Kandiyohi County Historical Society

Locomotive 2523

This mountain-type locomotive is a survivor of the steam engines acquired by the Great Northern Railway to speed up mainline passenger service. It was placed on permanent exhibit October 17, 1967.

The Great Northern passenger train, No. 2523, was built in 1916 to speed up the passenger main line service through the mountains. This train was painted green because all passenger trains were, although this train was occasionally used to carry freight. The train was usually driven at 79 mph because 80 was the maximum speed without cab control. Three men operated inside the train, a brakeman, a fireman, and an engineer. There were also two men on the caboose.

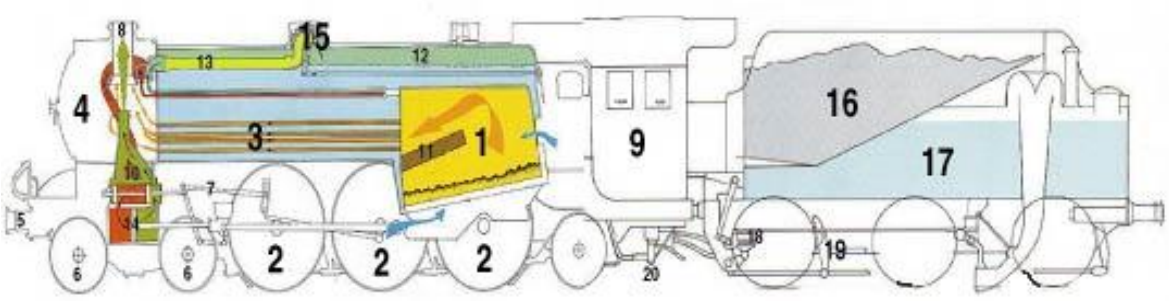
A powerful and speedy locomotive of the P-2 class, the engine now looks every bit the aristocrat that it was during the years it was preeminently associated with Great Northern's crack transcontinental trains – The Empire Builder and the Oriental Limited. The Empire Builder was inaugurated in June of 1929 and the popularity of the train led to addition of cars to the consist and this necessitated more powerful engines – renowned S-2 locomotive.

Engine 2523 is the last of 28 locomotives built for the Great Northern by the Baldwin Locomotive Works. After these engines were replaced by the more powerful S-2's in Empire Builder service they pulled the fast mail trains and the famed silk trains. The P-2 engines later were use din freight service and were retired in 1955.

Locomotive and tender are 94 feet 6 ¼ inches in length, weigh 617,000 pounds and stand 15 feet 10 inches from rail to the top of the stack. In 1946, No. 2523 was converted to an oil burner and developed 57,580 pounds of traction effort. Each of the eight drive wheels is 73 inches high.

The track on which 2523 stands is laid to Great Northern main-line specifications. The creosoted ties are supported on a sub-ballast consisting of 6 inches of rock chips and a ballast of 6 inches of crushed granite, quarried by Great Northern near Granite Falls, Minnesota.

Engine 2523's last run was in 1958, and was placed on permanent display at the Kandiyohi County Historical Society on October 17th, 1967.



Operation:

The water is put in the boiler. The firebox heats the water that runs the piston and makes the wheels run. There is always steam going back and forth in the cylinder, which keeps the train running on a steam locomotive. It took about 15 minutes in the summer and 30-60 minutes in the winter to start the engine. In the winter it took longer because it was harder to get air to all the cars in the train. The air was needed to run the car's brakes.

The train had to get water at least once on the way from Minneapolis to Willmar. They tried to make it to Dassel, because then they would only have to stop once. If they couldn't make it to Dassel they would have to stop in Delano and then in Litchefield too. Stopping took at least 45 minutes because the train had to be inspected. Refilling the water tank took about 12-15 minutes. The tank could hold 15,000 gallon of water. The train would use between 4,000-5,000 gallons of water an hour.

1. Firebox-Burns fuel to produce heat
2. Driving Wheels-Connected to each other by connecting rods, this engine has six and with four bogie and two trailing wheels giving the engine a configuration of 4-6-2
3. Fire Tubes-Carry the heat of the firebox into the boiler and so raising the temperature of the water
4. Smoke box door-Gives access to the smokebox for the removal of char
5. Front Frame and Buffers
6. Trailer Wheels-Support the weight of the rear of the locomotive
7. Valve Gear-Linkage that times the intake and extraction of steam from the cylinder
8. Chimney-Removes the smoke and cooled steam away from the boiler
9. Driving Cab
10. Blastpipe-Removes the cooled steam away from the cylinder
11. Brick Arch-Encourages combustion of gas distilled from the firebed
12. Saturated steam area inside the boiler
13. Main Steam Pipe-Transfers steam from the regulator valve to the superheater header
14. Cylinder and Piston-Where the superheated steam is converted into mechanical energy
15. Steam Dome-Highest point of the boiler and also usually contains the regulator valve
16. Coal Space-Has a capacity of ten tons
17. Water Space-Has a capacity of up to 6,000 gallons
18. Brake Cylinder
19. Brake Gear
20. Injector-Supplies water to the boiler