

Shown with  
Optional Equipment

### CAT® ENGINE SPECIFICATIONS

#### In-Line 6, 4-Stroke-Cycle

Bore .....	121 mm (4.75 in.)
Stroke .....	152 mm (6.0 in.)
Displacement .....	10.5 L (638 cu. in.)
Aspiration .....	Naturally Aspirated or Turbocharged-Aftercooled
Governor and Protection .....	Hydra-mechanical
Combustion .....	Catalyst
Engine Weight, net dry (approx) .....	948 kg (2090 lb)
Power Density .....	6.3 kg/kW (10.3 lb/bhp)
Power per Displacement .....	19.3 bhp/L
Jacket Water Capacity .....	20 L (5.3 gal)
Lube Oil System (refill) .....	45.1 L (11.9 gal)
Oil Change Interval .....	750 hours
Rotation (from flywheel end) .....	Counterclockwise
Flywheel and Flywheel Housing .....	SAE No. 1
Flywheel Teeth .....	156

## FEATURES

### Engine Design

- Proven reliability and durability
- Ability to burn a wide spectrum of gaseous fuels
- Robust diesel strength design prolongs life and lowers owning and operating costs
- Broad operating speed range

### Emissions

- Rich burn engine design easily meets emission requirements
- Meets U.S. EPA Spark Ignited Stationary NSPS emissions for 2007/8 and 2010/11 with the use of aftermarket AFRC and TWC

### Full Range of Attachments

Large variety of factory-installed engine attachments reduces packaging time

### Testing

Every engine is full-load tested to ensure proper engine performance.

### Gas Engine Rating Pro

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

Cat parts and labor warranty

Preventive maintenance agreements available for repair-before-failure options

S•O•S<sup>SM</sup> 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 [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**

Governor — hydra-mechanical (optional on TA)  
Throttle control, mechanical  
Slide and lock (non-governed units)

**Cooling System**

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

**Exhaust System**

Exhaust manifolds, watercooled  
Exhaust elbow — dry, 127 mm (5 in)

**Flywheels and Flywheel Housings**

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

**Fuel System**

Gas pressure regulator  
Requires 12-25 psi gas  
Natural gas carburetor

**Ignition System**

Altronic V ignition system

**Instrumentation**

Instrument panel, LH  
Oil pressure  
Coolant temperature  
Hour meter  
Inlet air temperature

**Lube System**

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

**Mounting System**

Shutoffs  
Low oil pressure  
High coolant temperature  
High inlet air temperature  
Overspeeds — 2  
Electronic  
Mechanical speed switch

**Protection System**

See Mandatory Attachments

**General**

Paint — Cat yellow  
Crankshaft vibration damper and drive pulley  
Lifting eyes

**OPTIONAL EQUIPMENT**

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**Charging System**

Battery chargers  
Charging alternators  
Charging alternators f/u/w agricultural engine  
Ammeter gauge  
Ammeter gauge and wiring

**Control System**

PSG Woodward governor  
Hydra-mechanical governor f/u/w agricultural engines  
Vernier and positive locking control  
Carburetor control removal

**Cooling System**

Air-to-Air aftercooler conversion  
Aftercooler group  
Expansion tank  
Heat exchanger and expansion tank  
Radiators  
Blower fans  
Suction fans  
Fan drives  
Fan adapters  
Belt tightener

**Exhaust System**

Flexible fittings  
Elbows  
Flanges  
Pipes  
Rain caps  
Mufflers

**Fuel System**

Catalyst conversion group  
Low pressure gas conversion  
Fuel filter

**Ignition System**

Altronic III  
CSA shielded ignition  
Wiring harness  
Dual timing

**Instrumentation**

Gauges and instrument panels

**Lube System**

Lubricating oil

**Mounting System**

Vibration isolators

**Power Take-Offs**

Auxiliary drive pulleys  
Auxiliary pump  
Enclosed clutch  
Clutch support  
Flywheel stub shaft  
Front stub shaft

**Protection System**

Mechanical shutoff

**Starting System**

Air pressure regulator  
Air silencer  
Starting aids  
Battery sets — 12-volt, dry  
Battery sets — 24-volt, dry  
Battery cables  
Battery rack  
Gas starting motor  
Electric starting motor

**General**

Tool set

**TECHNICAL DATA**
**G3306 Gas Petroleum Engine (0.5% O<sub>2</sub> Rating) — 1800 rpm**

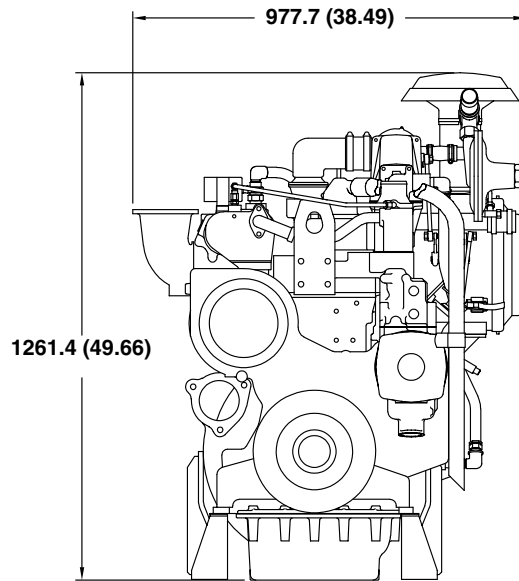
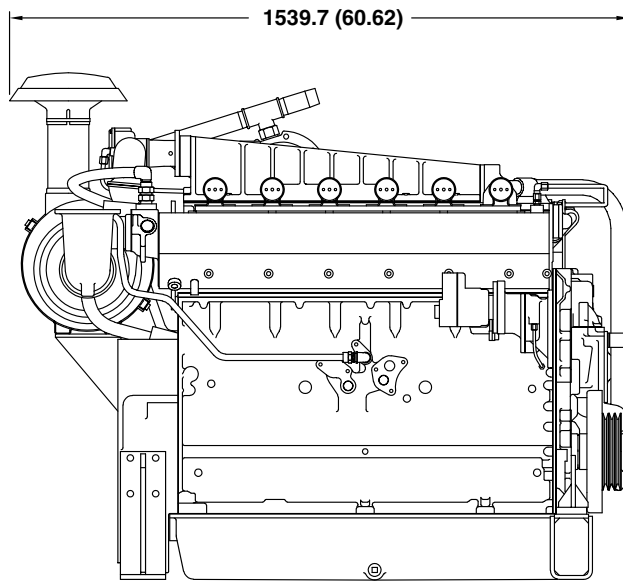
		<b>DM5053-07</b>	<b>DM5202-04</b>
<b>Aspiration</b>		Naturally Aspirated	Turbocharged/Aftercooled
<b>Engine Power</b>			
@ 100% Load	bkW (bhp)	108 (145)	151 (203)
@ 75% Load	bkW (bhp)	81 (109)	113 (152)
<b>Engine Speed</b>	rpm	1800	1800
Max Altitude @ Rated Torque and 38°C (100°F)	m (ft)	0	0
Speed Turndown @ Max Altitude, Rated Torque, and 38°C (100°F)	%	44	33
<b>AC Temperature</b>	°C (°F)	N/A	54 (130)
<b>Emissions*</b>			
NO <sub>x</sub>	g/bkW-hr (g/bhp-hr)	18.08 (13.48)	22.22 (16.57)
CO	g/bkW-hr (g/bhp-hr)	18.05 (13.46)	22.22 (16.57)
NMHC	g/bkW-hr (g/bhp-hr)	130 (0.33)	0.24 (0.18)
Exhaust O <sub>2</sub>	% dry	0.5	0.5
CO <sub>2</sub>	g/bkW-hr (g/bhp-hr)	651 (485)	685 (571)
VOC**	g/bkW-hr (g/bhp-hr)	0.3 (0.22)	0.16 (0.12)
<b>Fuel Consumption***</b>			
@ 100% Load	MJ/bkW-hr (Btu/bhp-hr)	11 (7775)	11.46 (8098)
@ 75% Load	MJ/bkW-hr (Btu/bhp-hr)	11.77 (8318)	11.95 (8444)
<b>Heat Balance</b>			
Heat Rejection to Jacket Water			
@ 100% Load	bkW (Btu/min)	106.27 (6049)	158.9 (9045)
@ 75% Load	bkW (Btu/min)	91.99 (5236)	132.4 (7534)
Heat Rejection from Aftercooler			
@ 100% Load	bkW (Btu/min)	N/A	9.05 (515)
@ 75% Load	bkW (Btu/min)	N/A	3.65 (208)
Heat Rejection to Exhaust			
@ 100% Load (LHV to 77° F / 25° C)	bkW (Btu/mn)	84.98 (4837)	117.62 (6695)
@ 75% Load (LHV to 77°) (LHV to 77° F / 25° C)	bkW (Btu/mn)	66.01 (3757)	90.39 (5145)
<b>Exhaust System</b>			
Exhaust Gas Flow Rate			
@ 100% Load	m <sup>3</sup> /min (cfm)	19.2 (678)	27.47 (970)
@ 75% Load	m <sup>3</sup> /min (cfm)	15.06 (532)	21.38 (755)
Exhaust Stack Temperature			
@ 100% Load	°C (°F)	593.9 (1101)	573.3 (1064)
@ 75% Load	°C (°F)	575 (1067)	554.4 (1030)
<b>Intake System</b>			
Air Inlet Flow Rate			
@ 100% Load	m <sup>3</sup> /min (scfm)	5.89 (208)	8.64 (305)
@ 75% Load	m <sup>3</sup> /min (scfm)	4.73 (167)	6.88 (243)
<b>Gas Pressure</b>	kPag (psig)	10.3-69 (1.5-10)	82.7-172.4 (12-24.9)

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

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

\*\*\*ISO 3046/1

### GAS PETROLEUM ENGINE



DIMENSIONS		
Length	mm (in)	1505 (59)
Width	mm (in)	1208 (48)
Height	mm (in)	978 (39)
Shipping Weight	kg (lb)	948 (2090)

**Note:** General configuration not to be used for installation. See general dimension drawing 5N-6097 for detail.

Dimensions are in mm (inches).

### 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 83.74 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.

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