



# Trackside Details

What all those sheds and things are and where  
do they go. Scott Russell 12/01/12

# Common Trackside Details



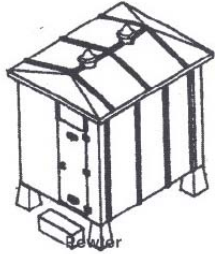
- Instrument Sheds
- Relay Cabinets
- Switch Motors/Locks/Heaters
- Switch Stands
- Telephone Boxes
- Railroad Line Poles
- Mileposts and Signs
- Signals
- Battery Boxes

# Instrument Houses/Sheds

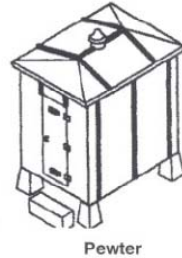
- Contain electrical relays, etc. for signals, crossing gates, hotbox detectors, dragging equipment detectors, etc.
- Built in various sizes, depending on amount of equipment and if room is needed for maintenance personnel
- Usually built from concrete or steel
- Usually located close to the item it controls
- Design can differ by railroad, but AAR standard of 1946 was for three houses, 6 feet wide, seven feet tall (to the eaves) and 8, 10 or 12 feet long

# Sheds (HO)

IS-907 INSTRUMENT SHED (6X8)



IS-908 INSTRUMENT SHED (5X7)



Details West

Atlas 70000013



4311



4312

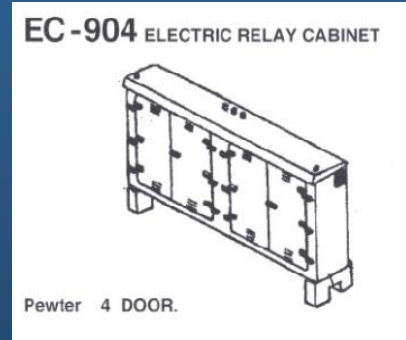
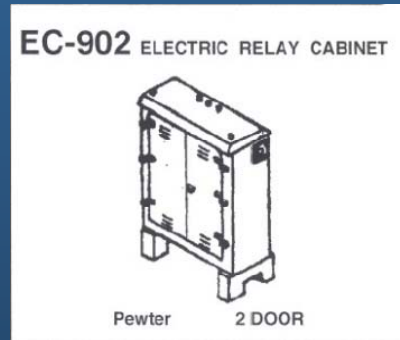
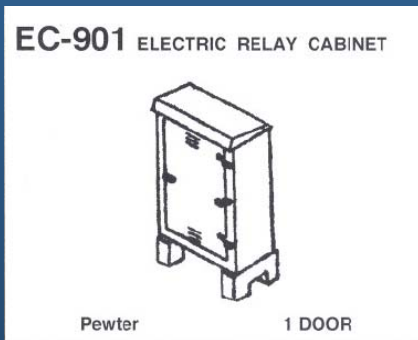


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BLMA Models

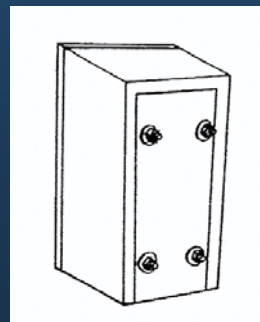
# Relay Cabinets/Cases (HO)

- Used for smaller installations and/or where no protection is needed for maintenance personnel

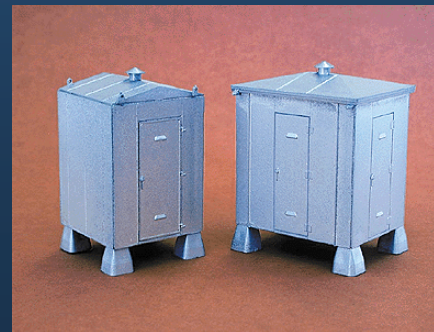


Details West

BLMA Models



Sequoia Scale Models

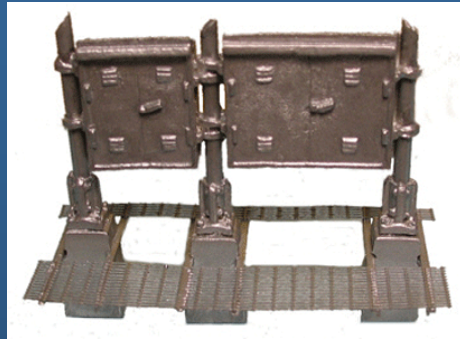
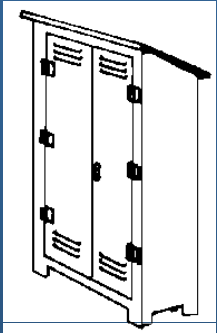


Grandt Line

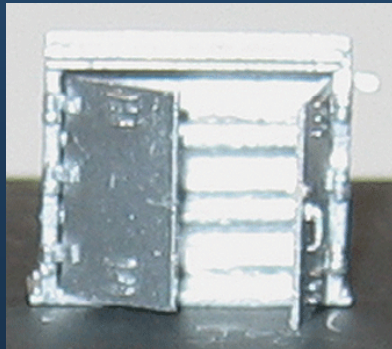


PSC

# Relay Cabinets/Cases (Cont'd)



Alexander Scale Models

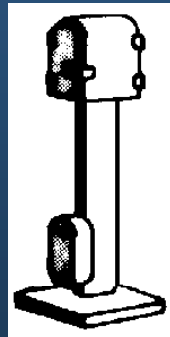
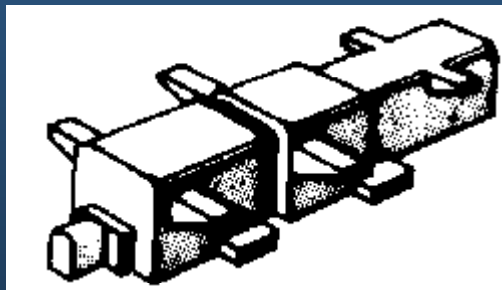


NJ International

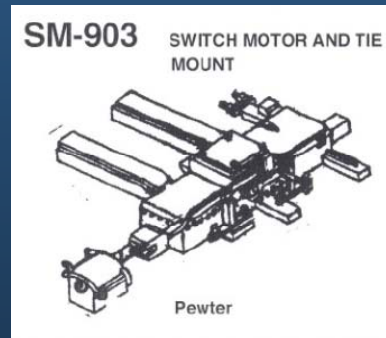
Stewart Products

# Switch Motors/Locks/Heaters (HO)

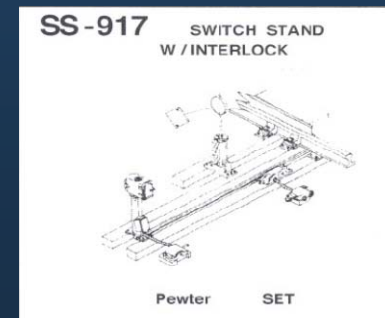
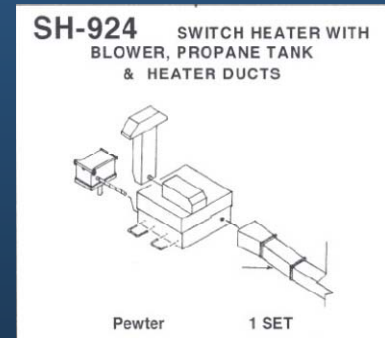
- Switch motors are for remotely controlled (dispatcher/tower) turnouts
- Locks are for dispatcher/tower control of hand thrown turnouts
- Heaters are to keep turnouts from freezing in cold climates



Alexander Scale Models



Details West

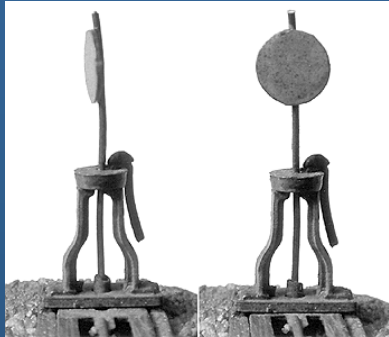


# Switch Stands

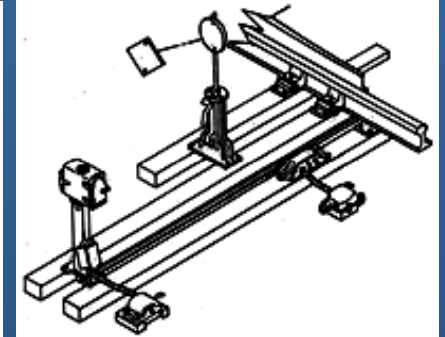
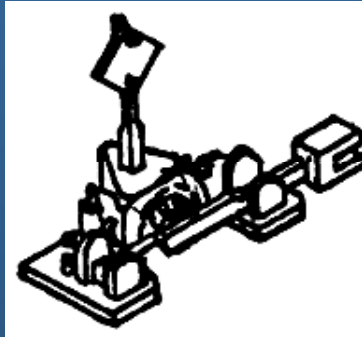
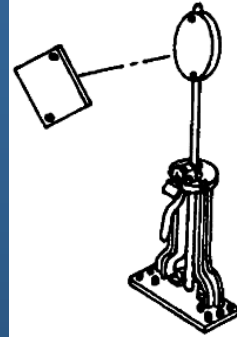
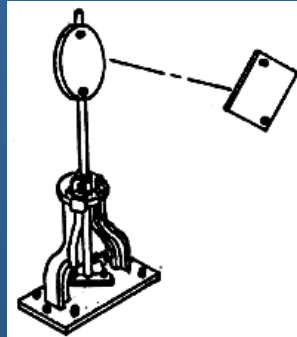
- Switch stands are used to manually align a turnout
- High stands (usually 7.0' tall) are used for mainline turnouts. If visibility is a problem, they can be 16' or more tall.
- Intermediate stands are 36" to 48" tall and used in yards, spurs or sidings
- Low stands are 12" to 15" tall and used in yards or where clearance is a problem
- The lever can move 90 or 180 degrees, but the targets only move 90 degrees
- Targets vary by railroad, and lamps are added for visibility at night



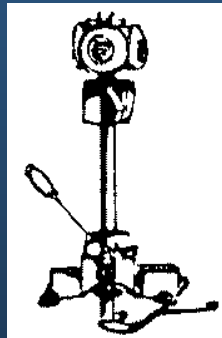
# Switch Stands (HO)



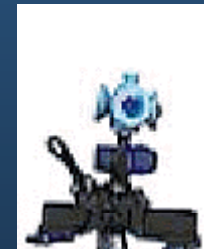
Central Valley



Details West



NJ International



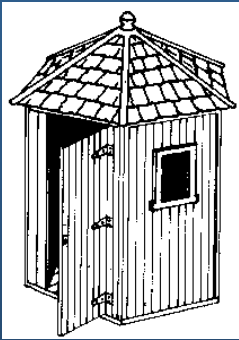
Tomar



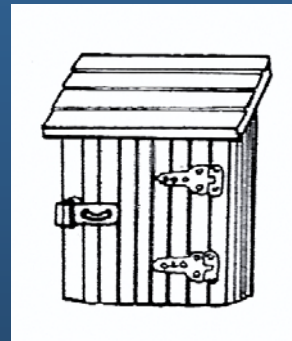
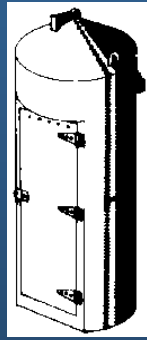
Caboose Industries

# Telephone Boxes (HO)

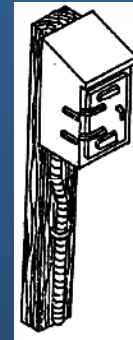
- Located on switch lock or nearby to call to unlock turnout



Alexander Scale  
Models



Sequoia Scale  
Models



Details West



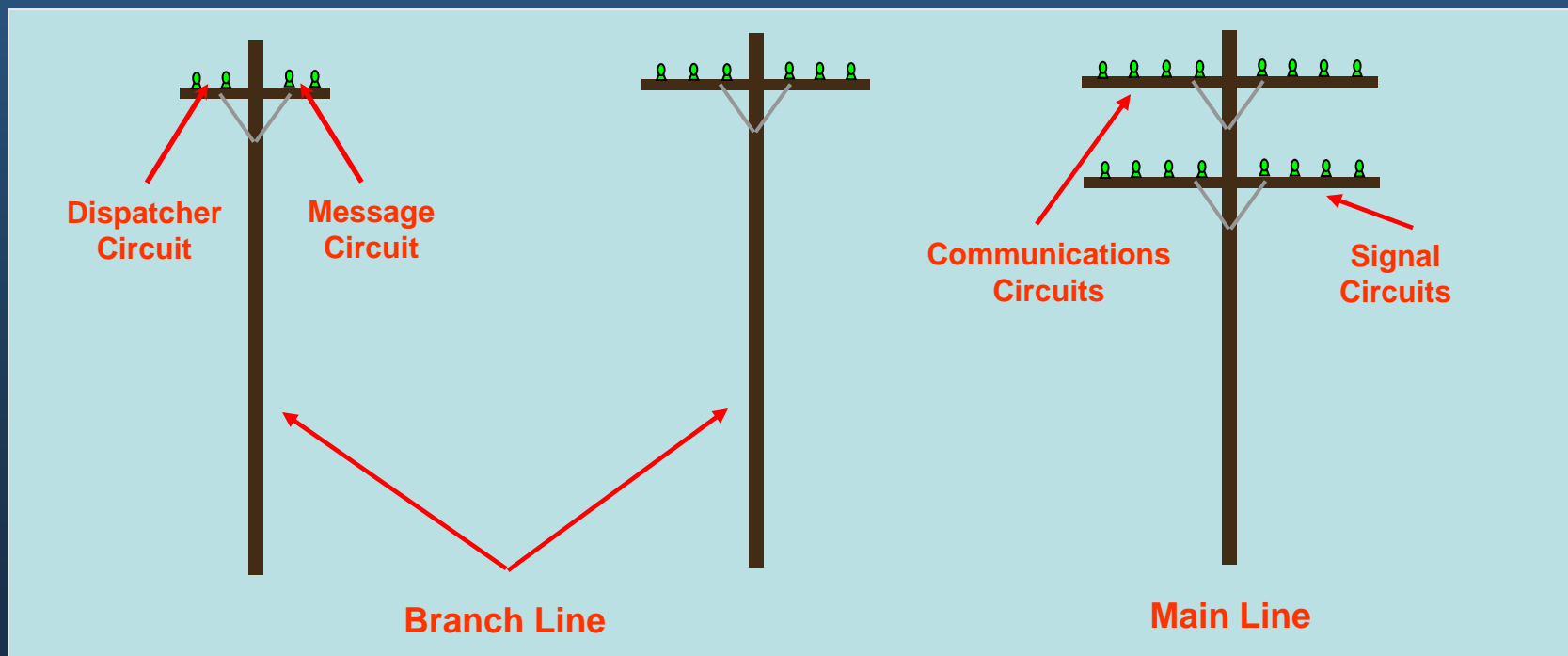
Scale Structures

# Railroad Line Poles

- Most of the poles that parallel the tracks are for signal and power transmission
- Number of wires is in proportion to the number of functions
  - A branch line with no signals would only have a couple lines
  - A main line with block signals, crossing signals, interlocking and CTC signals may carry 10 to 20 lines
- Since the pole line doesn't change direction sharply, the poles are rarely guyed
- Poles are tapered from 14" at the base to 9" at the top, and 22' tall (above grade). The top is angled to shed water. Crossarms are 6, 8 or 10' long and spaced 24" apart
- Crossarms are alternated on the sides of the pole, and doubled when a drop is made to a shed, etc.

# Railroad Line Poles (cont'd)

- The pole line is 18 to 20 feet from the closest rail. Poles are spaced anywhere from 132' (40 poles/mile) to 203' (26 poles/mile). 80' for modeling is a good compromise
- Lines are normally strung on the inside of the insulator (toward the pole). When it changes direction, it is on the outside of the curve so it doesn't strain the wire ties



# Mileposts and Signs

- Mileposts enable the railroad to record the location of bridges, signals and structures, and are also used in operation
- The most common mile numbering is from a zero point at some terminal, but they can also give the distance to the next terminal. Branch lines from a mainline start at zero
- Stone, concrete, wood or iron have been used for mileposts
- Mileposts are generally 7 to 10' from the rail and on the right side leaving the zero numbered terminal, and numbered on both sides
- Once line poles appeared, railroads started putting the mile markers on them
- Signs can be used to restrict speed, either permanently or temporarily. Also used with stop and resume signs

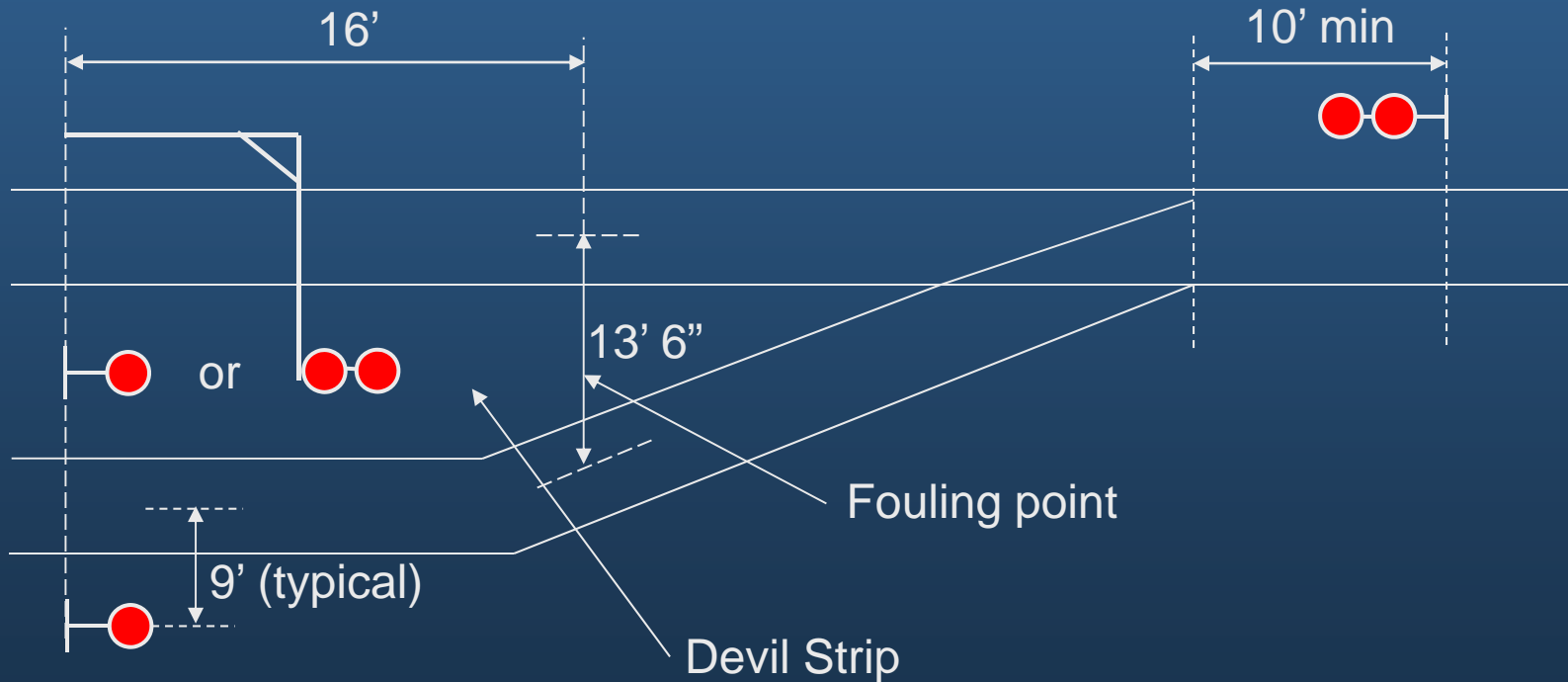
# Mileposts and Signs (cont'd)

- Whistle posts are used to tell the engineer when to blow for a crossing, station, bridge or tunnel
- Flanger signs are used to notify snow removal crews of obstructions. Generally black with yellow markings
- Other signs include crossbucks, yard limits, stations, etc.

# Signals

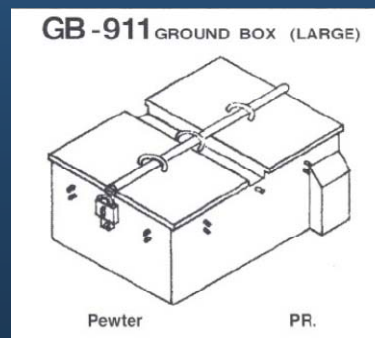
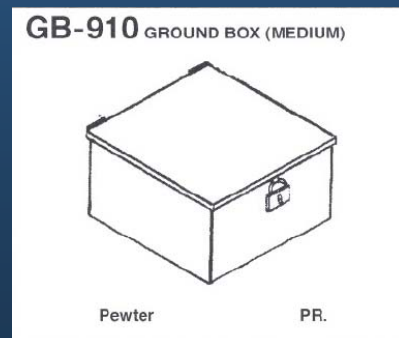
Signal types and aspects will be covered in a separate clinic.

## Trackside Signal Locations

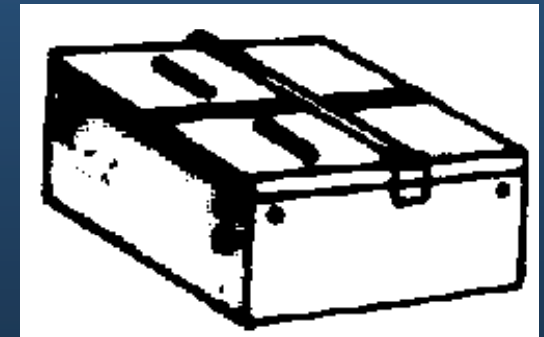


# Battery Boxes/Vaults (HO)

- Batteries are used for backup power for signals, etc.
- Battery boxes (also called vaults or wells) are modular and used in multiples depending on the installation:
  - One or two signals may use one instrument shed and one battery box
  - Two to four signals would use two sheds and 2 battery boxes
- Generally mounted at least 7' from the rail



Details West



Alexander Scale  
Models



# Example



# Example

Line Poles



# Example

Line Poles

Relay Case



# Example

Line Poles

Relay Case

Signals

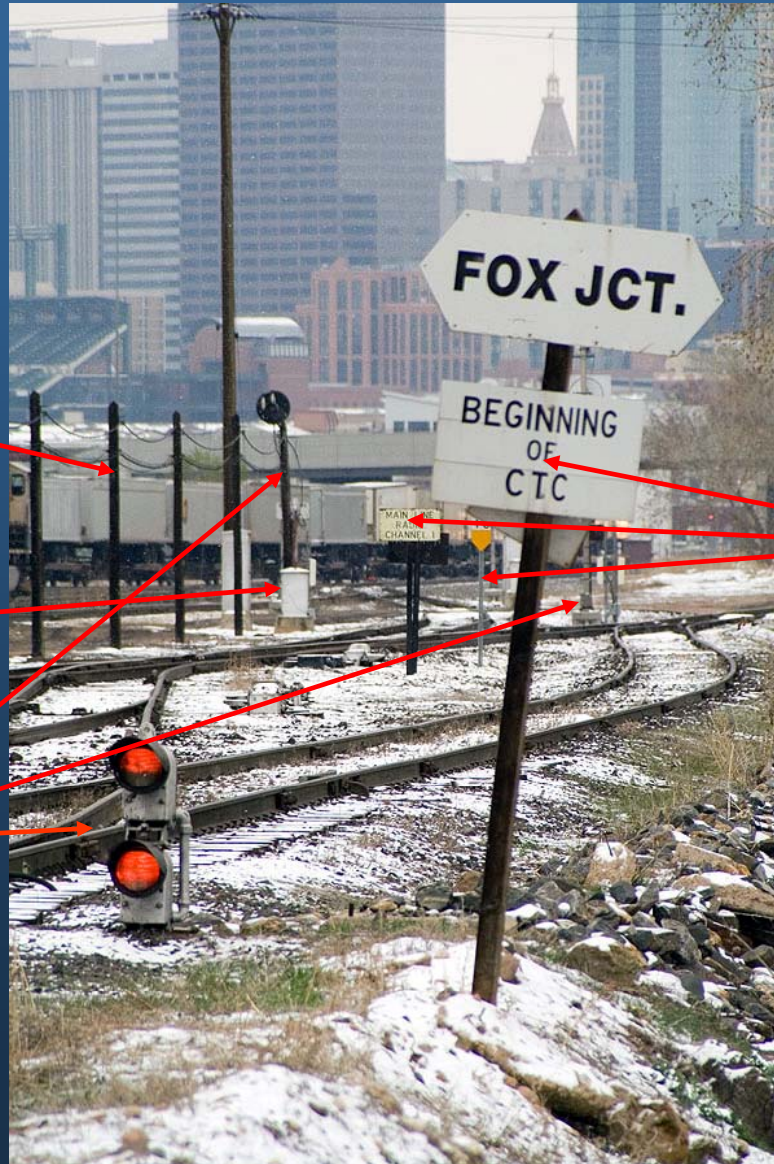


# Example

Line Poles

Relay Case

Signals



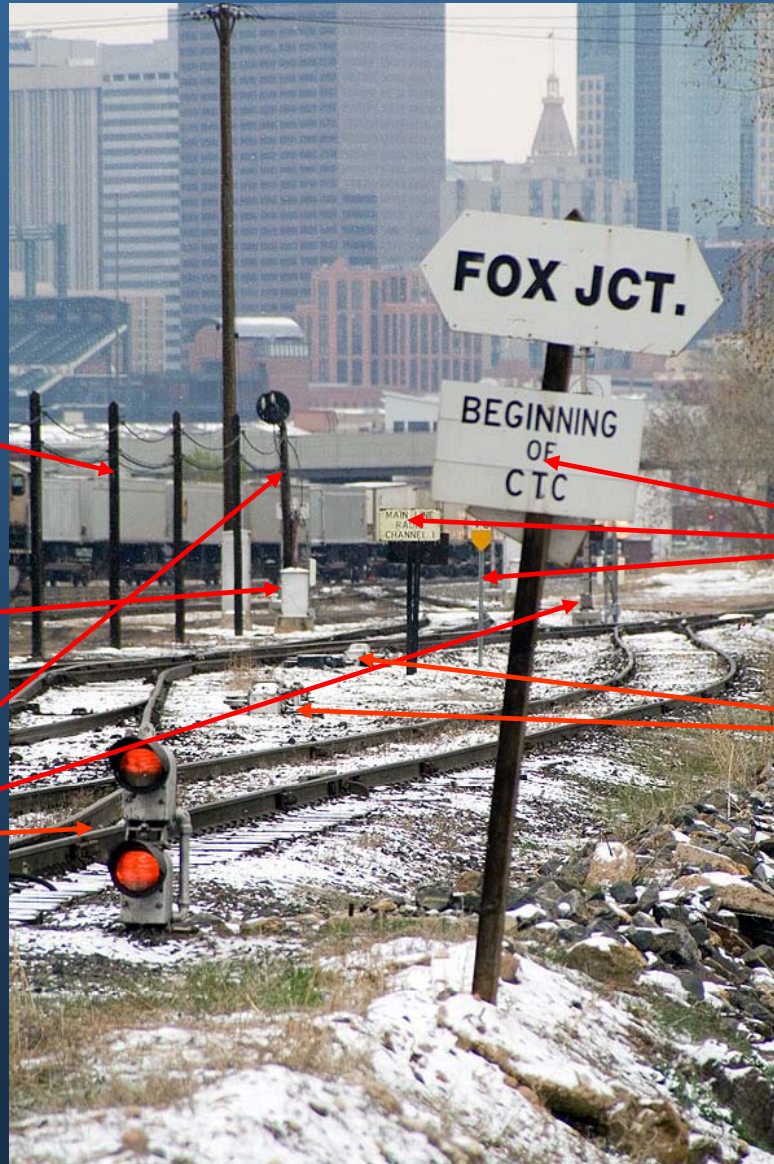
Signs

# Example

Line Poles

Relay Case

Signals



Signs

Switch Motors

# Trackside Details



**The End**