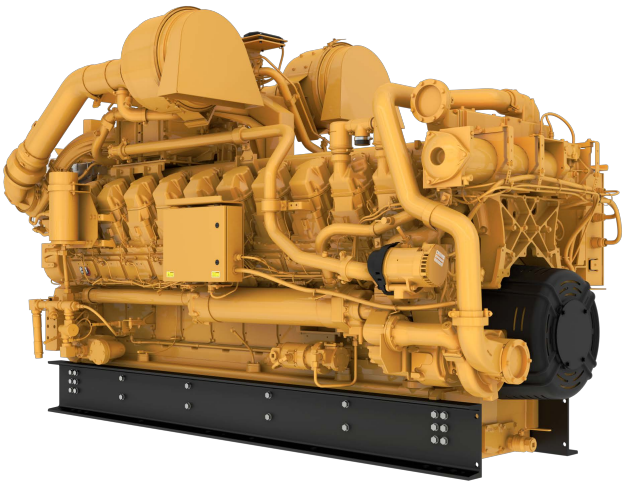
G3520J GAS ENGINE

1253 bkW (1680 bhp) at 1200 rpm
0.5/1.0 g/bhp-hr NOx (NTE)



Actual configuration may vary from displayed image.

SPECIFICATIONS

V-20, 4 -Stroke-Cycle
Serial Number Prefix..... ZM2 (China Built), ZM3 (Lafayette)

Bore	170 mm (6.7 in)
Stroke	190 mm (7.5 in)
Displacement	86 L (5263 cu. in)
Aspiration	Turbocharged-2 stage after-cooled
Digital Engine Management	
Governor and Protection	Electronic (ADEM™3)
Combustion	Lean Burn
Cooling System Capacity	
Total	272.8 L (72gal)
JW	242.6 L (64 gal)
SCAC	30.2 L (8 gal)
Lube Oil System (refill)	541 L (143 gal)
Oil Change Interval	2000 hrs
Rotation (from flywheel end)	Counterclockwise
Flywheel	SAE No. 21
Flywheel Housing	SAE No. 00
Flywheel Teeth	183

FEATURES AND BENEFITS

Engine Design

- Engine design built on G3500 LE 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
- Enhanced cylinder head design with improved cooling leads to extended top end interval of up to 30,000 hours
- Higher power density improves fleet management
- Compatible with lower speed reciprocating compressors
- Detonation-sensitive timing control for individual cylinder
- Cuffed cylinder liner reduces risk of carbon deposits

Emissions

- Meets U.S. EPA Spark Ignited Stationary NSPS emissions with customer supplied aftertreament
- Lean air/fuel mixture provides best available emissions and fuel efficiency for engines of this bore size

Advanced Digital Engine Management

ADEM3 (A3) engine management system integrates speed control, air/fuel ratio control, and ignition/detonation controls into a complete engine management system. A3 has improved: user interface, display system, shutdown controls, and system diagnostics.

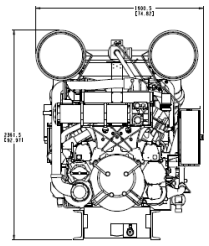
Full Range of Attachments

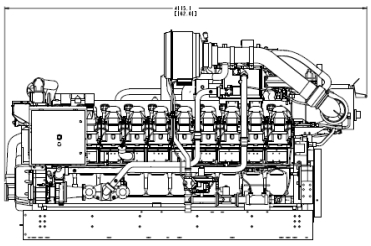
Large variety of factory-installed engine attachments reduces packaging time

Testing

Every engine is full-load tested to ensure proper performance

DIMENSIONS





Length	4113 mm	161.9 in
Width	1882 mm	74.1in
Height	2361 mm	93 in
Wet Weight	10,785 kg	23,776 lbs

NOTE: Do not use for installation design. See general dimension drawings for detail. Dimensions are dependent on generator and any options selected.

Full listing of equipment (standard and optional) along with additional features and benefits can be found at **www.cat.com/oilandgas** or through your local dealer.

TECHNICAL DATA

Performance Number	EM6643-00	EM6740-00
Rating	0.5 g/bhp-hr NOx	1.0 g/bhp-hr NOx
Engine Power bkW (bhp)	1253 (1680)	1253 (1680)
Engine Speed rpm	1200	1200
Max Altitude @ Rated Torque and 38 °C (100 °F) m (ft)	1320 (4331)	1335 (4380)
Speed Turndown @ Max Altitude	25	25
Aftercooler Temperature		
Stage 1 (JW) C (F)	99 (210)	99 (210)
Stage 2 (SCAC) C (F)	54 (130)	54 (130)
Emissions (NTE)*		
NOx g/bkW-hr (g/bhp-hr)	0.67 (0.5)	1.34 (1.0)
CO g/bkW-hr (g/bhp-hr)	2.70 (2.01)	2.91 (2.17)
CO2 g/bkW-hr (g/bhp-hr)	627 (468)	615 (459)
VOC g/bkW-hr (g/bhp-hr)	0.53 (0.39)	0.44 (0.33)
Fuel Consumption (ISO) MJ/bkW-hr (Btu/bhp-hr)	10.25 (7249)	9.99 (7063)
Heat Balance bkW (Btu/min)		
Heat rejection to JW	687 (39066)	648 (36828)
Heat Rejection to OC	112 (6390)	111 (6338)
Heat Rejection to Aftercooler		
Heat Rejection to 1AC (JW)	238 (13515)	228 (12974)
Heat Rejection to 2AC (SCAC)	125 (7102)	115 (6532)
Heat Rejection to Atmosphere	96 (5465)	96 (5465)
Exhaust System		
Exhaust Temp, engine outlet C (F)	429 (805)	426 (798)
Exhaust Gas Flow m3/min (scfm)	271.3 (9582)	256.9 (9073)
Air flow m3/min (scfm)	106.7 (3768)	101.4 (3582)
Gas Pressure kPag (psig)	48-276 (7-40)	48-276 (7-40)

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

Rating Definitions and Conditions

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

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 fl ow 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.

STANDARD EQUIPMENT

Air Inlet System
- Axial flow air cleaners
- Single element canister type with service indicator

Cooling System
- Two-stage charge air cooling:
- First stage — JW + 1st stage
- AC Second stage — OC + 2nd stage AC
- Engine cooling and charge air cooling thermostats

Exhaust System
- Water-cooled exhaust manifolds
- Dry turbocharger housing
- Water-cooled exhaust elbow

Fuel System
- 7-40 psig gas supply
- Electronic fuel metering valve
- Gas pressure regulator
- Gas shutoff valve

Instrumentation
- 8 inch HMI Engine Control Panel
- Interconnect harness

Lubrication System
- Crankcase breather - top mounted
- Oil sampling valve
- Turbo oil accumulator
- Deep sump oil pan
- Oil pan drain

OPTIONAL EQUIPMENT

Air Inlet System
- Round air inlet adapter
- Rain shield

Charging Alternator
- CSA alternator 24V, 65A

Connections
- Mechanical joint assembly connections

Exhaust System
- Flexible fittings
- Expanders
- Weld flange

Fuel System
- Fuel filter

Lubrication System
- Lubricating oil
- Air prelube pump
- Oil bypass filter

Starting System
- 90 psi starter
- 150 psi starter