



4500 H.P. DIESEL PASSENGER LOCOMOTIVE . . DESIGNED AND BUILT BY ELECTRO-MOTIVE DIVISION . . GENERAL MOTORS . . LA GRANGE, ILLINOIS, U. S. A

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Designed and Built for

NORTHERN PACIFIC RAILWAY

BY ELECTRO-MOTIVE DIVISION • GENERAL MOTORS • LA GRANGE, ILLINOIS

This Diesel Passenger Locomotive consists of three units, each equipped with one 16 cylinder, V-type, 2-cycle General Motors Diesel engine having a bore of $8\frac{1}{2}$ " , stroke 10" and a unit fuel injection system. These engines, capable of independent operation, are rated at 1500 horsepower each at 800 RPM, providing a total of 4500 horsepower for the locomotive. Each engine is directly coupled to a DC generator. Current from these generators is fed through control apparatus to twelve traction motors—two per truck—geared directly to the driving axles. Two

four-wheel trucks per unit are used in this locomotive. Among the special features of this locomotive is the dynamic brake which utilizes the traction motors for braking action. The electric power so generated is dissipated from resistance grids located in the roof of the locomotive. In many cases, this brake will control the speed of the train down long, mountainous grades without the application of ordinary air brakes. This locomotive represents the finest motive power offered for passenger service in which heavy grades are involved.

SPECIFICATIONS

DIMENSIONS

Overall length over couplers	151'-4"
Maximum width over grab irons.....	10'-7"
Width over body posts.....	9'-10"
Height over all, above rail.....	15'-0"
Wheel diameter.....	40"
Rigid wheel base of trucks.....	9'-0"
Roller bearing journals.....	6½" x 12"
Distance between bolster centers.....	30'-0"
Truck swing designed for 21° curve or 274-foot radius	

BASE WEIGHTS (approximate)

Total weight on drivers, fully loaded.....690,000 lbs.

TRACTIVE EFFORT

(calculated from base weight)

Maximum tractive effort at rim of driving wheels at
25% adhesion.....172,500 lbs.

SUPPLIES

Fuel oil.....	3600 gals.
Sand.....	48 cu. ft.
Lubricating oil.....	600 gals.
Engine cooling water.....	660 gals.
Boiler water.....	2600 gals.

