

FEATURES

■ CAT® QUALITY THROUGHOUT

Cat® gas engines incorporate many of the same proven components as their diesel counterparts – including the block, crankshaft, main bearings, camshaft and connecting rods. However, by operating at 40 to 50% lower cylinder pressure and bearing loads than diesels, they offer the extra benefit of prolonged life. Caterpillar gas engines inherit more from their diesel counterparts than just strength. They are backed by the same support system recognized as one of the most sophisticated and dependable in the world.

■ APPLICATION FLEXIBILITY

Broad operating speed range and the ability to burn a wide spectrum of fuels.

■ LOW EMISSIONS

0.7 gram/hp hr NOx level at 1000 rpm.

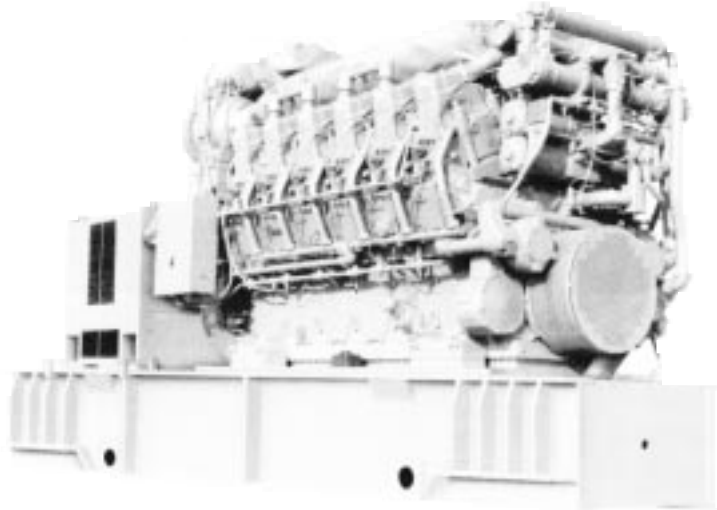
■ SUPERIOR TECHNOLOGY

Represent the latest technology in engine design. The engine is offered in a low emission turbocharged and aftercooled configuration only. This configuration offers:

- High energy ignition systems for consistent firing
- Highly efficient enriched prechamber design for complete combustion
- Modern component design such as deep cup, oil gallery piston
- Electronic controls to optimize performance

■ RESULT

Low emissions and BSFC under all operating conditions.



Shown with
Optional Equipment

STANDARD EQUIPMENT

General

Aftercooler
Crankcase explosion doors
Engine barring device
Flywheel and ring gear
High efficiency turbos
Protective guards
Torsional vibration damper

Cooling System

Expansion tank
Jacket water heater
Jacker water pump
Separate circuit gear driven pump for aftercooler/oil cooler circuit
Water regulators
87°C (189°F)

Ignition System

Altronic III ignition with variable timing

Controls

Electronic supervisory system:
air/fuel ratio control
governing
timing optimization
Instrument panel to monitor:
crankcase pressure
engine speed
exhaust temperature
intake manifold pressure
intake manifold temperature
oil pressure and temperature

oil pressure
differential
service meter hours
water temperature

Fuel System

Fuel filter
Shipped loose gas
pressure regulator

Protection

Detonation sensing and compensation
Misfire sensing
Energized to run shutdowns for:
crankcase pressure
engine overspeed
oil pressure
water pressure

Lube Oil System

Engine mounted lube oil cooler
Engine mounted lube oil filters
Gear driven lube oil pump
Prelube/postlube system
Sump pump connections

Air Intake System

Installed turbo air inlet adapters
Shipped loose air cleaners

Optional Equipment

Caterpillar installed generators
Generator set base

SPECIFICATIONS

12 Cylinder
 Bore—mm (in) 300 (11.81)
 Stroke—mm (in) 300 (11.81)
 Displacement—L (cu in) 248 (15,530)
 Compression Ratio..... 9.2:1

GENERATOR AND GENERATOR ATTACHMENTS

Caterpillar generator sets are available with a variety of generators, matched by Caterpillar. The description here is typical.

Available voltages include: 400, 3300, 6600, 11000.

Brushless revolving field generator with rotating brushless exciter. 90° C rise over 40° C ambient for use up to 1000 meters altitude. Insulation Class F. Open drip proof IP23 construction with terminal box sealed to IP44. Output six leads in terminal box designed for bottom entry cables. Includes two self-lubricated sleeve bearings, 100 ohm RTDs, two per phase in stator and one per bearing. Electrical features include voltage regulator with three phase sensing, cross current compensation, underfrequency protection with automatic reset, voltz per hertz operation, overvoltage protection with manual reset, permanent magnet exciter, space heaters installed with thermostat, 96% minimum efficiency at .8 power factor.

TECHNICAL DATA

G3612 Gas Engine Generator Set			Continuous	
			TA 90 LE	TA 130 LE
Rating Information	Electrical Output @ 0.8 PF without Fan	kW	2,540	2,400
	Voltage	V	400	400
	Compression Ratio		9.2	9.2
Package Dimensions	Min Gas Pressure Required	psi	45	45
	Shipping Weight w/ Generator and Base	lb	112,690	112,690
	Gen Set Length	in	317.4	317.4
	Gen Set Width	in	83.5	83.5
Engine Performance Data @ Rated Conditions	Fuel Consumption (100% load)	Btu/hp-hr	6,675	6,800
	Fuel Consumption (75% load)	Btu/hp-hr	6,950	7,025
	Air Inlet Flow Rate	scfm	9,352	8,935
	Exhaust Gas Flow Rate @ Stack Temp	cfm	22,880	21,877
	Heat Rejection to Jacket Water (total)	Btu/min	35,427	36,799
	Heat Rejection to Exhaust (to 350°)	Btu/min	91,055	87,175
	Heat Rejection to Aftercooler	Btu/min	27,597	22,299
	Heat Rejection to Atmosphere from Engine	Btu/min	16,494	18,898
Exhaust Gas Stack Temperature	Deg. F	860	861	

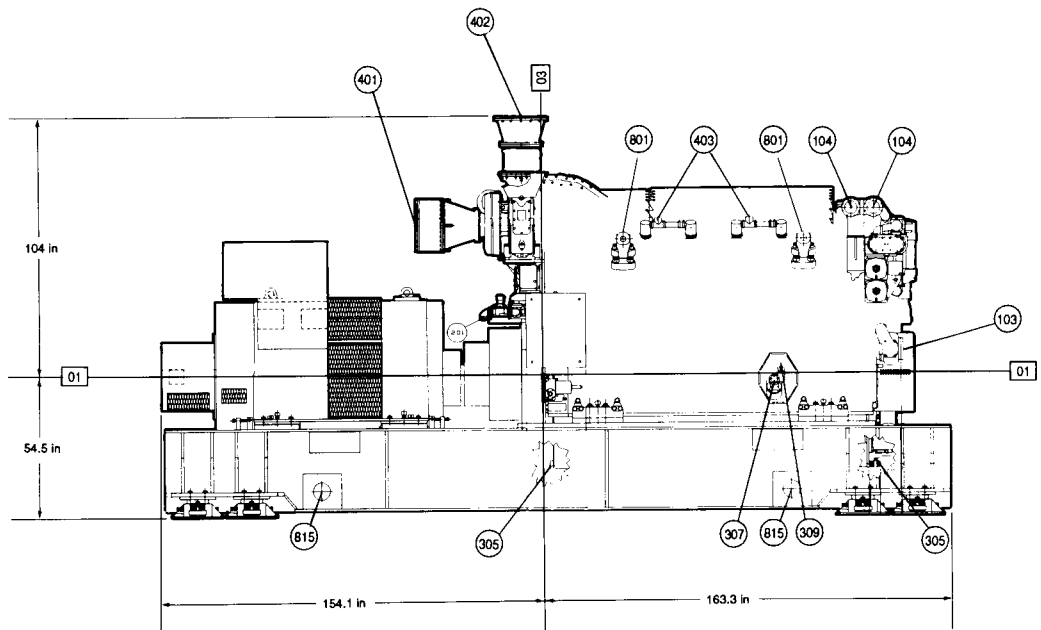
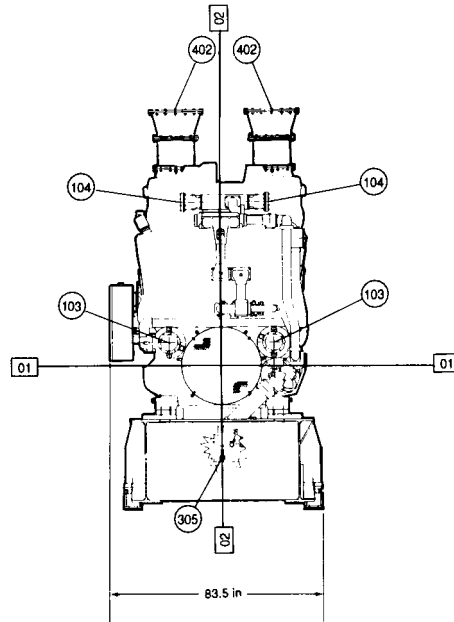
90 refers to aftercooler water inlet temperature in °F (32°C).
 130 refers to aftercooler water inlet temperature in °F (54°C).

All data is based on standard conditions.
 These ratings do not allow for overload capability.

G3612 GAS ENGINE GENERATOR SET



- 01 Centerline of crankshaft
- 02 Centerline of engine
- 03 Rear face of cylinder block
- 103 Water Inlet
- 104 Water Outlet
- 305 Oil Drain
- 307 Oil Filler
- 308 Oil Filter
- 309 Oil Level Gauge
- 401 Air Inlet
- 402 Exhaust
- 403 Breather Outlet
- 801 Lifting Eye
- 815 Lifting Location



Note: General configuration not to be used for installation.

CONDITIONS AND DEFINITIONS

Ratings are based on SAE J1349 standard conditions of 100 kPa (26.61 in Hg) and 25°C (77°F); ISO 3046, DIN 6271, BS 5514 standard conditions of 100 kPa (29.61 in Hg), 27°C (81°F), and API 7B-11C standard conditions of 99 kPa (29.38 in Hg), 29°C (85°F) also apply.

Ratings are based on dry natural gas having a low heat value of 35.22 MJ/m³ (905 btu/ft³). Variations in altitude, temperature and gas composition from standard conditions may require a reduction in engine horsepower.

Turbocharged-aftercooled ratings apply to 1525 m (5,000 ft) and 25°C (77°F). For applications which exceed these limits contact your Caterpillar dealer.