

**EU Stage V Locomotive
708 bkW/950 bhp @ 1800 rpm**



Image shown may not reflect actual configuration

Specifications

Cat® C27 Locomotive Engine	Metric	Imperial (English)
Configuration	V-12, 4-Stroke-Cycle Diesel	
Bore	137.7 mm	5.4 in
Stroke	152.4 mm	6.0 in
Displacement	27.0 L	1648 in ³
Aspiration	Dual Turbochargers, Air-to-Air Aftercooled	
Compression Ratio	16.0:1	
Rotation (from flywheel end)	Counterclockwise	
Capacity for Liquids — Cooling System Lube Oil System (refill)	60.0 L 137.0 L	63.0 U.S. qts 145.0 U.S. qts
Weight, Net Dry (approx)	2790 kg	6151 lb
Flywheel and Flywheel Housing	SAE No. 0 or SAE No. 1	

Features

Emissions

Meets EU Stage V Locomotive emission standards

On-engine NOx Reduction System (NRS) with optimized piston, ring, liner, and fuel system configuration to reduce NOx while minimizing in-cylinder sooting

Aftertreatment features diesel oxidation catalyst

Engine Design

Proven reliability and durability of engine and aftertreatment

Broad operating speed range

High power density

PTO drive options provide flexible access to auxiliary power for pumps and other needs

Low Total Cost of Ownership

Optimized fuel consumption

Maintenance-free aftertreatment

Control System

Electronic control system, over-foam wiring harness, automatic altitude compensation, power compensated for fuel temperature, configurable software features, engine monitoring system, SAE J1939 broadcast. ADEM A4 has improved: user interface, display system, shutdown controls, and system diagnostics.

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

- Caterpillar factory-trained dealer technicians service every aspect of your locomotive engine
- Caterpillar 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, and flywheel housings
- Machine critical components
- Assemble complete engine

Standard Equipment

Aftertreatment

Two DOC canisters remote-mounted

Air Inlet System

Twin rear-mounted turbochargers
Air-to-air aftercooled

Control System

Automatic altitude compensation
Power compensation for fuel temperature
Electronic diagnostics and fault logging
Engine monitoring and protection system
(speeds, temperature, pressure)
J1939 Broadcast (diagnostic, engine
status, and control)
ADEM A4 electronic control

Cooling System

Thermostats and housing
Jacket water pump, gear driven,
centrifugal, RH

Exhaust System

Exhaust dry manifold 127 mm (5 in) slip fit
connection
Diesel oxidation catalyst

Fuel System

Mechanical Electronic Unit Injection (MEUI™)
system
Primary, secondary, and tertiary fuel filter
Electronic fuel priming pump — integrated
with primary fuel filter base
Fuel transfer pump

Lube System

Oil cooler — RH
Oil filler — RH, LH or Dual
Oil level gauge — RH, LH or Dual

Power Take-off

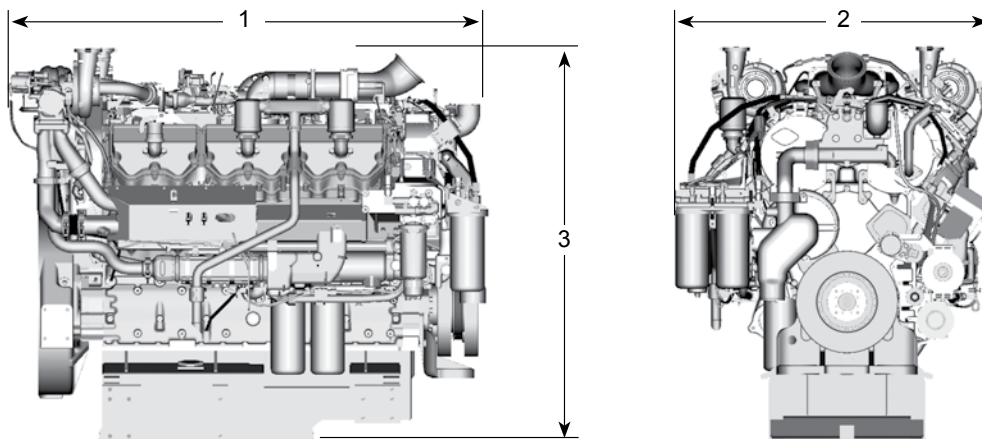
SAE A, B, and C drives available
Engine power can also be taken from front of the
engine on some applications

Optional Equipment

Air inlet adapters
Battery charger — 10 amp
Charging alternator — 24V
Flywheel housing — SAE No. 1 or SAE No. 0
Oil pan — high capacity
Starting motor — dual 24V
Air compressor — belt driven

Jacket water heater — 120V and 240V
Air inlet shutoff valve
Freon compressor
Digital tachometer
J1939 messenger display
Instrument gauge panel — 24V

Engine Dimensions (deep sump shown)



(1) Length — 1896 mm (75 in)

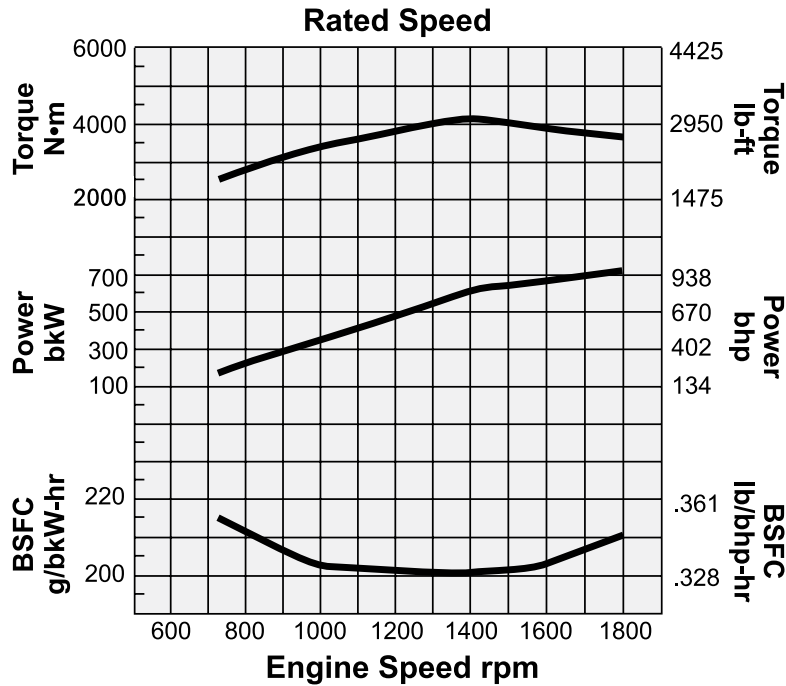
(2) Width — 1264 mm (50 in)

(3) Height —
1557 mm (61 in) deep sump
1298 mm (51 in) shallow sump

Note: Final dimensions and weight dependent on selected options

Performance Data

Dual Turbochargers, Air to-Air Aftercooled — 1800 rpm



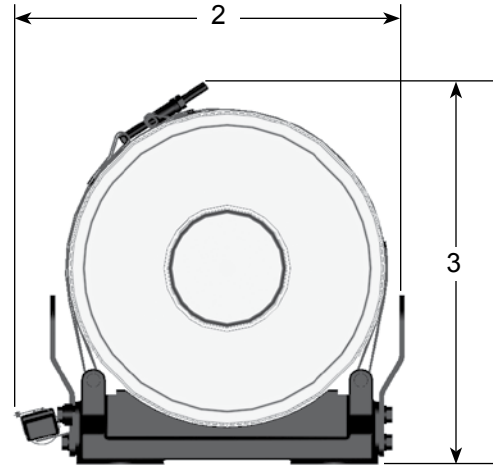
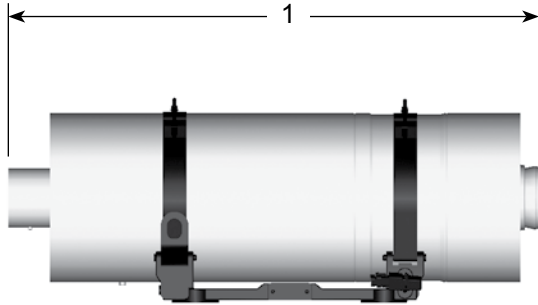
Rating	Peak Power			Peak Torque		
	Speed rpm	Peak Power kW	Peak Power bhp	Speed rpm	Peak Torque N·m	Peak Torque lb-ft
C	1800	708	950	1400	4168	3074

Ratings Definitions and Conditions

C Rating (Intermittent) service where maximum power and/or speed are cyclic (time at full load not to exceed 50%).

Engine Performance Diesel Engines — 7 liter and higher are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in Hg) dry barometer and 25°C (77°F) temperature. Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42 780 kJ/kg (18,390 btu/lb) when used at 29°C (84.2°F) with a density of 838.9 g/L.

Clean Emissions Module Aftertreatment Configuration



Images shown may not reflect actual aftertreatment.

AFTERTREATMENT DIMENSIONS*

Approximate Size and Weight

- (1) Length — 1120 mm (44 in)
 - (2) Width — 400 mm (15.7 in)
 - (3) Height — 440 mm (17.3 in)
- Weight — 66 kg (145 lb)

*Dimensions and image are for individual canister. Two canisters are required. They can be shipped loose for customizable mounting options.

Each canister features a single diesel oxidation catalyst. Two canisters required to meet emission standards.

Aftertreatment Features

Mounting: Remote installation options provide OEM flexibility for many applications

Standard Emissions Control Equipment

DOC: Diesel Oxidation Catalyst

NRS: NOx Reduction System

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