



1678 bkW (2250 bhp)
1864 bkW (2500 bhp)
1800 rpm

Image shown may not reflect actual configuration

Specifications

Cat® 3512E ATAAC Land Well Service Engine	Metric		Imperial (English)
Configuration	V-12, 4-Stroke-Cycle Diesel		
Emissions	U.S. EPA Tier 4 Final/EU Stage IV		
Peak Torque 2250 bhp 2500 bhp	9017 N•m @ 1350 rpm 10550 N•m @ 1375 rpm		
Bore	170 mm		6.7 in
Stroke	215 mm		8.5 in
Displacement	58.9 L		3596 in ³
Aspiration	ATAAC		
Governor and Protection	Electronic (ADEM™ A5)		
Core Engine Weight, dry (approx)*	6746 kg		14,872 lb
Capacity for Liquids Lube Oil System (refill) Cooling System	170/246 L 197 L		45/65 gal 52 gal
Oil Change Interval	250/500 hours		
Rotation (from flywheel end)	Counterclockwise		
Flywheel and Flywheel Housing	SAE No. 0		
Flywheel Teeth	151		

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

Features

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

Attachments

Cooling System

Air-to-Air Aftercooler (ATAAC)

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 A5 engine management system integrates speed control, air/fuel ratio control and ignition/detonation controls into a complete engine management system with integrated digital ignition, engine protection and monitoring

Custom Packaging

For any petroleum application, trust Caterpillar to meet your exact needs with a factory custom package. Cat engines, generators, enclosures, controls, 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•SSM 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 petroleum power requirements, visit www.cat.com/oilandgas

Standard Equipment

Control System

Cat ADEM A5 ECU – LH
With Common Rail Electronic Fuel Injection

Cooling System

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

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

Exhaust System

Dual DOC - Robust Metallic Substrate
Exhaust manifold, dry, bellows connection
Four turbochargers with watercooled bearings Exhaust
outlet depends on configuration (systems
with mufflers have installed rain caps)
Dual 10-inch ANSI round flange as part of the
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

Instrumentation

Product Link™ engine monitoring

Lube System

Crankcase breather – 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

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

Charge Air System

High temperature hump hoses
Hybrid insulated CAC adapters
Inlet adapter with hose barb

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
Water level switch gauge
High temperature ATAAC connections

Exhaust System

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

Flywheel and Flywheel Housings

CX48 flywheel
TH55 flywheel and housing adapter

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 LH and upper RH

Protection System

Hydraulic actuated air shutoff

Starting System

Hydraulic starter – LH
Dual hydraulic starter – LH
Manual engine barring device

Transmission Attachments

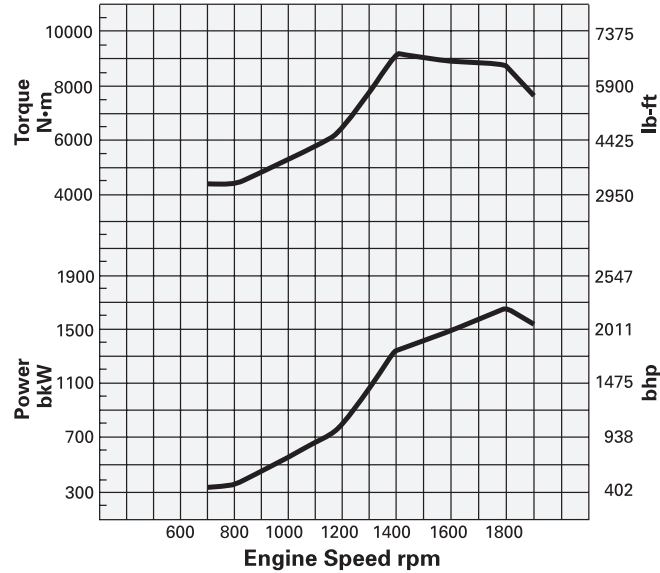
Transmission oil cooler
Transmission oil cooler 2-1 connections
Torque converter connections

General

Air compressor
Additional paint selections

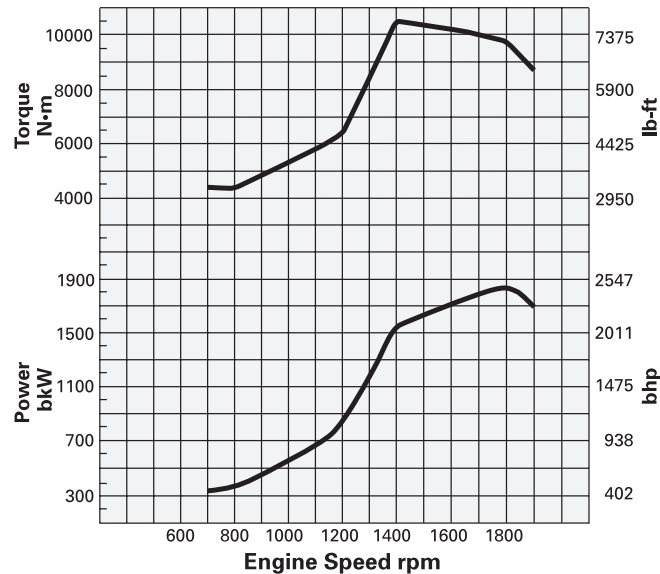
Performance Curves

1678 bkW (2250 bhp) @ 1800 rpm



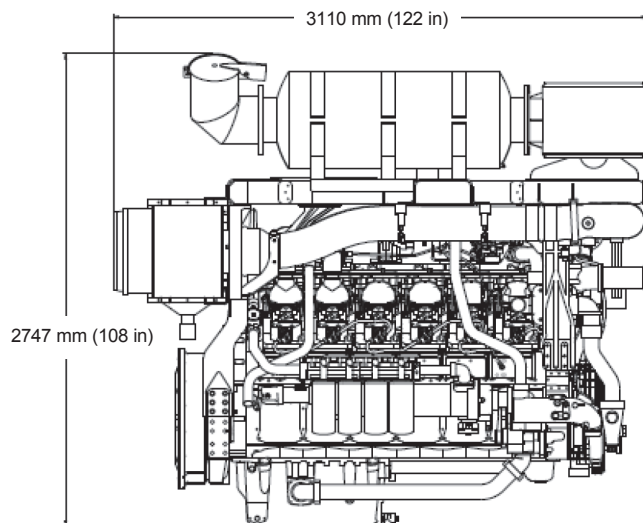
Heat Rejection Data										
Engine Speed rpm	Engine Power		Rej to JW		Rej to Atmos		Rej to Exh		From 2nd Stage Aft Clr	
	bkW	bhp	bkW	Btu/min	bkW	Btu/min	bkW	Btu/min	bkW	Btu/min
1800	1672	2241	859	48850.5	49	2758	1068	60728	444	25238

1864 bkW (2500 bhp) @ 1800 rpm

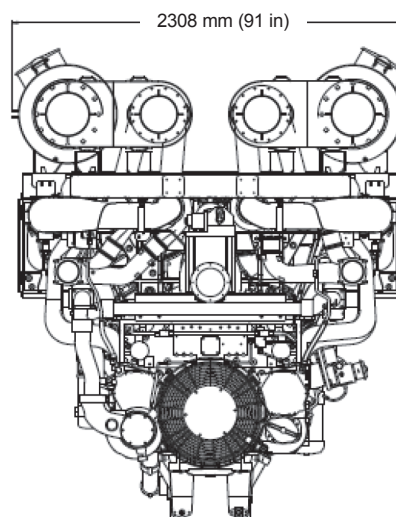


Heat Rejection Data										
Engine Speed rpm	Engine Power		Rej to JW		Rej to Atmos		Rej to Exh		From 2nd Stage Aft Clr	
	bkW	bhp	bkW	Btu/min	bkW	Btu/min	bkW	Btu/min	bkW	Btu/min
1800	1862	2496	929	52831.3	54	3048	1204	68453	508	28889

Dimensions



Right Side View



Front View

Package Dimensions and Weight		
Length	3110 mm	122 in
Width	2308 mm	91 in
Height	2747 mm	108 in
Weight	8970 kg	19,775 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.

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The International System of Units (SI) is used in this publication.

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