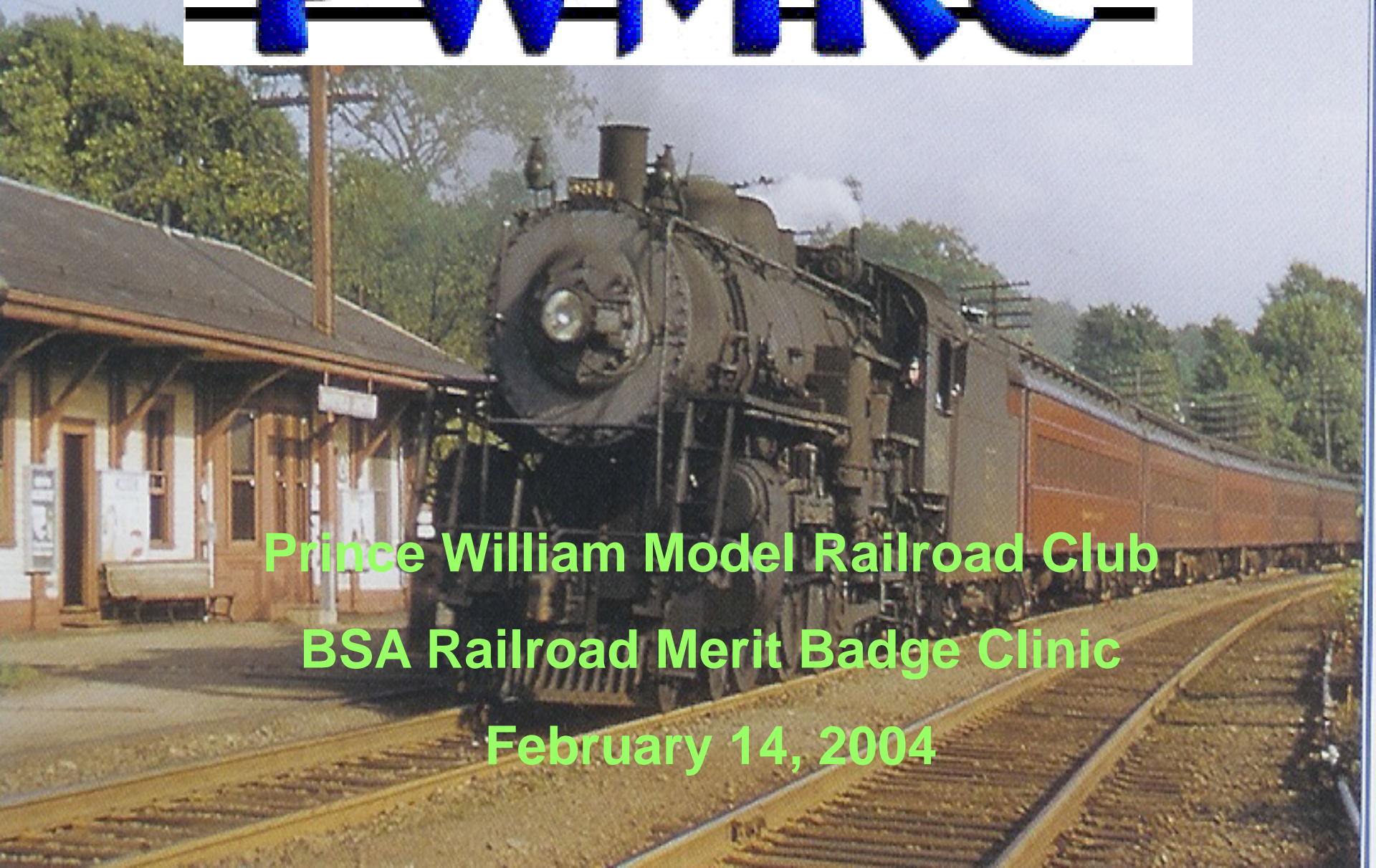


PWMRC



Prince William Model Railroad Club

BSA Railroad Merit Badge Clinic

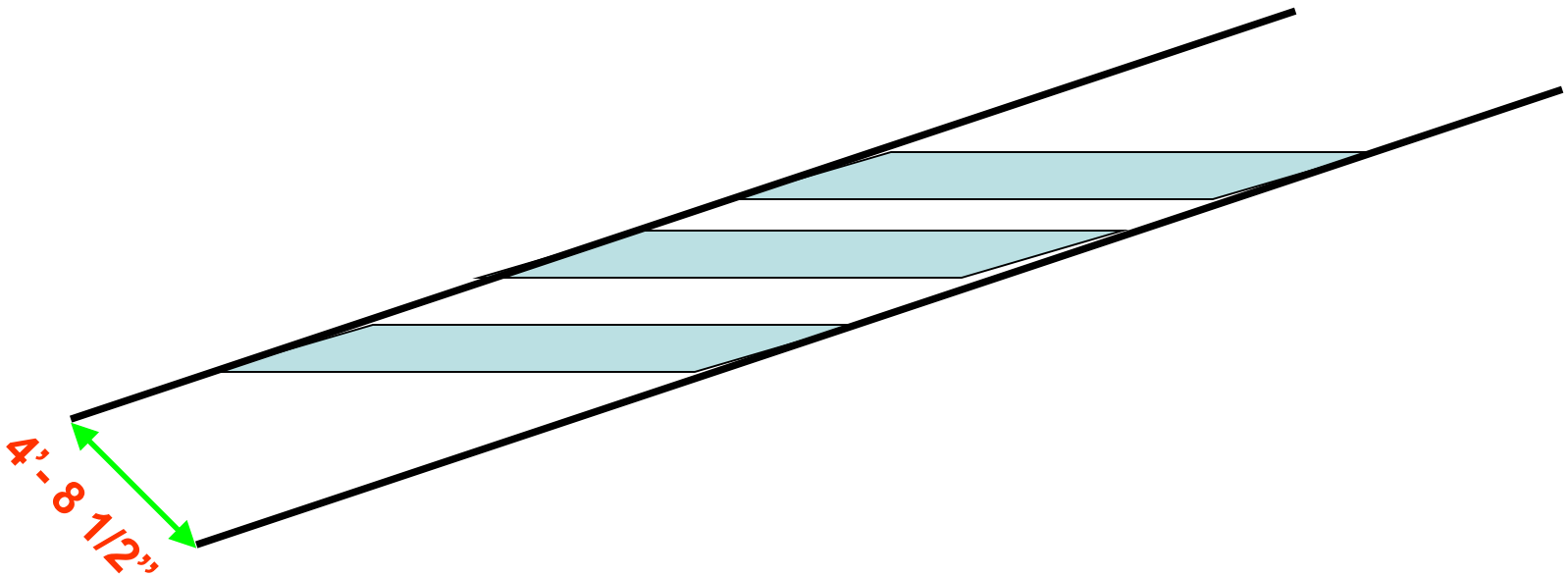
February 14, 2004

Scale

Name	Scale	Relationship to Actual Size
G	3/8"	1:32
O	1/4"	1:48
S	3/16"	1:64
HO	3.5 mm	1:87
N	.075"	1:160
Z	.055"	1:220

Gauge

The distance measured between the rails, which in the United States was a standard 4 feet 8 ½ inches.



Gauge

Older steam engines had a gauge of 3 feet between the rails.

Some railroads had a gauge of 2 feet between the rails.

Referred to as **Narrow Gauge**.

Box Car

A car that is an enclosed, water tight box on wheels, with doors on both sides to provide access to the interior, and a floor strong enough to support the weight of loaded forklifts used to stack products.



Gondola Car

- A low flat bottomed freight car with fixed sides, but no roof.



BethGon Coalporter

A high sided gondola car used to transport Coal.



Reefer Car

A refrigerated car used to transport food goods that have to be kept cold.



Covered Hopper

Used to transport grain and other similar materials.



Tank Car

- Used to transport liquid chemicals and fuels.



Well Car

Used to transport intermodal containers from seaports to terminals.



Caboose

The last car of a train.



Locomotive

What makes the train go down the rails using diesel and electric motors.



Freight Trains

- Mixed Freight
 - Has a variety of different types of freight cars.
- Unit Train
 - Has one type of freight car carrying a specific commodity.
- Intermodal traffic
 - Uses standardized containers with well cars.
- Piggyback
 - Carries trailers on specially designed cars.

Whistle signals

Whistle	Meaning
1 short	Apply brakes- stop
2 short	Engineer's acknowledgement
3 short (stopped)	Backing
3 short (moving)	Stop at next station
Several shorts	Alarm- warning

Whistle signals

Whistle	Meaning
1 long, 2 short	A second section is coming.
2 long	Release brakes- proceed.
2 long, 1 short, 1 long	Approaching a public crossing.
4 long	Flagman may return from west of south.
5 long	Flagman may return from east or north.
2 long, 3 short	Flagman protect rear of train.

FRED

Flashing **R**ead **E**nd **D**evice (FRED)

End **O**f **T**rain **D**evice (EOTD)

Devices that attach to the coupler and train brake system of the last car in the train consist. They transmit air pressure measurements to a monitor located in the cab of the locomotive. There may also be a flashing amber or red light to warn other engineers of the rear of the train.

Basic Signals

Different for each railroad.

Commonly:

RED- Stop

YELLOW- Approach with caution

GREEN- Proceed- go

Lights are on semaphores and may be referred to as block signals.