



5400 H.P. DIESEL FREIGHT LOCOMOTIVE . . DESIGNED AND BUILT BY ELECTRO-MOTIVE DIVISION . . GENERAL MOTORS CORPORATION . . LA GRANGE, ILLINOIS, U. S. A.

5400 H.P. DIESEL FREIGHT LOCOMOTIVE

Designed and Built For

ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

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

This Diesel Freight Locomotive consists of one cab section and three booster sections, all coupled and each being equipped with one General Motors, sixteen cylinder, V-type, 2 cycle Diesel engine having a bore of $8\frac{1}{2}$ " stroke 10" with unit injection system, rated at 1350 H.P. at 800 R.P.M., and developing a total of 5400 H.P. Each engine is direct connected to a D.C. generator, the current of which is distributed to the traction motors mounted on the trucks which in turn are geared to the axles. There are a total of eight 4-wheel trucks under the four sections comprising this locomotive, each being equipped with two traction motors or a total of sixteen motors geared for a maximum speed of 65

M.P.H. All four engines are arranged for multiple control from the operator's cab. The booster sections are equipped with a control station for independent operation around the terminal.

This locomotive is equipped with an infinitely variable speed *Electric Brake* which utilizes the traction motors for braking action, dissipating the electric current so generated through resistance grids located in the roof of the locomotive. This *Electric Brake* will develop a maximum braking effort of 98,000 lbs. at 17 M.P.H. and is capable of holding a large tonnage train on long mountainous grades without application of the ordinary air brakes.

DIMENSIONS

Overall length over couplers	194'-4"
Maximum width over grab irons	10'-6 $\frac{7}{8}$ "
Width over body posts	9'-10"
Height over all, above rails	15'-0"
Wheel diameter	40"
Rigid wheel base of trucks	9'-0"
Roller bearing journals	6 $\frac{1}{2}$ "x12"
Truck swing designed for 21° curve or 274-foot radius	
Distance between truck centers on cab section	27'-3"
Distance between truck centers on booster section	26'-6"

SPECIFICATIONS

SUPPLIES

Fuel oil	4800 gals.
Sand	76 cu. ft.
Lubricating oil (145 gals. per engine)	
(Average)	580 gals.
Engine cooling water (225 gals. per engine)	900 gals.

WEIGHTS

Total weight fully loaded	935,000 lbs.
Weight of locomotive with one-half of variable supplies	911,600 lbs.
Maximum tractive effort at rim of driving wheels at 25% adhesion	227,900 lbs.

