

**World's Most Complete
Locomotive Line**

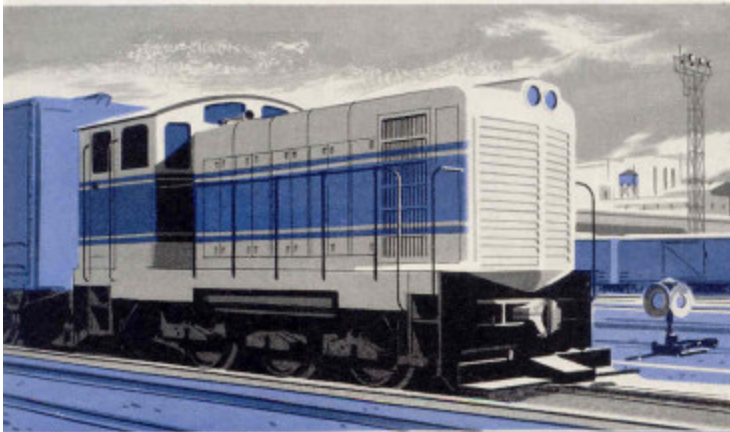
GENERAL MOTORS

**DIESEL
LOCOMOTIVES**



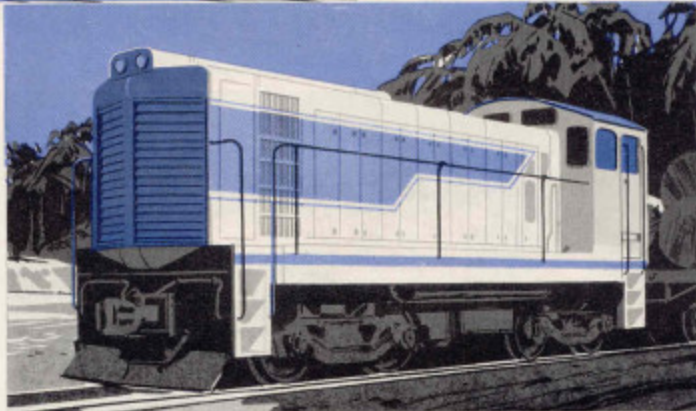
GENERAL MOTORS OVERSEAS OPERATIONS

GENERAL MOTORS



GM6-650-H.P. General Purpose Locomotive—Latest addition to the line of General Motors Diesel-Electric locomotives, this versatile low-cost unit is designed for service where light-axle loading is required. Powered by a 6-cylinder 567C 2-cycle engine, the three driven axles arranged on a rigid base with the three axles driven by a carbody-mounted heavy-duty traction motor through shafting and gearboxes. Minimum weight 36,281 kg.—can be ballasted to a maximum of 45,444 kg. Maximum speed 48 kph. All gauges from .914 M. to 1.676 M.

GA8-850-H.P. General Purpose Locomotive—Similar in design to the shaft-drive GM6, Model GA8 has two-axle (B-B) trucks with two underframe-mounted heavy-duty traction motors and is powered by an 8-cylinder 567C engine. The unit is designed for service requiring a locomotive of extremely light-axle loading. Minimum locomotive weight 47,614 kg., maximum with ballast 54,432 kg. Maximum speed 84 kph. All gauges from .914 M. up.



GL8-950-H.P. General Purpose Locomotive—This flexible unit with B-B or A-1-A bogies and four axle-hung traction motors fills a wider range of railway jobs in freight, passenger and shunting service than any other locomotive built. Like all Model G units, its general-purpose-type carbody, with narrow hood and off-centre cab, provides good visibility for driving in either direction—eliminates the necessity of turning the locomotive, and provides greater accessibility for ease of maintenance. Smooth-riding Flexi-Coil bogies permit road operation on light rail. All gauges from one metre to 1.676 M.

GL8-950-H.P. General Purpose Locomotive—Similar to Model G8 with four axle-hung traction motors but with shorter, lighter frame, the GL8 is designed for universal use requiring a locomotive of this power with lighter-axle loading (see table). Minimum weight fully loaded 54,545 kg.

LOCOMOTIVES COVER

The best buy in locomotives is General Motors

General Motors offers for world-wide service a complete range of Diesel locomotives to meet every motive power need from 270 to 1950 H.P. —for track gauges from .914 M. up.

Built by economical, production-line methods at Electro-Motive Division, La Grange, Illinois, and General Motors Diesel Limited, London, Ontario, these lightweight, small-clearance units utilize standardized, time-proven components which have won General Motors locomotives an unparalleled reputation for reliable, low-cost operation in hundreds of millions of miles of freight, passenger and switching service since 1934.

Proof is their high acceptance on the railways of six continents. Today, more than 50% of the world's Diesel-Electric locomotives bear the General Motors name plate. In addition to the locomotives described, there is also available the General Motors heavy-axle-load, wide-clearance

locomotives that, today, move more than 65% of main-line traffic on the North American continent.

ONE MANUFACTURER—ONE RESPONSIBILITY

In General Motors locomotives, all phases of construction—the design and manufacture of all major components as well as their assembly—are centered in *one* organization.

This concentration of responsibility for all phases of locomotive performance results in a balance of design—uniformity of high-quality manufacture—and parts and service protection that is unrivaled in the motive-power-field.

In these pages is a brief description of each model in the complete line of General Motors Diesel locomotives—the most productive tools available to railways for improving efficiency and reducing costs. Further information, including detailed specifications on any model, will be supplied on request.

GENERAL PURPOSE DIESEL-ELECTRIC LOCOMOTIVES

	Gross Horsepower Rating*	Traction Horsepower Rating**	100-Hour Test H.P. Rating	GM 567C Engine	LOCOMOTIVE DIMENSIONS			MINIMUM AXLE LOADING	
					Length M.	Width† M.	Height‡ M.	Four Axles Kilos	Six Axles‡ Kilos
Model GM6	650	600	765	6 cyl.	9.62	2.924	3.785	12,093§	—
Model GA8	850	800	1100	8 cyl.	9.754	2.924	3.960	11,904	—
Model GL8	950	875	1100	8 cyl.	9.754	2.845	3.960	14,580	—
Model G8	950	875	1100	8 cyl.	13.106	2.819	3.759	17,095	Variable between 12,315-16,205
Model G12	1425	1310	1650	12 cyl.	13.106	2.819	3.759	18,185	Variable between 13,040-17,290
Model GR12	1425	1310	1650	12 cyl.	14.427	2.819	3.861	—	14,364
Model G16	1950	1800	2200	16 cyl.	17.272	2.819	3.960	21,770	16,180

*International Railway Union (I.R.U.) Continuous engine output—includes power for propulsion and auxiliaries.

**Continuous input to main generator for propulsion.

†Alternate cab reduces width and height of Models GM6 and GA8 for applications requiring restricted clearance.

‡Weights with metric gauge trucks and Universal gauge traction motors.

§Model GM6—3 axles.

OPTIONAL GEAR RATIOS

With UNIVERSAL GAUGE TRACTION MOTORS

(Can be used on all track gauges of metric gauge and wider)

With BROAD GAUGE TRACTION MOTORS

(Can be used on all track gauges of 4'8" and wider)

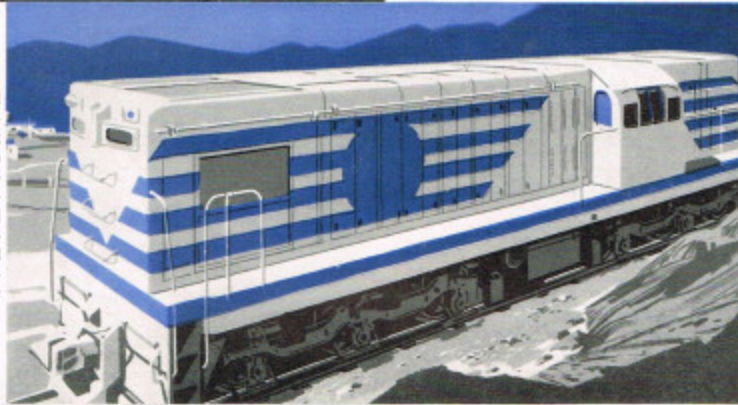
Ignition Gearing	①	②	③	④	⑤	⑥	⑦	⑧
Max. Speed Km./Hr.	63.14	62.15	61.16	60.17	62.15	61.16	60.17	59.18
	100	105	114	124	105	114	124	134

THE RAILWAY FIELD



G12-1425-H.P. 6- or 6-Axle, 4-Traction Motors, General Purpose Locomotive—"Down under" in New Zealand and around the globe to the northernmost tip of Norway, this locomotive is smashing all records for performance and economy, with highest utilization and availability. In many applications it hauls more tonnage on faster schedules than 4-8-4 steam locomotives—and cuts operating expenses in half! Axle loads with A-1-A bogies may be varied from 13½ to 18½ metric tons—permitting Diesel efficiency and economy where present track conditions limit axle loads, yet providing capacity to meet future loading requirements.

GR12-1425-H.P. 6-axle, 6-motor General Purpose Locomotive—Powered by 12-cylinder 567C engine, same as Model G12, but with longer underframe to accommodate 6 axles and 6 motors. Provides maximum tonnage capacity for light-rail application. Flexi-Coil bogies incorporate spring-controlled lateral and vertical movement of the roller-bearing journals, and rubber-cushioned lateral control of axle movement, for unexcelled riding qualities. Minimum weight fully loaded \$6,183 kg.



G16-1950-H.P. General Purpose Locomotive—Powered by the famous 16-cylinder 567C General Motors engine, this heavy-duty hauler gives railways of the world the rugged reliability demonstrated in handling the majority of main-line service in the United States, Canada and Mexico. Particularly adapted to conditions requiring light-axle loading with high tractive effort, the Model G16 (available with four or six motors) utilizes compo-

nents which are interchangeable with smaller Model G units. So a single inventory of spares protects a mixed fleet. And because mass production of standardized components results in lower costs, the same investment in spares provides 25% to 50% greater protection! Total weight with metre gauge bogies and six universal gauge traction motors 97,050 kg.

GENERAL PURPOSE LOCOMOTIVES

for freight, switching, transfer or mixed service

To meet the need for locomotives in the lower horsepower range, General Motors offers two Diesel-Hydraulic locomotives utilizing the proven power team of the GM 6-110 Diesel engine and Allison TORQMATIC Transmission.



GMDH-1—600 H.P.— Powered by two General Motors 6-110 Diesel engines and TORQMATIC Transmissions — the matched engine-transmission team which has proven so successful in Diesel rail cars, heavy earth-moving equipment and other industrial drives—Model GMDH-1 has a swivel truck B-B arrangement with a centre cab. Total horsepower at the input to the torque converter is 530 B.H.P. Since all axles are driven through shafts and axle-mounted gearboxes, weight on drivers is 100%. Riding qualities and visibility are excellent. Maximum speed 65 kph. All track gauges from .914 M. up.

GMDH-3—300 H.P. This unit is, in essence, the equivalent of one-half of Model GMDH-1. It has only one 6-110 power plant mounted on three axles (all powered) for low axle loading. Horsepower for traction is 270 B.H.P. Maximum permissible speed 48 kph.



A line of Diesel-Hydraulic locomotives that brings outstanding design advantages and increased utilization which only General Motors research, engineering, volume production and service can offer!

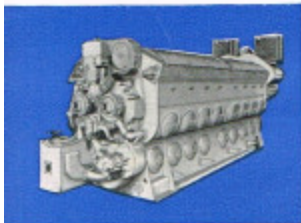
GENERAL PURPOSE DIESEL-HYDRAULIC LOCOMOTIVES

	Gross H.P. Rating	H.P. for Traction	GM 6-110 Engine	LOCOMOTIVE DIMENSIONS			Total Weight Fully Loaded	Loading per axle		Maximum Speed
				Length	Width*	Height*		Maximum	Minimum	
Model GMDH-1	600	530	2	9.60M	3.05M	3.65M	45,287 kg	15,873 kg	11,338 kg ⁰⁰	65 kph
Model GMDH-3	300	270	1	6.00M	3.05M	3.65M	30,937 kg	13,605 kg	10,317 kg	48 kph

*May be built to width of 2.7M. and height reduced to meet more exacting clearance requirements.

**On narrow-gauge units, may be reduced to as low as 10,000 kg. per axle.

World's Most Widely Used Diesel Motive Power



General Motors 567 Diesel Engine

First Diesel engine designed and built specifically for railway service—and constantly improved through the years—the General Motors Series 567 two-cycle V-type Diesel engine has earned an unparalleled reputation for rugged

dependability in hundreds of millions of miles of railway operation, as well as in heavy-duty marine propulsion and stationary services.

Easy accessibility for inspection and maintenance and high interchangeability of parts are inherent in the design. All models—6, 8, 12 and 16 cylinders—have the same size bore and stroke, 8½" x 10". Wearing parts are, therefore, completely interchangeable, reducing inventory requirements and personnel training. Piston life conservatively averages 500,000 miles (800,000 km.) of service, and these engines average 6 to 9 years between general overhauls.

In addition to low piston speed and low BMEP, other features that have won the 567 engine its enviable record for high-output performance and long, trouble-free life are:

Two-cycle Principle—power at every piston down-stroke—simplicity of design and more power in a more compact engine.

Unit-Injection System combines high-pressure fuel pump, metering device and spray nozzle in a single unit for each cylinder, eliminating troublesome high-pressure fuel lines.

Uniflow Blower Scavenging with Roots-type positive-displacement blower provides excess air for clean combustion at any speed or altitude.

Oil-cooled Pistons are of floating type, free to rotate in cylinder for more uniform wear and longer life.

To these can be added such road- and time-proved features as the welded steel crankcase, individually replaceable water-cooled cylinder heads and liners, replaceable water inlet manifold, water jumper lines to individual liners and heads, drop-forged fork-and-blade-type connecting rods, dynamically balanced crankshaft and precision insert-bearing shells.

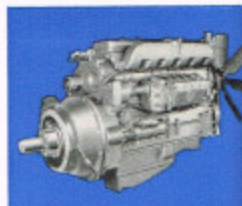
General Motors Diesel engines are precision manufactured with highest standards of material and workmanship.

General Motors 6-110 Diesel Engine with TORQMATIC Transmission

The 6-cylinder in-line Series 110 GM Detroit Diesel engine powering General Motors Diesel-Hydraulic locomotives is of the same basic two-cycle design as the 567—with unit injection, uniflow scavenging and replaceable liners. Bore and stroke, 5" x 5.6"; total displacement 660 cu. in. Rated horsepower 300 B.H.P. The engine is equipped with protective devices for automatic shutdown in case of high water temperature or low oil pressure.

Carefully matched to the torque characteristics of the engine, the Allison TORQMATIC Converter, Model CRT5630, is a single-stage multiple-phase type with a maximum multiplication of 3.6-1. Three speeds forward, three reverse—with either manual or automatic control, shifting may be done at full engine power.

Result of more than a quarter-century experience in Diesel motive power development, this precision-engineered power team brings to the lower horsepower locomotive range opportunities for substantial operating savings—advantaged by ready availability of General Motors service and parts *everywhere*.



GENERAL MOTORS OVERSEAS OPERATIONS

Division of General Motors Corporation • New York 19, N. Y., U.S.A. Cable Address: Autoexport

World's Highest Standard 270 to 1950 H. P.

ASSOCIATE BUILDERS:

AUSTRALIA—The Clyde Engineering Co. Pty., Ltd., Sydney N. S. W.
BELGIUM—La Brugeoise et Nivelles, St. Michel-lez-Bruges
GERMANY—Henschel & Sohn, GmbH, Kassel
SWEDEN—Nydqvist & Holm Aktiebolag, Trollhattan

LOCOMOTIVE PLANTS:

Electro-Motive Division of General Motors
La Grange, Illinois, U.S.A.

General Motors Diesel Limited, London, Ontario, Canada



GENERAL MOTORS SUBSIDIARIES, BRANCHES OR REPRESENTATION THROUGHOUT THE WORLD