

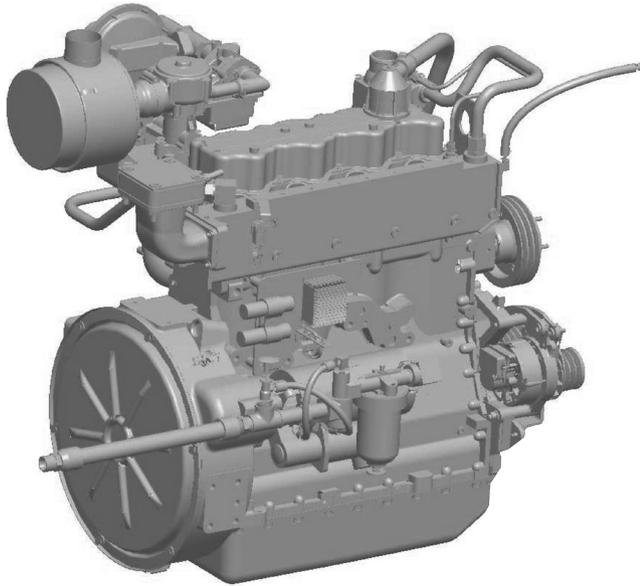


## G3304B NA Gas Petroleum Engine

71 bkW (95 bhp)  
1800 rpm

0.5 g/bhp-hr NO<sub>x</sub> or 1.0 g/bhp-hr NO<sub>x</sub> (NTE)

### CAT® ENGINE SPECIFICATIONS



#### In-Line 4, 4-Stroke-Cycle

Emissions	NSPS 2010
Bore	121 mm (4.8 in)
Stroke	152 mm (6.0 in)
Displacement	7 L (427 cu in)
Compression Ratio	10.5:1
Aspiration	Naturally Aspirated
Rotation (from flywheel end)	Counterclockwise
Flywheel & Flywheel Housing	SAE No. 1
Flywheel teeth	156
Shipping Weight (dry)	1022.3 kg (2253.8 lb)
Power Density	15.5 lb/hp
Power per Displacement	13.7 bhp/L
Capacity for Liquids — L (U.S. gal)	
Cooling System <sup>1</sup>	16 L (4.23 U.S. gal)
Lube Oil System (refill)	31 L (8.19 U.S. gal)
Oil Change Interval <sup>2</sup>	750 hours
Governor	Electronic ADEM™ A4
Ignition, Protection	Electronic ADEM A4
Air/Fuel Ratio Control	Electronic ADEM A4

<sup>1</sup>Engine only.

<sup>2</sup>Can be extended through S•O•S™ program

### FEATURES

#### Engine Design

- Tough and durable, built on industry standard G3300 platform
- Caterpillar supplied air/fuel ratio control and three-way catalyst designed specifically for this engine to provide superior emissions control with NSPS and Non-Attainment zone compliance
- 0.5 g and 1 g NO<sub>x</sub> settings available
- Integrated operator interface panel, TWC and AFRC reduces hands-on time with the engine
- Operator interface panel allows setup and servicing without a laptop
- Runs on a broad range of fuels and speeds at any emissions level
- Factory installed components with single connection point eases packaging

#### Advanced Digital Engine Management

The ADEM A4 system represents the next generation of engine management systems while reducing the number of mechanical components and easing troubleshooting.

Features include:

- Air/Fuel Ratio Control (AFRC)
- Electronic ignition
- Electronic governing/speed control
- Start/stop logic
- Engine protection & monitoring

#### Full Range of Attachments

Large variety of factory-installed engine attachments reduces packaging time

#### Gas Engine Rating Pro (GERP)

GERP is a PC-based program designed to provide site performance capabilities for Cat® natural gas engines for the gas compression industry. GERP provides engine data for your site's altitude, ambient temperature, fuel, engine coolant heat rejection, performance data, installation drawings, spec sheets, and pump curves.

#### Product Support Offered Through Global Cat Dealer Network

More than 2,200 dealer outlets

Cat factory-trained dealer technicians service every aspect of your petroleum engine

Caterpillar parts and labor warranty

Preventive maintenance agreements available for repair-before-failure options

S•O•S™ program matches your oil and coolant samples against Caterpillar set standards to determine:

- Internal engine component condition
- Presence of unwanted fluids
- Presence of combustion by-products
- Site-specific oil change interval

#### Over 80 Years of Engine Manufacturing Experience

Over 60 years of natural gas engine production

Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable products.

- Cast engine blocks, heads, cylinder liners, and flywheel housings
- Machine critical components
- Assemble complete engine

#### Web Site

For all your petroleum power requirements, visit HYPERLINK "<http://www.catoilandgas.cat.com>" [www.catoilandgas.cat.com](http://www.catoilandgas.cat.com)

**STANDARD EQUIPMENT**

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**Air Inlet System**

Air cleaner — intermediate duty, dry  
Air cleaner rain cap (shipped loose)  
Service indicator

**Control System**

ADEM A4

**Cooling System**

Thermostats and housing — full open  
temperature 97°C (207°F)  
Jacket water pump — gear-driven, centrifugal,  
non-self-priming

**Exhaust System**

Exhaust manifolds — watercooled  
Exhaust elbow — dry  
102 mm (4 in)  
Three-way catalyst — 1.0 g and 0.5 g  
NOx catalyst options

**Flywheels & Flywheel Housings**

Flywheel, SAE No. 1  
Flywheel housing, SAE No. 1  
SAE standard rotation

**Fuel System**

Air/fuel ratio control  
Gas pressure regulator  
Requires 10.3-68.9 kPa (1.5-10 psi) gas  
Natural gas carburetor

**Ignition System**

ADEM A4 ignition

**Lube System**

Crankcase breather, top mounted  
Oil cooler  
Oil filter  
Oil pan, full sump  
Oil filler and dipstick

**Protection System**

The following parameters include alarm and shutdown

- inlet manifold air pressure
- oil pressure
- oil temperature
- coolant temperature
- engine speed (overspeed)
- battery voltage
- catalyst inlet/outlet temperature (sensors shipped loose)

Display only — service hours

**OPTIONAL EQUIPMENT**

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**Charging Alternator**

24V, 35A alternator  
24V, 35A CSA alternator\*

**Cooling System**

Radiators  
Jacket water pump inlet adapter

**Exhaust System**

Exhaust flex fitting — ANSI flange  
Exhaust elbow  
Catalyst harness  
ANSI flange

**Ignition System**

CSA certified electronics and ignition\*

**Instrumentation**

Operator interface panel  
Operator interface panel enclosure  
15', 25' and 50' interconnect harness

**Starting System**

Air pressure regulator  
Air start silencer  
Vane starter  
Electric starter  
Turbine starter

\*CSA certification pending final approval



# G3304B NA GAS PETROLEUM ENGINE

71 bkW (95 bhp)

## TECHNICAL DATA

### G3304B Gas Petroleum Engine — 1800 rpm

		DM8971-01 0.5 g NOx NTE	DM8797-01 1.0 g NOx NTE
<b>Engine Power</b> @ 100% Load	bkW (bhp)	71 (95)	71 (95)
<b>Engine Speed</b>	rpm	1800	1800
Max Altitude @ Rated Torque and 38°C (100°F)	m (ft)	0	0
Speed Turndown @ Max Altitude, Rated Torque, and 38°C (100°F)	%	48	48
<b>Compression Ratio</b>		10.5:1	10.5:1
<b>Emissions (NTE)*</b>			
NOx	g/bkW-hr (g/bhp-hr)	0.67 (0.5)	1.34 (1.0)
CO	g/bkW-hr (g/bhp-hr)	2.68 (2.0)	2.68 (2.0)
CO <sub>2</sub>	g/bkW-hr (g/bhp-hr)	690.6 (515)	690.6 (515)
VOC**	g/bkW-hr (g/bhp-hr)	0.27 (0.20)	0.27 (0.20)
<b>Fuel Consumption***</b>			
@ 100% Load	MJ/bkW-hr (Btu/bhp-hr)	11.14 (7875)	11.14 (7875)
@ 75% Load	MJ/bkW-hr (Btu/bhp-hr)	11.55 (8163)	11.55 (8163)
<b>Heat Balance</b>			
Heat Rejection to Jacket Water			
JW	kW (Btu/min)	75 (4241)	75 (4241)
OC	kW (Btu/min)	11 (640)	11 (640)
Heat Rejection to Exhaust @ 100% Load	kW (Btu/min)	54 (3078)	54 (3078)
Heat Rejection to Atmosphere @ 100% Load	kW (Btu/min)	9 (500)	9 (500)
<b>Exhaust System</b>			
Exhaust Gas Flow Rate	m <sup>3</sup> /min (cfm)	12.6 (445)	12.6 (445)
Exhaust Temperature — Catalyst Outlet @ 100% Load	°C (°F)	564 (1047)	564 (1047)
<b>Intake System</b>			
Air Inlet Flow Rate @ 100% Load	m <sup>3</sup> /min (scfm)	4.02 (142)	4.02 (142)
<b>Gas Pressure</b>	psig (kPag)	1.5-10 (10-69)	1.5-10 (10-69)

\*at 100% load and speed, listed as not to exceed

\*\*Volatile organic compounds as defined in U.S. EPA 40 CFR 60, subpart JJJ

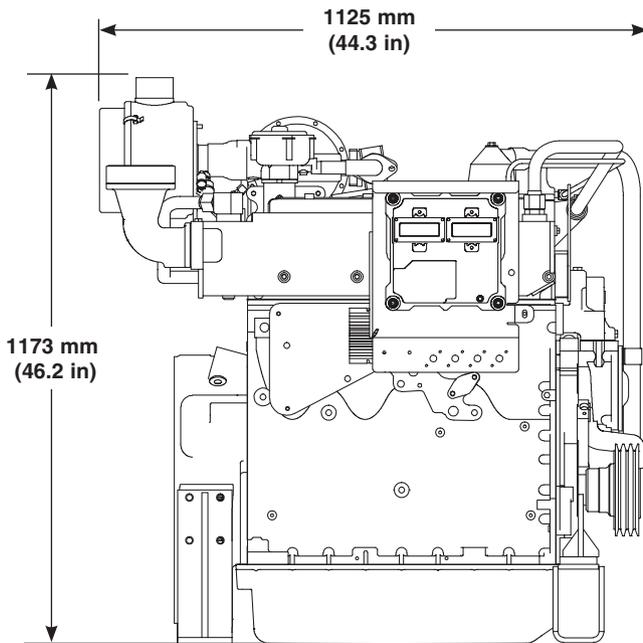
\*\*\*ISO 3046/1



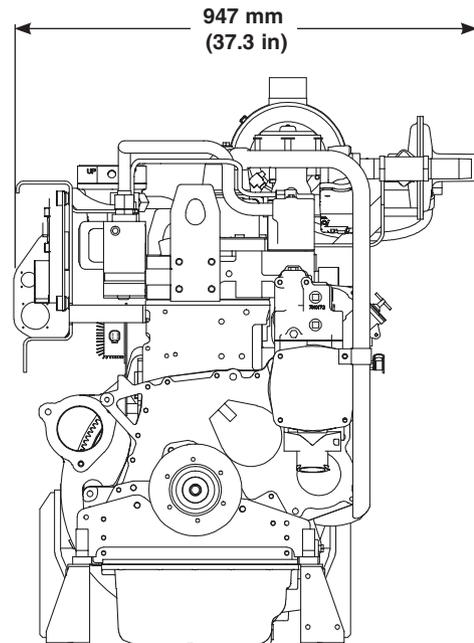
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## GAS PETROLEUM ENGINE



**RIGHT SIDE VIEW**



**FRONT VIEW**

DIMENSIONS		
Length	mm (in)	1125 (44.3)
Width	mm (in)	947 (37.3)
Height	mm (in)	1173 (46.2)
Shipping Weight	kg (lb)	757.5 (1670)

## RATING DEFINITIONS AND CONDITIONS

Engine performance is obtained in accordance with SAE J1995, ISO3046/1, BS5514/1, and DIN6271/1 standards.

Transient response data is acquired from an engine/generator combination at normal operating temperature and in accordance with ISO3046/1 standard ambient conditions. Also in accordance with SAE J1995, BS5514/1, and DIN6271/1 standard reference conditions.

**Conditions:** Power for gas engines is based on fuel having an LHV of 33.74 kJ/L (905 Btu/cu ft) at 101 kPa (29.91 in Hg) and 15°C (59°F). Fuel rate is based on a cubic meter at 100 kPa (29.61 in Hg) and 15.6°C (60.1°F). Air flow is based on a cubic foot at 100 kPa (29.61 in Hg) and 25°C (77°F). Exhaust flow is based on a cubic foot at 100 kPa (29.61 in Hg) and stack temperature.

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, ADEM, S•O•S, "Caterpillar Yellow" and the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.