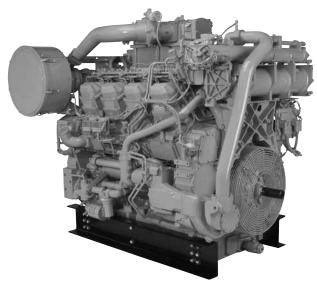
CATERPILLAR®

3508 Land Mechanical Engine

470-847 bkW (680-1135 bhp) 1200-1900 rpm



CAT® ENGINE SPECIFICATIONS

V-8, 4-Stroke-Cycle-Diesel Emissions Not Emissions Certified 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

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 repairbefore-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.

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CATERPILLAR®

3508

LAND MECHANICAL ENGINE

470-847 bkW (680-1135 bhp)

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

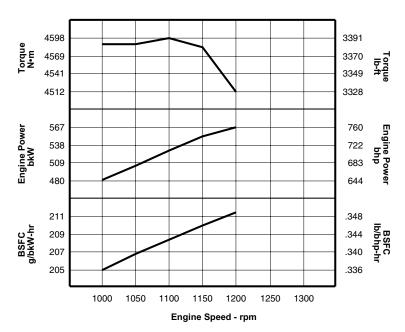
Special paint

CATERPILLAR®

470-847 bkW (680-1135 bhp)

PERFORMANCE CURVES*

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



Heat Rejection Data										
Engine Speed	Engine Power		Rej to JW		Rej to Atmos		Rej to Exh		From Aft Clr	
rpm	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

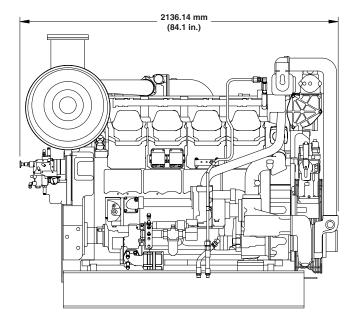
Approximate Power (bhp) as function of Altitude and Inlet Manifold Temperature for DM2894-02									
Inlet Manifold	Altitude (feet)								
Temp. (°F)	10,499	9843	8202	6562	4921	3281	1640	984	0
50	685	704	750	798	849	860	860	860	860
68	662	680	724	771	819	860	860	860	860
86	641	657	700	746	793	842	860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

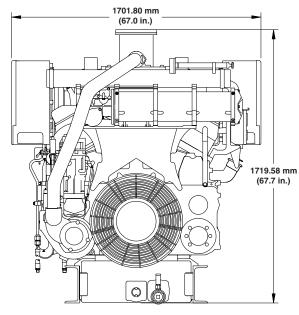
^{*}Other ratings and performance data available.

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470-847 bkW (680-1135 bhp)

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.

Information contained in this publication may be considered confidential. Discretion is recommended when distributing.

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

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