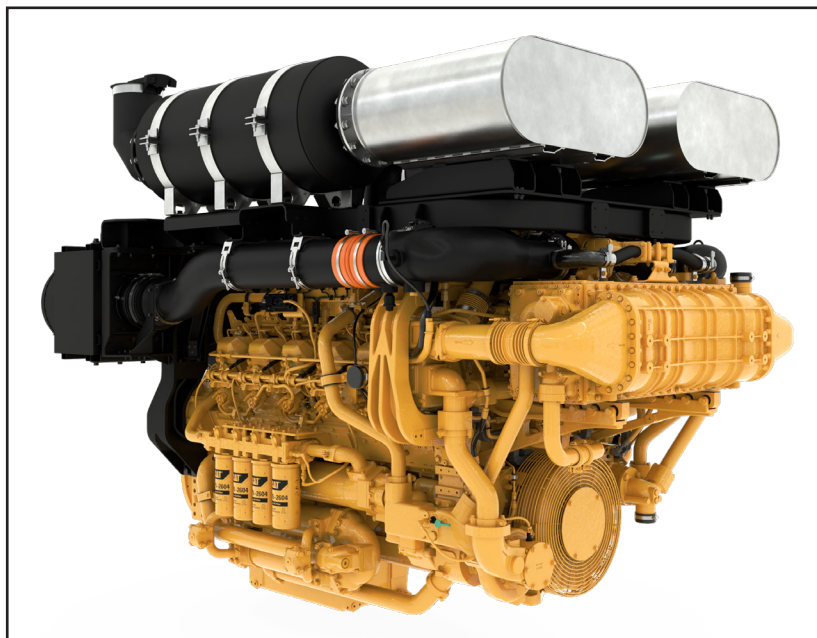


# Cat® 3512E DGB SCAC Land Well Service Engine

1678 bkW (2250 bhp) / @ 1800 rpm

1864 bkW (2500 bhp) / @ 1800 rpm



## Cat® Engine Specifications 3512E DGB, 4-Stroke-Cycle-Diesel

### Emissions

EPA Tier 4 Final

### Bore

170 mm (6.7 in)

### Stroke

215 mm (8.5 in)

### Displacement

58.9 L (3596 in<sup>3</sup>)

### Aspiration

SCAC

### Governor

ADEM™ A5

## SPECIFICATIONS

Cat 3512E SCAC Land Well Service Engine	Metric	Imperial (English)
<b>Configuration</b>	<b>V-12, 4-Stroke-Cycle Diesel</b>	
<b>Emissions</b>	U.S. EPA Tier 4 Final	
<b>Peak Torque</b> 2250 bhp 2500 bhp	9017 N•m @ 1350 rpm 10550 N•m @ 1375 rpm	
<b>Bore</b>	170 mm	6.7 in
<b>Stroke</b>	215 mm	8.5 in
<b>Displacement</b>	58.9 L	3596 in <sup>3</sup>
<b>Aspiration</b>	SCAC	
<b>Governor and Protection</b>	Electronic (ADEM™ A5)	
<b>Core Engine Weight, dry (approx)*</b>	7705 kg	16,986 lb
<b>Capacity for Liquids</b> <b>Lube Oil System (refill)</b> <b>Cooling System</b>	170/246 L 197 L	45/65 gal 52 gal
<b>Oil Change Interval</b>	250/500 hours	
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Flywheel and Flywheel Housing</b>	SAE No. 0	
<b>Flywheel Teeth</b>	151	

See page 5 for fully configured weight or TMI for weights of specific attachments.

# Cat® 3512E DGB SCAC Land Well Service Engine

## FEATURES AND BENEFITS

### Engine Design

- Proven reliability and durability
- Robust diesel strength design prolongs life and lowers owning and operating costs
- Broad operating speed range
- Air shutoff – integrated with engine controls
- EGR/Diesel Oxidation Catalyst (DOC)/common rail fuel system to meet Tier 4 Final/Stage IV emission standards
- DEF free solution – eliminates the storage, logistics, and issues involved with SCR/DEF design engines
- Individual cylinder based gas injection system.
- Engine mounted DGB controls.
- Engine mounted Gas filter, water coalescing type

### Attachments

#### Cooling System

Separate Circuit Aftercooler (SCAC)

#### Engine-Mounted Package

Integrates with engine, aftertreatment, heavy-duty air cleaners, residential grade mufflers available in stainless or carbon steel

### Optional Attachments

#### Engine-Mounted Transmission Oil Cooler

Integration with engine cooling system allows ease of installation and a tighter overall engine package

### Advanced Digital Engine Management

ADEM A6 DGB based controls seamlessly integrated with A5 engine management system.

### Custom Packaging

For any petroleum application, trust Caterpillar to meet your exact needs with a factory custom package. Cat engines, generators, enclosures, controls, Custom Packaging, radiators, transmissions – anything your project requires – can be custom designed and matched to create a one-of-a kind solution. Custom packages are globally supported and are covered by a one-year warranty after startup.

### 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

### 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

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

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

### Web Site

For all your oil & gas power requirements, visit: [www.cat.com/oilandgas](http://www.cat.com/oilandgas)

# Cat® 3512E DGB SCAC Land Well Service Engine

## STANDARD EQUIPMENT

### Control System

Cat ADEM A6 DGB controls

### Cooling System

SCAC system

Thermostats and housing, jacket and separate circuit water pump, gear-driven centrifugal

### Aftertreatment Mounting

CEM/muffler support package Heavy-duty air cleaners (2 element with precleaners)

### Exhaust System

Dual DOC

Exhaust manifold, dry, bellows connection

Four turbochargers with watercooled bearings

Exhaust outlet, dual 10-inch ANSI round flange as part of aftertreatment

### Flywheel and Flywheel Housings

Flywheel, SAE No. 0, 151 teeth

### Fuel System

Primary/secondary fuel filters

Fuel priming pump (electric)

Common rail fuel system

Fuel transfer pump

Clean fuel module boost pump

Engine mounted Gas filter, water coalescing type.

### Instrumentation

Product Link™ engine monitoring

### Lube System

Closed Crankcase ventilation – top mounted

Fumes disposal

Oil cooler

Oil filler and dipstick – LH

Oil pump

Oil filter – RH spin-on type

Oil pan drain valve – 1" NPT female connection

Oil scavenger pump

### Mounting System

Trunion front support

Flywheel housing – two-sided failure options

### Protection System

ADEM A5 ECU system to provide customer programmable engine deration strategies to protect against adverse operating conditions

Emergency stop logic inputs provided at 70-pin customer interface connection

### General

Paint – Caterpillar yellow

Vibration damper and guard

Lifting eyes

## OPTIONAL EQUIPMENT

### Charging System

80, 95, or 150 amp charging alternator

### Control System

Local speed throttle control

Throttle position sensors

### Cooling System

Coolant conditioner

JW inlet and outlet hose barb connections

JW outlet coupling-style connections

JW inlet weld-flange connection

SCAC inlet and outlet coupling-style connections

SCAC inlet and outlet hose barb connections Water level switch gauge

JW Heater installation connections

### Exhaust System

Flex pipe kit

Residential mufflers (painted steel and stainless steel) with outlet elbow and rain cap

### Flywheel and Flywheel Housings

Allison and Twin Disc flywheel options

### Instrumentation

Product Link harness extensions

LAN adapters

### Lube System

Rear sump oil pan – 250-hour change interval

Front deep sump oil pan – 500-hour change interval

### Power Take-offs

Front crankshaft stub shaft

Front crankshaft adapter

Accessory drive – upper RH

### Protection System

Hydraulic actuated air shutoff

### Starting System

Hydraulic starter – LH

Dual hydraulic starter – LH

Manual engine barring device

### Transmission Attachments

Transmission oil cooler

Transmission oil cooler 2-1 connections

Torque converter connections

### General

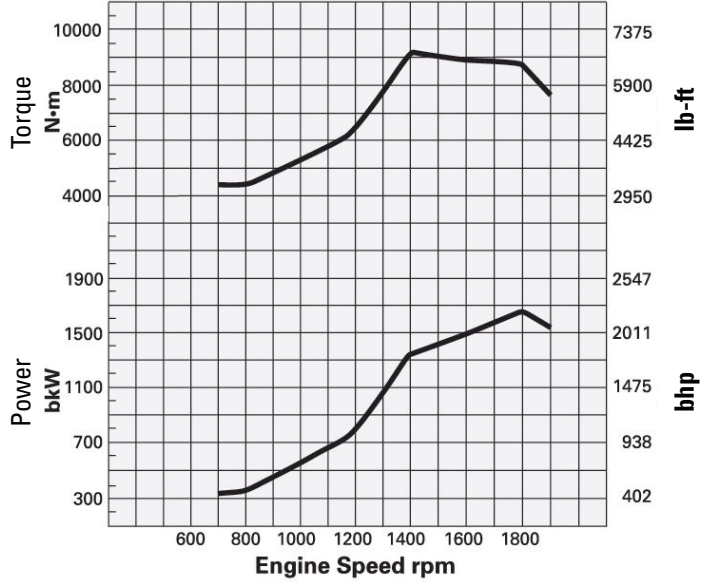
Additional paint selections

Air compressor

# Cat® 3512E DGB SCAC Land Well Service Engine

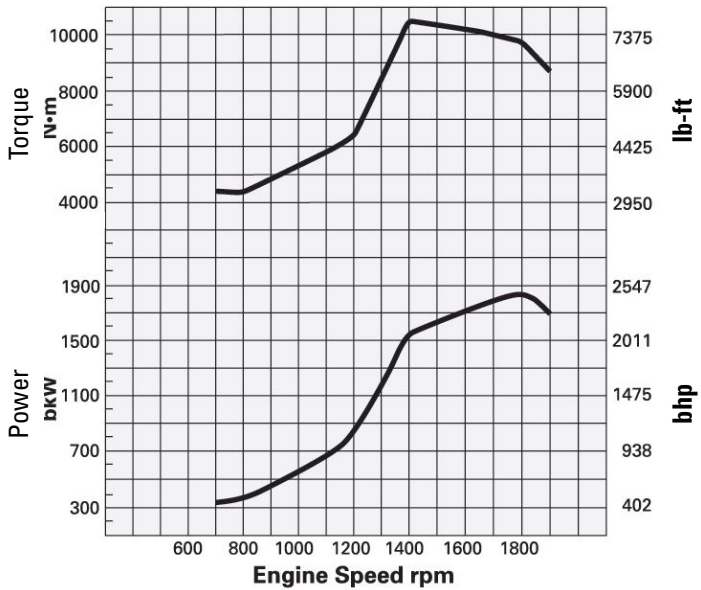
## Performance Curves

1678 bkW (2250 bhp) @ 1800 rpm



### Heat Rejection Data

Engine Speed rpm	Engine Power		Rej to JW		Rej to Atmos		Red to Exh		From 2nd Stage Aft Clr	
	bkW	bhp	bkW	Btu/min	bkW	Btu/min	bkW	Btu/min	bkW	Btu/min
1800	1672	2241	859	48850.5	49	2758	1068	60728	444	25238

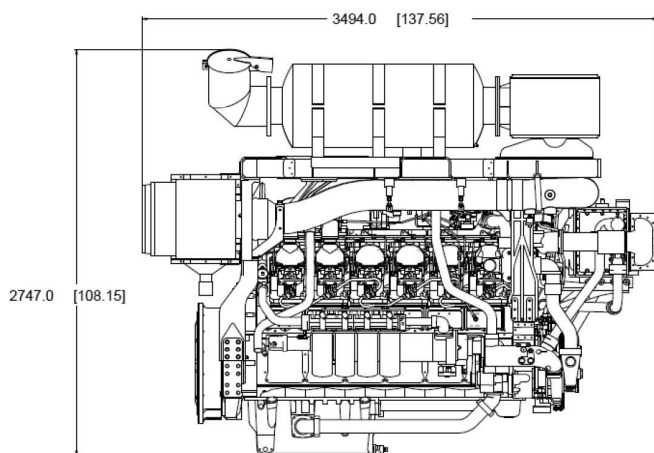


### Heat Rejection Data

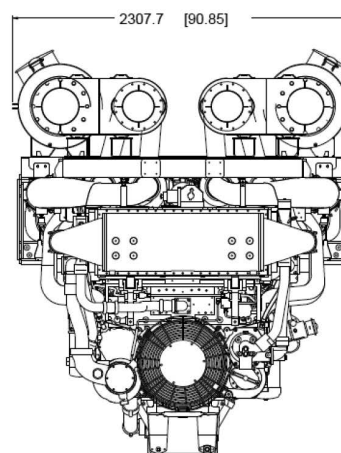
Engine Speed rpm	Engine Power		Rej to JW		Rej to Atmos		Red to Exh		From 2nd Stage Aft Clr	
	bkW	bhp	bkW	Btu/min	bkW	Btu/min	bkW	Btu/min	bkW	Btu/min
1800	1862	2496	929	52831.3	54	3048	1204	68453	508	28889

# Cat® 3512E DGB SCAC Land Well Service Engine

## Dimensions



**Right Side View**



**Left Side View**

Package Dimensions and Weight		
Length	3494 mm	138 in
Width	2308 mm	91 in
Height	2747 mm	108 in
Weight	10,139 kg	22,352 lb

**Note:** Maximum configured attachment level – dry weight.  
Consult TMI for weights of specific attachments.

## Rating Definitions and Conditions

Oil & Gas – E Rating

For fire pump, offshore cranes, well fracturing, and cementing/kill pump – the power and speed capability of the engine which can be used to power high-pressure well service equipment. For C32 engines and smaller, the maximum average load factor is 35%. For well fracturing engines, the maximum average load factor is 50%, and the maximum time at rated load and speed is less than 2.5 hours per year. For cementing and kill pump engines, the maximum average load factor is 40%, and the maximum time at rated load and speed is less than 2 hours per year. When used as a fire pump and NFPA certification is required, size the pump power to 90% of the advertised rating.

Engine Performance is corrected to inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25°C (77°F) temperature. These values correspond to the standard atmospheric pressure and temperature as shown in SAE J1995.

Performance measured using a standard fuel with fuel gravity of 35 degrees API having a lower heating value of 42 780 kJ/kg (18,390 BTU/lb) when used at 29°C (84.2°F) where the density is 838.9 g/L (7.001 lb/U.S. gal).

The corrected performance values shown for Cat engines will approximate the values obtained when the observed performance data is corrected to SAE J1995, ISO 3046-2, ISO 8665, ISO 2288, ISO 9249, ISO 1585, EEC 80/1269, and DIN 70020 standard reference conditions.