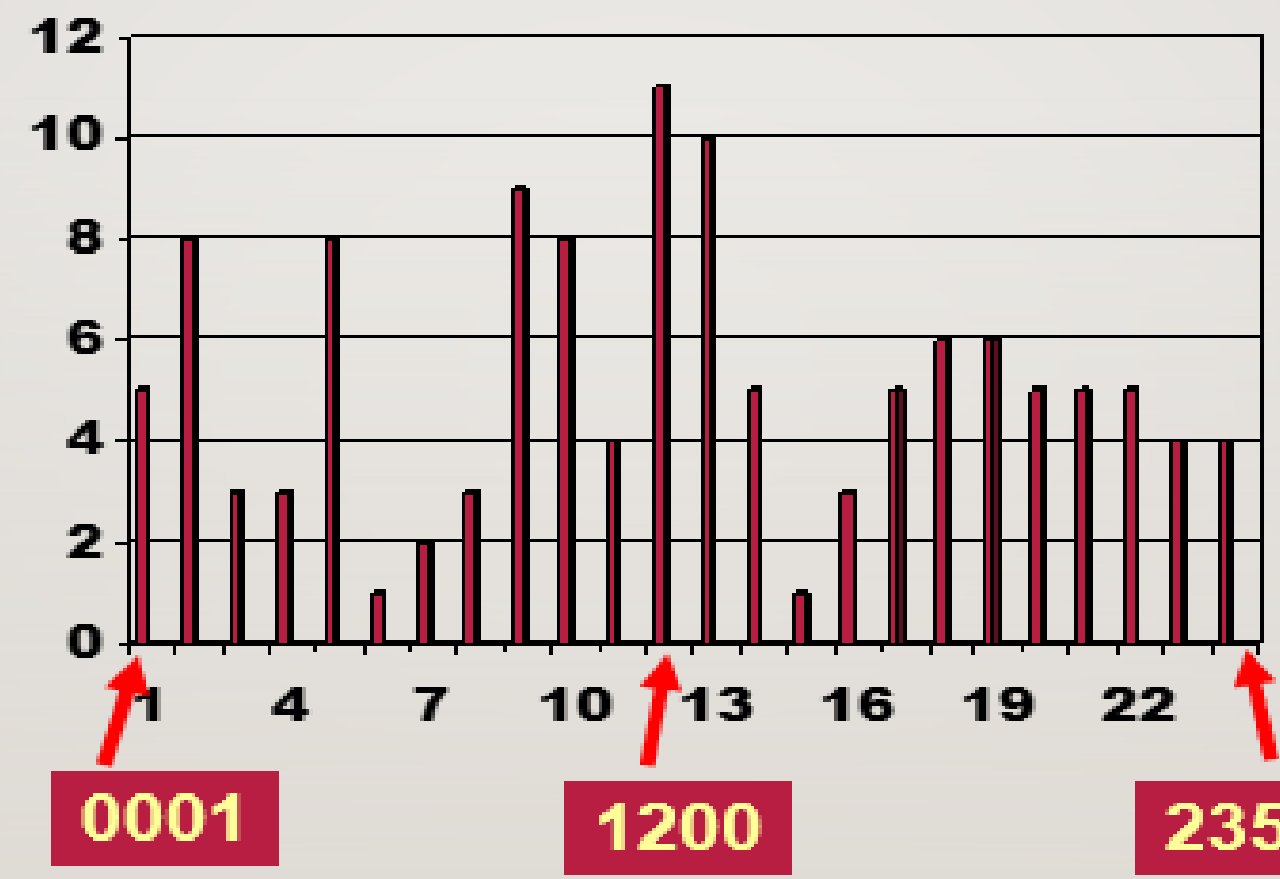
**August-** is historically worst for severe injuries

**What time of day ?**



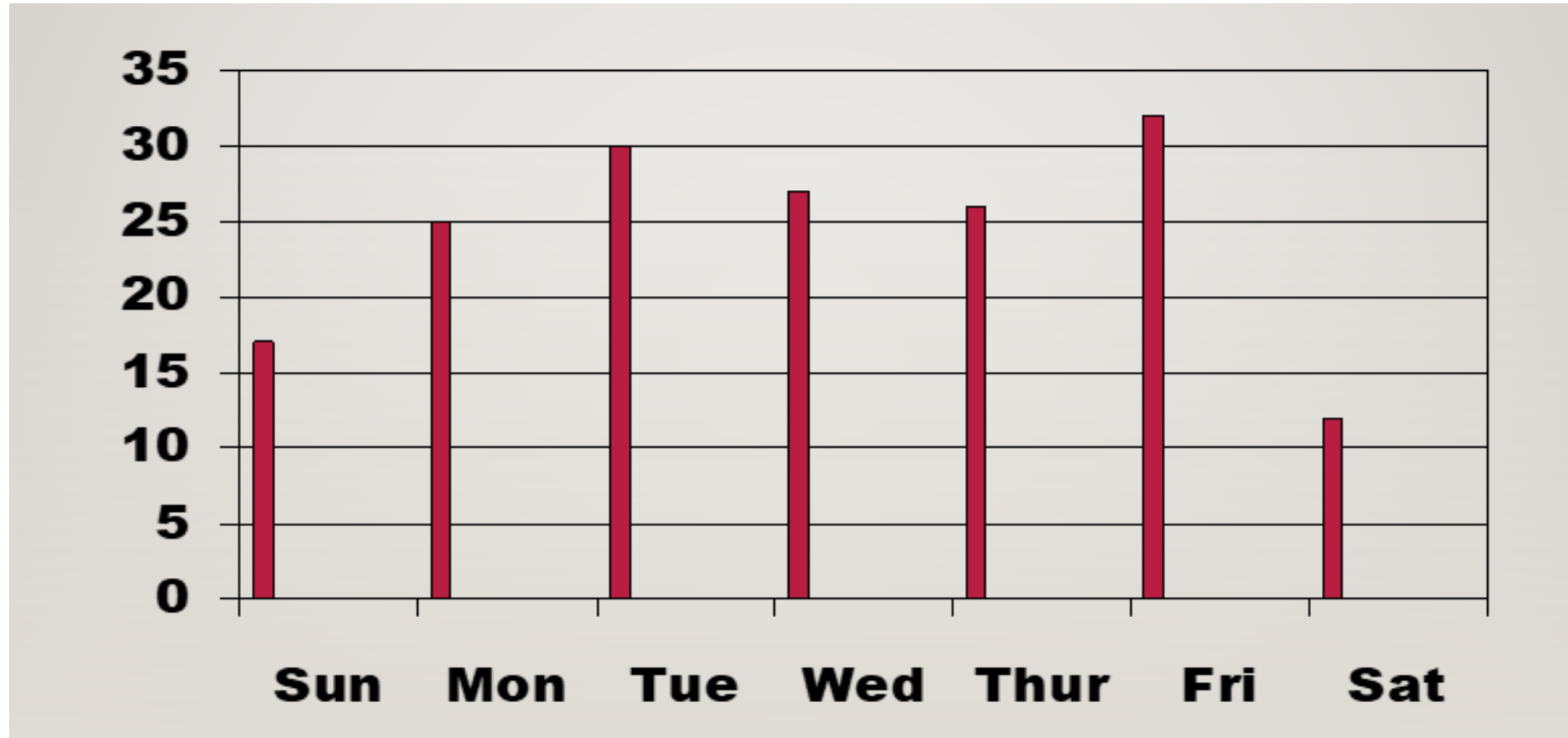
# Fatalities by Time of Day

Fatalities





# DAY OF THE WEEK



# Types of protection- RED Zone



- The engine / RCM operator provides **3 Point Protection/Red Zone Set and Center** to prevent the unintentional movement of equipment by:
- 1. Opening the generator field switch
  2. Placing the reverser in neutral
  3. Fully applying the Independent Brake







\* If required to go between equipment, the minimum safe distance required is one car length or 50 feet.



**Do not enter the Red Zone without first requesting 3 Point Protection and confirming that it is in effect!**

Enter the **Red Zone** to perform the required task. If possible have one foot inside the rail and one foot outside the rail



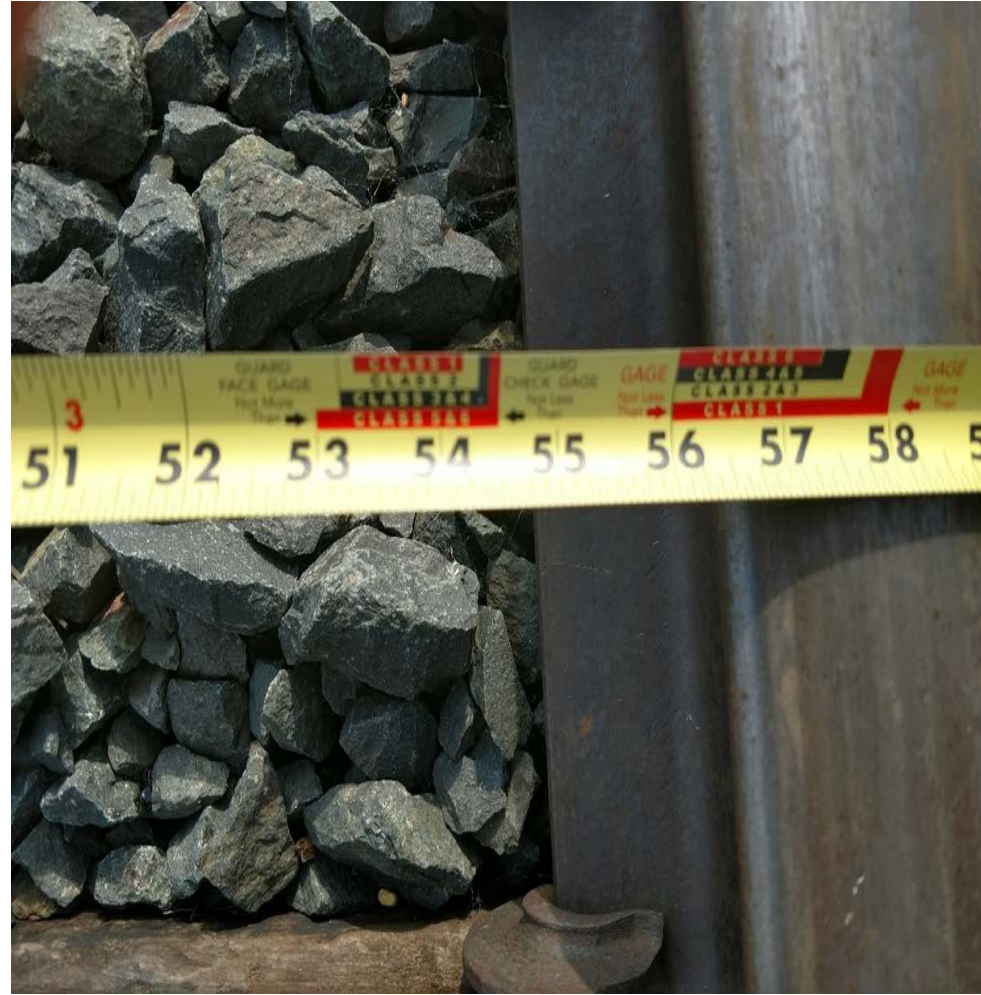
Step clear of the **Red Zone** before cancelling **3 point Protection**

Cancel the **3 Point Protection** and confirm cancelled

# Hasp, Lock or Keeper Equipped Switch



# Track Gauge 56 ½ is Standard....58 is OOS



# Derailment prevention



# The Cold Affects Rail:

**10 Degrees Fahrenheit requires an inspection. Separated Joints of 2” requires attention. Joints 3” or more are OOS.**



# So Does The Heat.

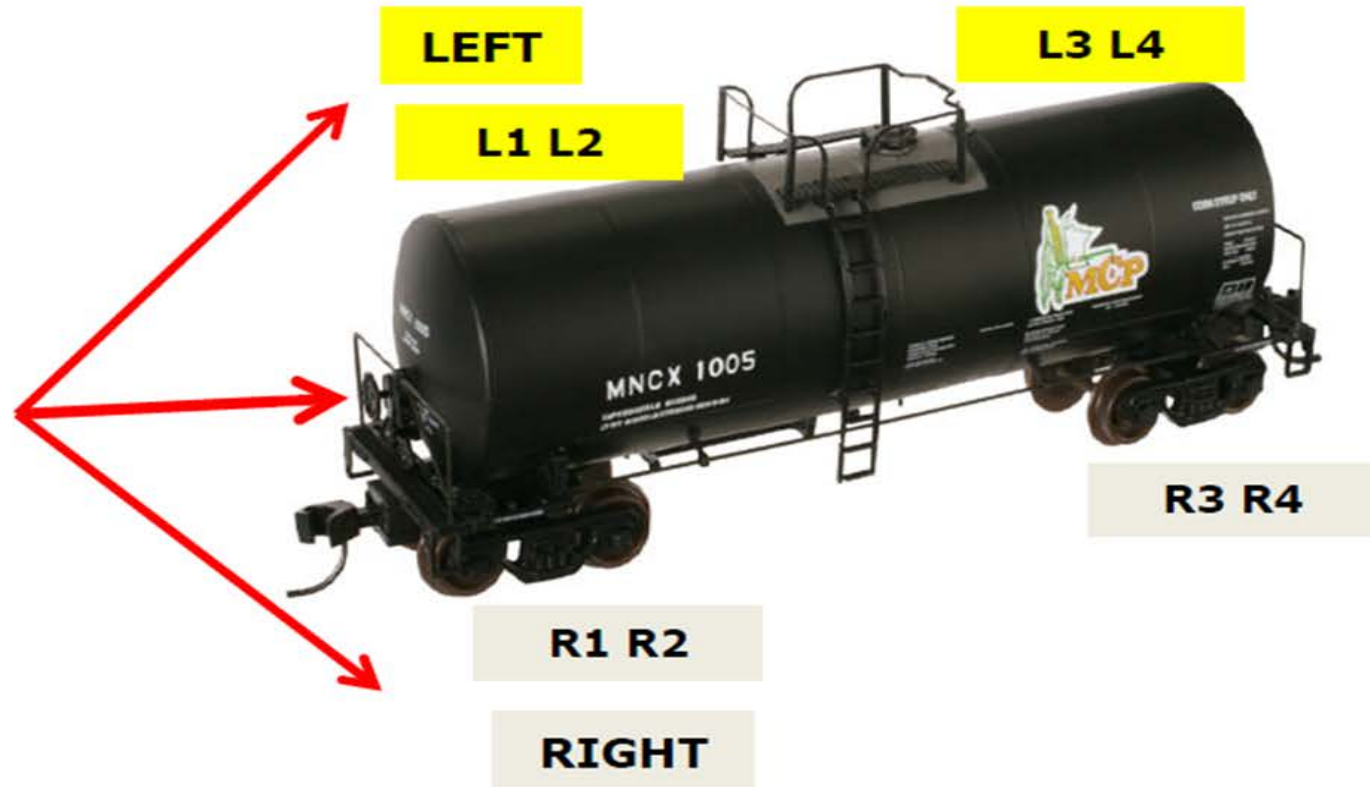
Temperatures that exceed 85 degrees Fahrenheit require an inspection.



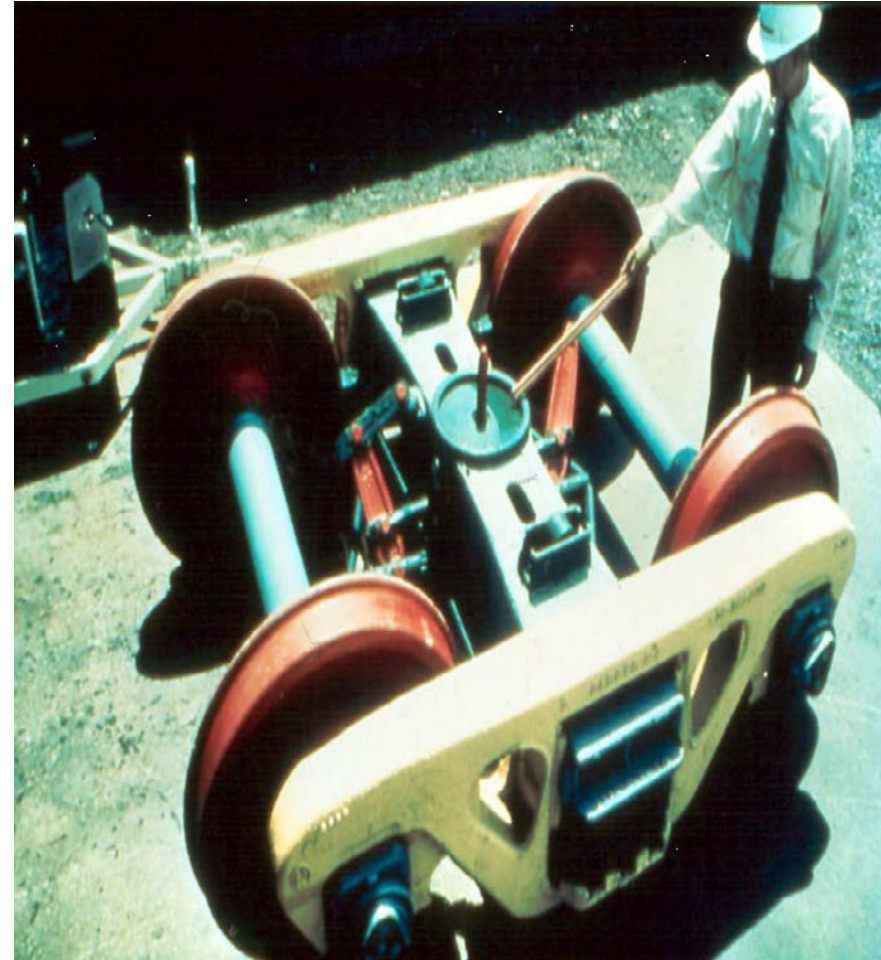
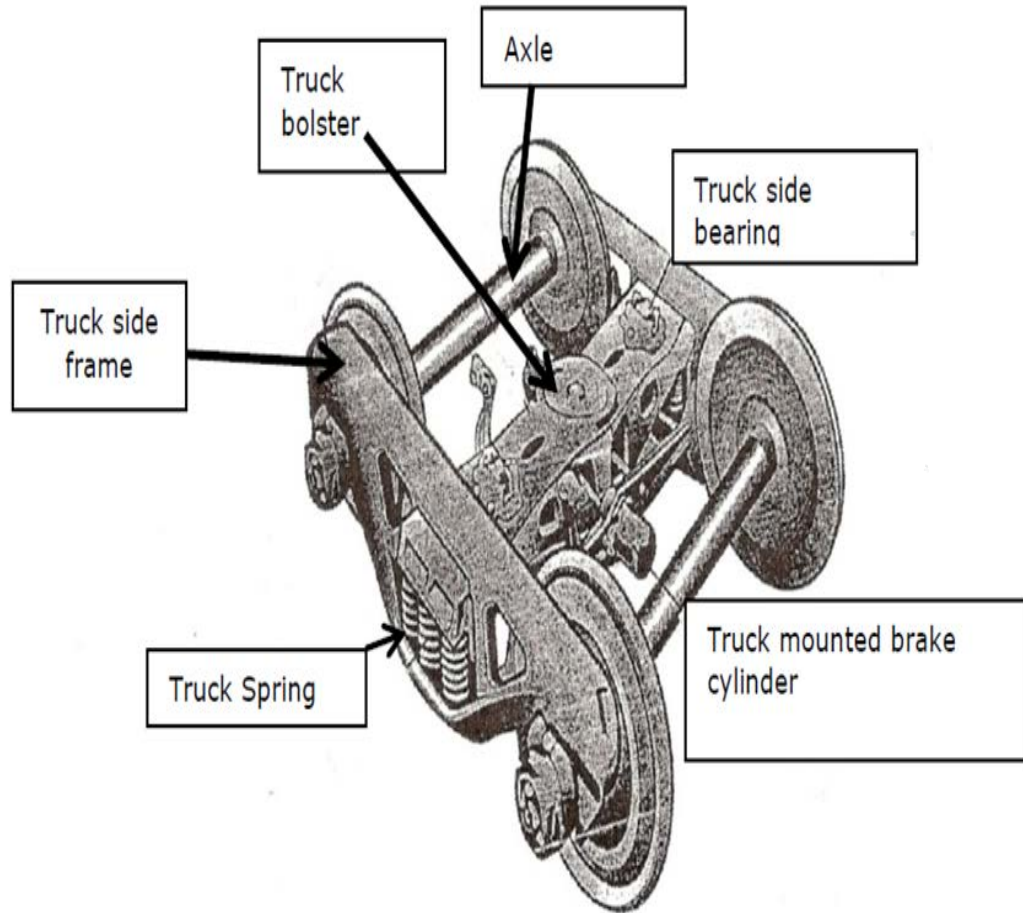
# Wheel numbers on a Freight Car



- Identify the left and right hand sides of the car
- The wheels on the Right hand side number **R1 R2 R3 and R4** from the "B" end
- The wheels on the Left hand side number **L1 L2 L3 and L4** from the "B" end



# Car Truck





# Wheel Defects

## Skidded and Shelled Wheels

### a) Detection/Description:

- Detected by observing or being advised of pounding wheels.
- Skidded wheel - a wheel that has flat spots.



- Shelled wheel - a wheel tread defect where portions of the tread surface are missing.



### Safety Defects:

- A skid measuring more than 2 ½ inches in length.
- Two adjoining skids each measuring more than 2 inches in length.
- A shell spot that is more than 1 ¼ inches in width and 1 ½ inches in length.

# Wheel Defects



# Wheel defect out comes





Railroads used to have a Handbrake Securement Policy...and then one day it failed. It used to be 10% plus an additional 2.

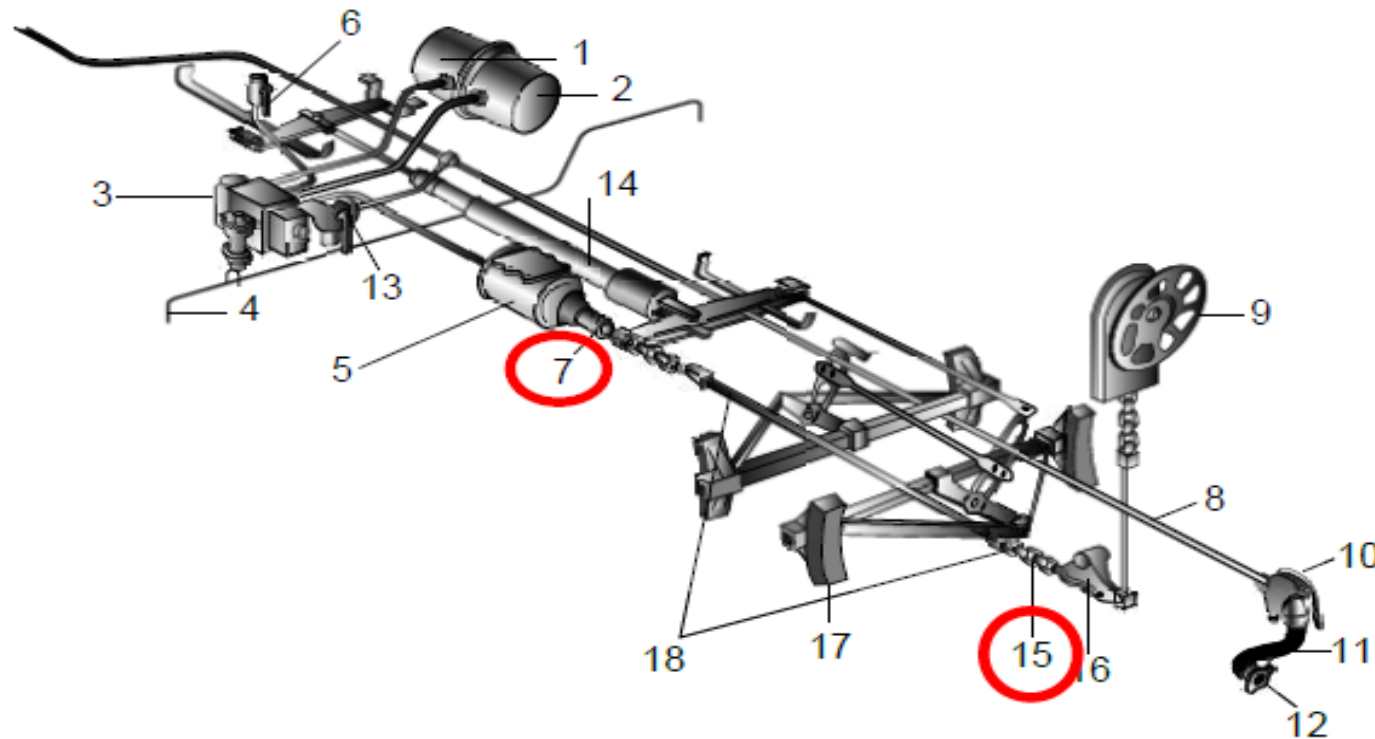
It is now **Sufficient Amount** of handbrakes must be applied to the cars to left unattended followed by a car securement test. (GCOR 7.6 & ABTH 3.6)

# Air and Hand Brake System



## The Car Air and Hand Brake Systems Are Connected

- The systems operate independently of each other, however both are connected where the Horizontal Chain **(15)** and the Brake Piston **(7)** attach









# Questions

Steve Fry

Northern Plains Rail Services





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