

CAT® ENGINE SPECIFICATIONS

V-8, 4-Stroke-Cycle-Diesel

Emissions	Not Emissions Certified
Peak Torque at Speed.....	3137 lb-ft
Bore	170 mm (6.7 in.)
Stroke	190 mm (7.5 in.)
Displacement.....	34.5 L (2107 cu. in.)
Aspiration	Turbocharged-Aftercooled
Governor and Protection.....	W3161
Engine Weight, net dry (approx)	4309 kg (9500 lb.)
Capacity for Liquids	
Lube Oil System (refill).....	227.1 L (60 U.S. gal.)
Cooling System (engine only).....	103 L (27.2 U.S. gal.)
Cooling System (radiator)	160.1 L (42.3 U.S. gal.)
Oil Change Interval.....	500 hours
Rotation (from flywheel end)	Counterclockwise
Flywheel and Flywheel Housing	SAE No. 00
Flywheel Teeth	151

FEATURES

Engine Design

- Proven reliability and durability
- Robust diesel strength design prolongs life and lowers owning and operating costs
- Market-leading power density
- Designed to perform in oilfield conditions, including high ambient high altitude applications
- Long overhaul life proven in oilfield applications
- Core engine components designed for reconditioning and reuse at overhaul
- Broad torque curve optimized for petroleum mechanical drive application

Improved Serviceability

Large inspection openings allow convenient access to core engine internals

Control System

- Woodward 3161 governor
- E-stop pushbutton on instrument panel
- Air shutoff and explosion relief valves
- Extra alarm switches available for customer-supplied panel
- Instrument panel — LH analog display of key package operation parameters

Reduction of Owning and Operating Costs

- Long filter change intervals, aligned with service intervals
- Torsional vibration analysis available from factory to maximize component life

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, and flywheel housings
- Machine critical components
- Assemble complete engine

Web Site

For all your petroleum power requirements, visit www.catoilandgas.cat.com.

STANDARD EQUIPMENT

Air Inlet System

Aftercooler core — corrosion resistant
Air cleaner — regular duty with soot filter
Service indicators

Control System

Governor — RH, 3161
Pneumatic control (10-60 psi)
Governor control — positive locking

Cooling System

Thermostats and housing for conventional core radiator
Jacket water pump — gear-driven, centrifugal

Radiator Cooled Land Based

Outlet controlled thermostat and housing
Jacket water pump — gear-driven

Exhaust System

Exhaust flexible fitting, adapter, flange

Flywheels and Flywheel Housings

Flywheel — SAE No. 00, 151 teeth
Flywheel housing — SAE No. 00

Fuel System

Fuel filter, with service indicator
Priming pump — LH
Fuel transfer pump
Flexible fuel lines

Instrumentation

Instrument panel — LH
Gauges — engine oil pressure gauge, fuel pressure gauge, oil filter differential gauge, jacket water temperature gauge

Service meter — electric

Tachometer

Lube System

Crankcase breather
Oil cooler
Oil filter — LH service
Oil filler and dipstick — LH service
Oil pan drain valve — 2" NPT female connection

Mounting System

Rails — mounting, floor type 254 mm (10 in)

Power Take-Offs

Accessory drive — upper RH
Front housing — two-sided

Protection System

Junction box
Manual shutoff — RH
Safety shutoff protection, energized to shutdown
Low oil pressure
Water temperature
Overspeed

Starting System

Air starting motor, RH, 620 to 1034 kPa (90 to 150 psi), LH control
Air silencer

General

Paint — Cat yellow
Vibration damper and guard
Lifting eyes

OPTIONAL EQUIPMENT

Air Compressor**Air Inlet System**

Air cleaners
Remote air inlet adapters

Charging Systems

Battery chargers and charging alternators

Control System

Load sharing modules
Local speed throttle control
Governor conversion
2301A speed control governors and actuator
3161 mechanical governors
Throttle position sensors

Cooling System

High gloss black folded core radiators and conventional core radiators
Belt guard
Blower fan
Fan drive and fan pulley
Radiator cover
Water level switch gauge
Coolant level sensors
Air separator

Exhaust System

Flexible fitting, elbows
Flange and exhaust expanders
Mufflers

Flywheel and Flywheel Housing**Fuel System**

Fuel priming pumps, flexible fuel lines
Fuel filter — primary
Fuel cooler, fuel level switch

Instrumentation

Gauges and instrument panels

Lube System

Fumes disposal
Oil filters
Prelube pumps, sump pumps

Power Take-Offs

Flexible couplings, coupling hubs
Front accessory drives
Auxiliary drive shafts and pulleys
Front stub shaft and flywheel stub shaft
Pulleys

Protection System

Shutoffs
Switches and contactors
Explosion relief valves
Oil pressure monitor

Starting System

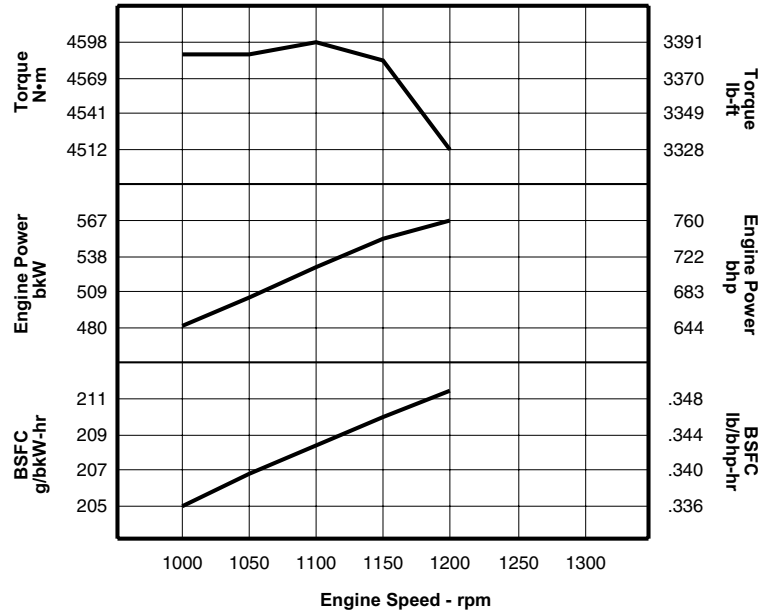
Starting motors — air, gas, electric
Air pressure regulators, controls and silencer
Air controls — manual and electric
Redundant start systems
Start switch
Starting aids — JW heater and ether injection
Battery sets — 24 volts with rack

General

Flywheel guard
Special paint

PERFORMANCE CURVES*

Turbocharged-Aftercooled
566 bkW (760 bhp) @ 1200 rpm
DM2894-02

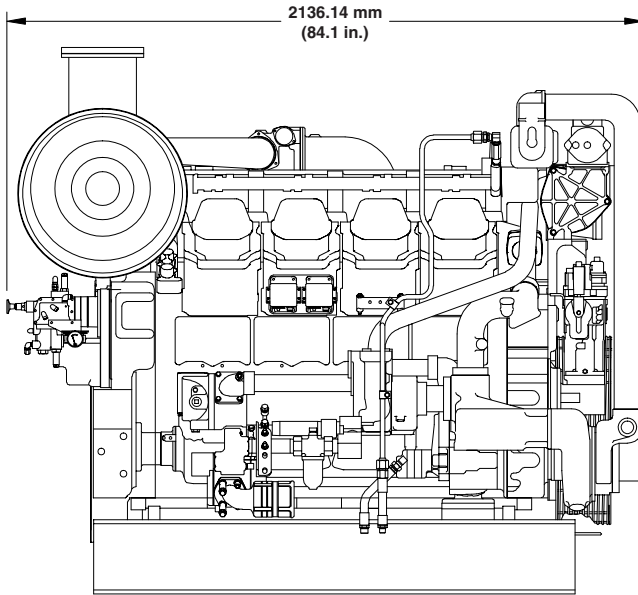


Heat Rejection Data										
Engine Speed rpm	Engine Power		Rej to JW		Rej to Atmos		Rej to Exh		From Aft Clr	
	bkW	bhp	bkW	Btu/min	bkW	Btu/min	bkW	Btu/min	bkW	Btu/min
1200	567.0	760.4	309	17573	92	5255	549	31222	57	3264
1150	552.1	740.4	296	16833	91	5187	524	29800	53	2991
1100	529.6	710.2	281	15980	90	5118	496	28207	47	2656
1050	504.5	676.5	264	15014	89	5039	465	26444	40	2280
1000	480.5	644.4	247	14047	87	4959	432	24568	33	1865

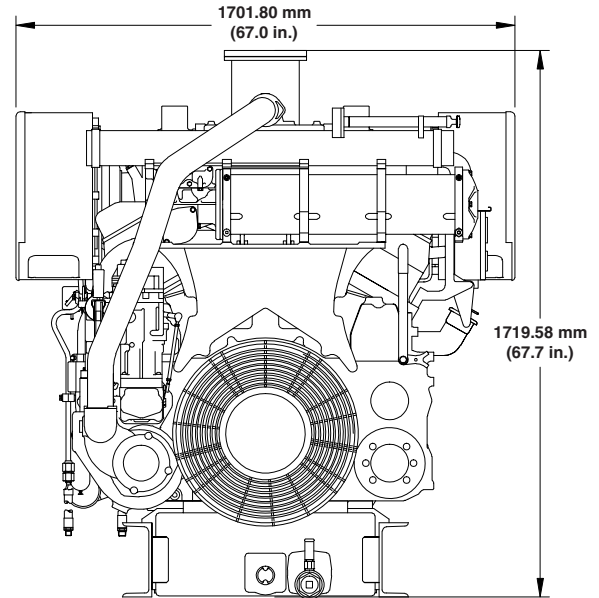
Approximate Power (bhp) as function of Altitude and Inlet Manifold Temperature for DM2894-02										
Inlet Manifold Temp. (°F)	Altitude (feet)									
	10,499	9843	8202	6562	4921	3281	1640	984	0	0
50	685	704	750	798	849	860	860	860	860	860
68	662	680	724	771	819	860	860	860	860	860
86	641	657	700	746	793	842	860	860	860	860
104	620	636	677	721	767	815	860	860	860	860
122	601	617	657	699	743	790	839	860	860	860
Normal	687	701	739	778	818	860	860	860	860	860

*Other ratings and performance data available.

LAND MECHANICAL ENGINE



Right Side View



Front View

Engine Dimensions		
Length	2136.14 mm	84.1 in.
Width	1701.80 mm	67.0 in.
Height	1719.58 mm	67.7 in.
Engine Weight (dry)	4309 kg	9500 lb.

Note: Do not use for installation design. See general dimension drawings for detail. (Drawing #132-4873)

RATING DEFINITIONS AND CONDITIONS

IND-C (Intermittent)

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

Ratings are based on SAE J1995 standard conditions of 100 kPa (29.61 in Hg) and 25° C (77° F). These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions of 100 kPa (29.61 in Hg), 27° C (81° F), and 60% relative humidity. Ratings are valid for air cleaner inlet temperatures up to and including 50° C (122° F).

Fuel consumption has a tolerance of +5% and is based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18 390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal). Fuel consumption shown with all oil, fuel, and water pumps, engine driven.

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