

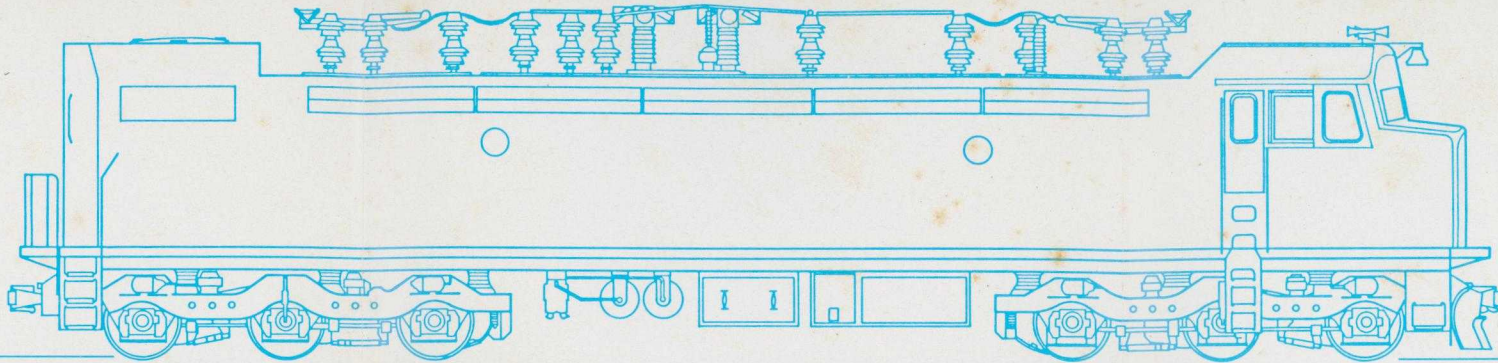
THE
BCRAIL
GF6-C

General Description

Model designation GF6-C
Locomotive type C-C
Main transformer – mineral oil cooled
 Primary voltage 50 kV/60 Hz
Thyristor convertor – mineral oil cooled
 Thyristor control system
Continuous rating 3,800 kW
Max. diesel equivalent HP 6,000
APL power rating 270 kW
Traction motors 6
 Model E88
 Type Separately excited TM field
Weight (total) 180,859 kg
 398,720 lbs



Corporate Information Department
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The Locomotive

Developing British Columbia's north-eastern coalfields was the single largest industrial undertaking in the history of the province. More than \$2.6 billion was invested over a three-year period – including two open-pit mines, highway access, development of a new town, and a \$500 million rail line, built by BC Rail.

Motive power for the 98-car unit coal trains is provided by seven 50-kV electric locomotives, designated GF6-C and built by General Motors Diesel Division in London, Ontario. This thyristor-controlled locomotive utilizes ASEA of Sweden manufactured power and control equipment.

Electrification eliminated the need to ventilate a nine and a six-kilometre tunnel, and offered fuel and maintenance economies.

The first unit coal train moved out of Tumbler Ridge on November 1, 1983 – one month ahead of schedule under conventional diesel power. The first of the 6,000-hp GF6-Cs was phased in beginning December, 1983. By May, when the project

was officially opened, coal trains were being hauled to BC Rail's main line at Tacheeda entirely under electric power.

General Motors, ASEA and BC Rail met the challenge of creating a truly modern heavy haul locomotive for rugged northern conditions, while BC Rail's own construction and engineering staff won the race against time to construct Canada's first electrified heavy freight railway.

Performance of the electric locomotive fleet has been excellent. The GF6-C offers good adhesion under controlled creep conditions. With separately excited direct current traction motors a degree of motor control, not yet practical in conventional diesel-electric locomotives, is achieved.

The Route

The 81-mile (129-km) Tumbler subdivision was built in a remote northern region of the Rocky Mountains in less than four years. The route is the first and toughest section of a 950-km rail haul that carries coal from the Quintette and Teck-Bullmoose mines to the Ridley Island deep-sea terminal in Prince Rupert, B.C.

