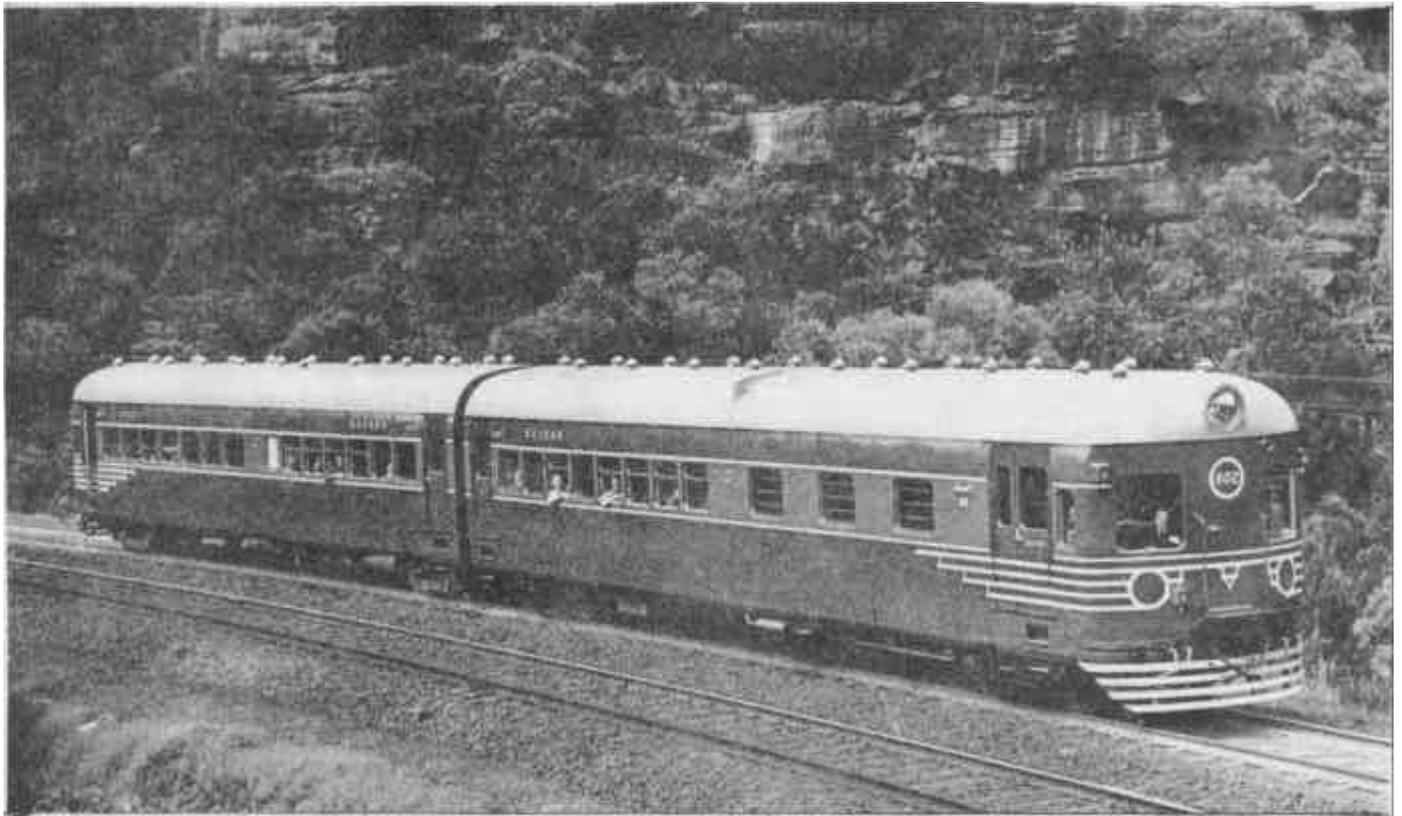


# New South Wales Government Railways

(295)



TWO CAR DIESEL TRAIN FOR BRANCH LINE SERVICE.

The power car is fitted with two "General Motors" diesel engines which develop 165 H.P. each, and the test showed that a train speed of 62 m.p.h. at approximately 1,800 r.p.m. can be maintained. The fuel consumption is estimated at 5 miles per gallon of dieselene. The driving motors, batteries and fuel tanks are carried on the steel underframe of the power car, whilst the water service and lavatory flushing system are suspended from the trailer car underframe, also constructed of steel.

The driving and brake controls are electro-pneumatic and enable coupled multiple units to be controlled by one driver, a safety device in the form of a dead man's handle is also fitted in the driver's cabin.

The control principle is that a small equalising pipe is fitted the full length of the train, to which the engine throttle actuators are connected. When the driver desires to change the engine throttles for increased or decreased speed he moves a lever on the control panel operating a self lapping valve, which in turn influences the Westinghouse Master Controller. The equalising pipe referred to connects to one side of the Westinghouse Master Controller and the driver's throttle pipe connects to the opposite side. When the pressures in the two pipes are unbalanced, a switch is operated which causes magnet valves in each power car to either admit more air or permit air to escape, until the pressure in the equalising pipe equals that in the throttle pipe. This change causes the spring loaded diaphragms of the throttle actuators to take up a new position, which, in turn, moves the fuel control lever on each engine throughout the train. The main feature of the electric portion of the system is that no lag takes place between the various engines when it is desired to increase or decrease speed.

The air brake portion is almost identical with the throttle portion. The equalising pipe in this case is known as the "straight air" pipe. The air pressure in this pipe represents at all times the brake cylinder pressure and, as in the case of the throttle, simultaneous application of the brakes of every car can be effected.

The car bodies are of the lightweight type of construction being built principally of aluminium by employees trained in the manufacture of Beaufort aircraft during the war years.

Two steel all welded "Pratt" trusses, extending from bolster to bolster and in depth from waist rail to below floor level constitute the main strength members of the cars.

A light gauge aluminium framework made of pressings in a similar manner to aircraft construction is built on to the truss the-whole being then sheathed with aluminium. The interior finish on sides, ends and roof, together with the partitions, luggage racks, etc., are aluminium as are the window frames which are of the balanced lift type. Doors are fabricated from aluminium extruded sections and sheets.

Floors, except in the luggage compartment of the power car, are made up of aluminium key flooring riveted to underframe and covered with magnesite, cork, masonite and linoleum. An 1/8" aluminium plate covered with timber framing and tongue and grooved boards form the floor in the luggage compartment. Bodysides, ends and roof are fully insulated with a kapok insulation installed between the outer and inner skins.

The total carrying capacity is 84 passengers and 8 tons of luggage, the power car (Code FPH) seating 32 second-class passengers and carrying 8 tons of luggage, whilst the trailer car (Code CT) seats 28 first-class and 24 second-class passengers. Both power and trailer cars are 61 ft. 3 in. over the body, the tare weights of the power and trailer cars being 28 tons 2 cwts. and 21 tons 3 cwts. respectively.

The seats are of the turnover type, each seating two passengers, the first-class being trimmed in green leather and the second-class in maroon leather. Provision is made for removable bodyside tables whilst ashtrays are fitted permanently to the bodysides.

Parcel racks of aluminium sheet construction are fitted the full length of the saloons. Each saloon is illuminated by coiling lamps with equilux shades. Ceiling ventilators are also fitted in each saloon.

Iced drinking water and paper cups are provided.

The exterior of the cars is finished in the standard tuscan and russet relieved with chrome yellow linee. The interior of the saloons and vestibules is finished from floor to sill height in rayon flock sprayed on to the bodysides or partitions. The colour in the first-class section of the cars is green and in the second-class section, brown, to match the seat upholstery. From sill to cornice height the finish is warm cream enamel, and the ceilings are in a matt finish broken white enamel.

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