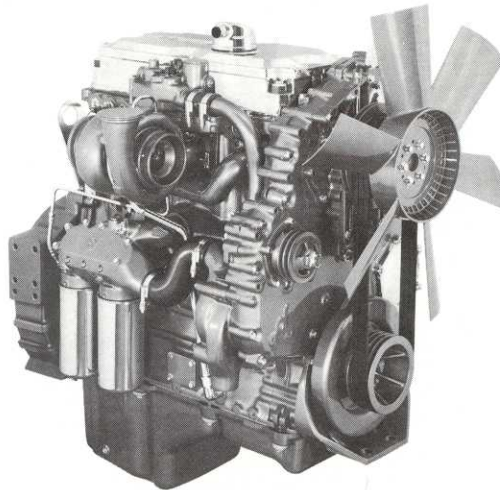


DETROIT DIESEL



SERIES 50 250-315 BHP

Underground Mining



General Specifications

Basic Engine	4 cycle-Inline
Model	6043GK32
Number of Cylinders	4
Air System	Turbocharged Air-to-Air Charge Cooling
Control	DDEC
Bore and Stroke	5.12 in x 6.30 in (130 mm x 160 mm)
Displacement	519 cu in (8.5 liters)
Compression Ratio	15.0 to 1
Dimensions: (approx.)	
Length	44.3 in (1125 mm)
Width	35.3 in (897 mm)
Height	52.8 in (1341 mm)
Weight (dry)	2190 lbs (993 kg)

(The Series 50® engine has the same Bore and Stroke and many other parts in common with the Series 60® engine.)

Rated Power Output

Gross Power	250 BHP (187 kW) @ 2100 RPM
Peak Torque	780 lb ft (1058 N•m) @ 1350 RPM
Gross Power	275 BHP (205 kW) @ 2100 RPM
Peak Torque	875 lb ft (1186 N•m) @ 1350 RPM
Gross Power	300 BHP (224 kW) @ 2100 RPM
Peak Torque	970 lb ft (1315 N•m) @ 1350 RPM
Gross Power	315 BHP (235 kW) @ 2100 RPM
Peak Torque	1015 lb ft (1376 N•m) @ 1350 RPM

Equipment Specifications

DDEC®—Detroit Diesel Electronic Controls are standard on all Series 50 engines. This electronic unit fuel injector and engine management control system is the most advanced system available in the industry. DDEC includes state of the art diagnostics for critical engine functions.

Overhead Camshaft—This design optimizes intake and exhaust air passages in the cylinder head for easier breathing, and minimizes valve train losses by eliminating the need for push rods.

Short Ports—The cylinder head has very short intake and exhaust ports for efficient air flow, low pumping losses and reduced heat transfer.

Iron Crosshead Pistons—The top ring can be placed much closer to the top of the iron crosshead piston. This reduces the dead volume above the top ring and improves fuel economy.

Injector Rocker Arm with Ceramic Rollers—The cam follower roller in the Series 50 injector rocker arm is made of silicon nitride. The low wear properties of this ceramic makes it possible to operate at very high injection pressures while maintaining long life of the roller. High injection pressure is one way Detroit Diesel is able to meet the stringent particulate and smoke emission standards without aftertreatments.

Bearings—The Series 50 engine features large main and connecting rod bearings for long life.

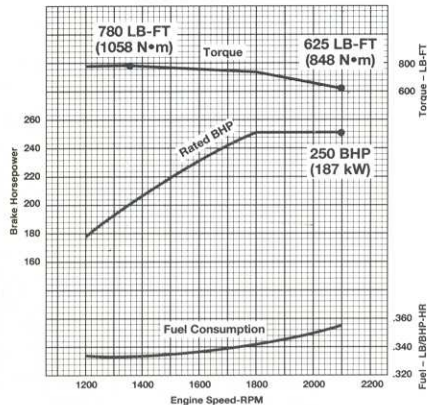
Eight Head Bolts per Cylinder—The head bolts provide a uniform load on the gasket and liner to reduce stress on the liner flange and block counterbore.

High Efficiency Turbocharger—Combined with a pulse-recovery exhaust manifold, the high efficiency turbocharger provides an efficient transfer of energy for improved fuel economy. 315 HP has ceramic turbo resulting in more responsive and better performance.

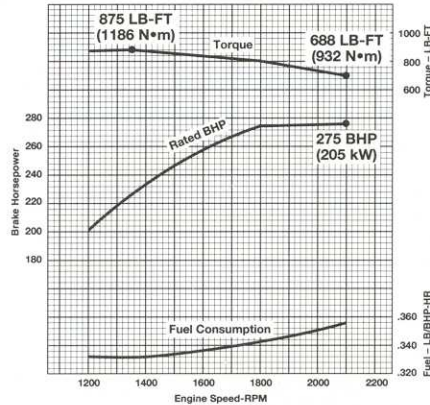
Balance Shafts—The Series 50 engine has counter-rotating balance shafts which make it run smooth. The balance mechanism is gear driven, and is attached to the underside of the engine inside the oil pan. With the balance shafts, the Series 50 engine is as smooth as the six cylinder Series 60 engine.

Top Liner Cooling—The Series 50 engine features top liner cooling. This has been accomplished by machining a coolant channel high up on the block, so that the top of the liner is surrounded by coolant, resulting in longer ring life.

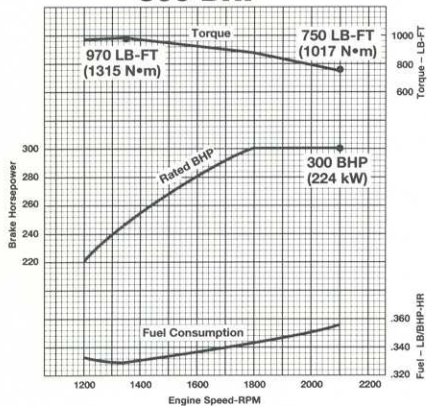
Performance Curves 250 BHP



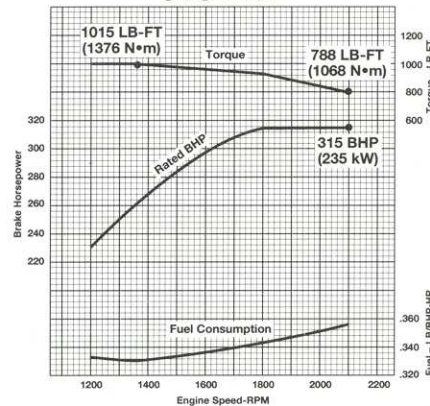
275 BHP



300 BHP



315 BHP



Rating Explanation

RATED BHP is the power rating for variable speed and load applications where full power is required intermittently.

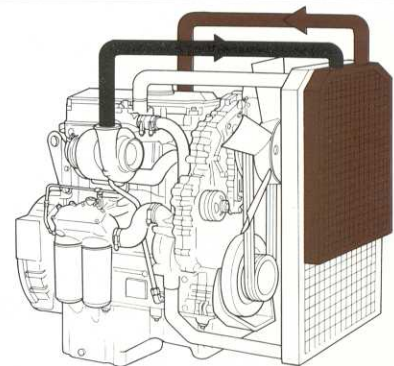
FUEL CONSUMPTION CURVE shows fuel used in pounds per brake horsepower hour.

THIS RATING does not include power requirements for accessory and standard equipment.

Air-to-Air Charge Cooling—To enhance fuel economy, the Series 50 engine has been designed to use air-to-air charge cooling. Air-to-air offers fuel economy gains of 2-5% over traditional intake air cooling systems. Incoming air is compressed by the turbocharger and directed to a finned heat exchanger in front of the vehicle's radiator. The heat exchanger uses no liquid coolant but relies instead on ram air for cooling the charge air resulting in lower intake air temperature from approximately 300°F (149°C) to below 100°F (38°C). This cooler air aids combustion, thereby increasing fuel economy.

Series 50
24 Hour Hot Line
Phone 1-800-445-1980

■ Hot Air
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