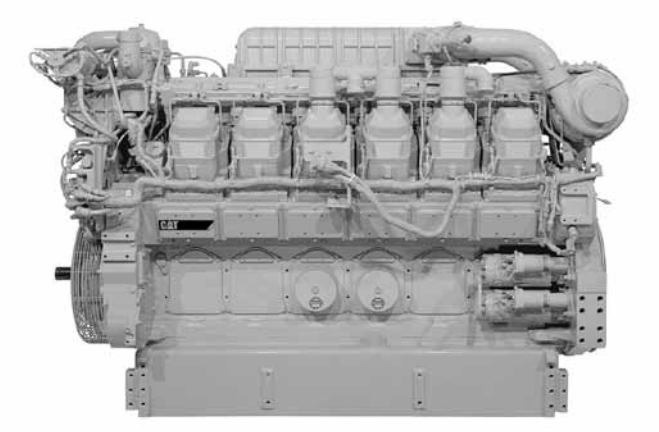
CATERPILLAR®

3512 Land Mechanical Engine

760-1118 bkW (1020-1500 bhp) 1200 and 1800 rpm



CAT® ENGINE SPECIFICATIONS

V-12, 4-Stroke-Cycle-Diesel

Emissions	Not Emissions Certified
Peak Torque at Speed	4376 lb-ft
Bore	170 mm (6.7 in.)
Stroke	190 mm (7.5 in.)
Displacement	51.8 L (3160 cu. in.)
Aspiration	Turbocharged-Aftercooled
Governor and Protection	W3161
Engine Weight, net dry (approx)	5203.75 kg (11,462 lb.)
Capacity for Liquids	
Lube Oil System (refill)	318 L (84 U.S. gal.)
Cooling System (engine only)	157.1 L (41.5 U.S. gal.)
Cooling System (radiator)	185.1 L (48.9 U.S. gal.)
Oil Change Interval	500 hours
Rotation (from flywheel end)	Counterclockwise
Flywheel and Flywheel Housing	SAE No. 00
Flywheel Teeth	183

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

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•S℠ 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
(Dry, panel type, with soot filter and service indicators)

Control System
Governor — RH, 3161
Pneumatic control (10 to 60 psi)

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, 183 teeth
Flywheel housing — SAE No. 00

Fuel System
Fuel filter — LH 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
Exhaust temperature — dual

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 — LH
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 load sharing governors
2301A speed control governor and actuator
3161 mechanical governors
Throttle position sensors

Cooling Systems
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
Oil pan accessories
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

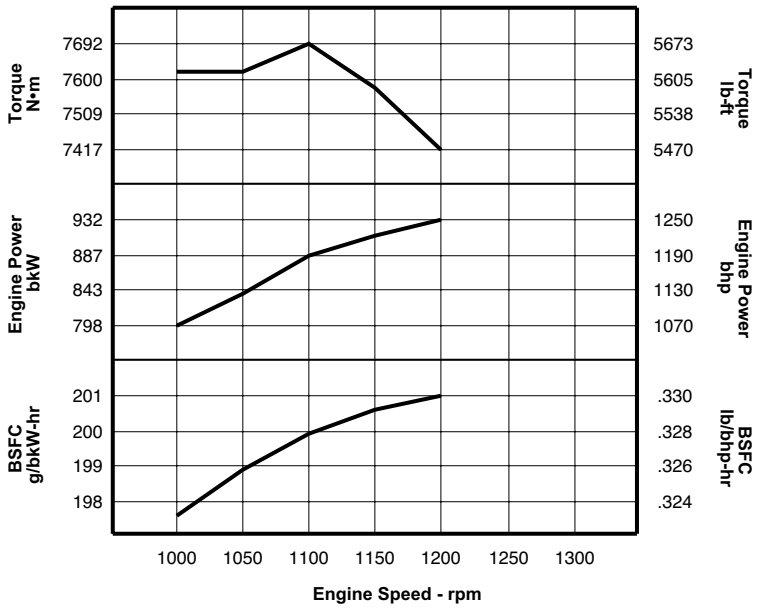
Protection System
Shutoffs
Switches and contactors
Explosion relief valves
Oil pressure monitor

Starting System
Starting motors — air, gas, electric
Air pressure regulators, controls, and silencer
Air controls — manual, 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
P/D MECH Rating — 932 bkW (1250 bhp) @ 1200 rpm
DM2016-03



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	932.0	1249.8	532	30255	107	6085	808	45951	145	8246
1150	912.6	1223.8	518	29459	106	6028	769	43733	134	7621
1100	886.1	1188.3	499	28378	105	5971	731	41572	120	6824
1050	837.9	1123.6	475	27013	103	5858	695	39525	104	5914
1000	798.0	1070.1	446	25364	101	5744	662	37648	86	4891

Approximate Power (bhp) as function of Altitude and Inlet Manifold Temperature for DM2016-03									
Inlet Manifold Temp. (°F)	Altitude (feet)								
	10,499	9843	8202	6562	4921	3281	1640	984	0
50	1051	1078	1148	1222	1250	1250	1250	1250	1250
68	1015	1041	1109	1180	1250	1250	1250	1250	1250
86	982	1007	1073	1141	1214	1250	1250	1250	1250
104	951	975	1038	1105	1175	1250	1250	1250	1250
122	921	944	1006	1070	1139	1211	1250	1250	1250
Normal	1053	1074	1132	1191	1250	1250	1250	1250	1250

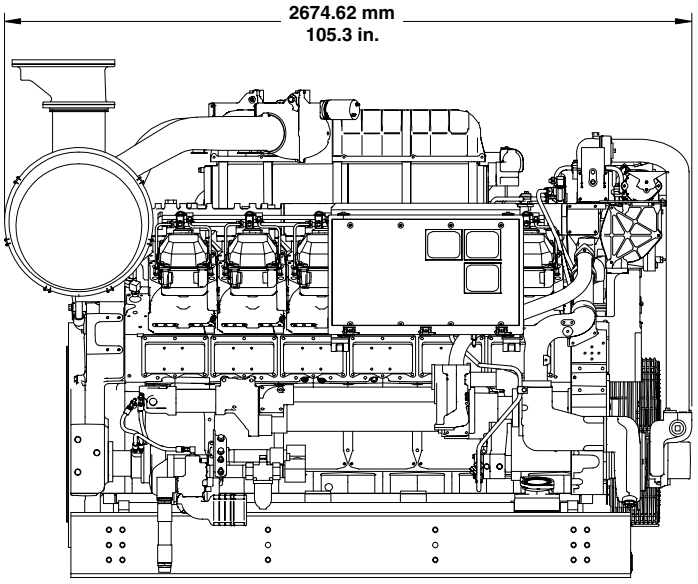
*Other ratings and performance data available.

CATERPILLAR®

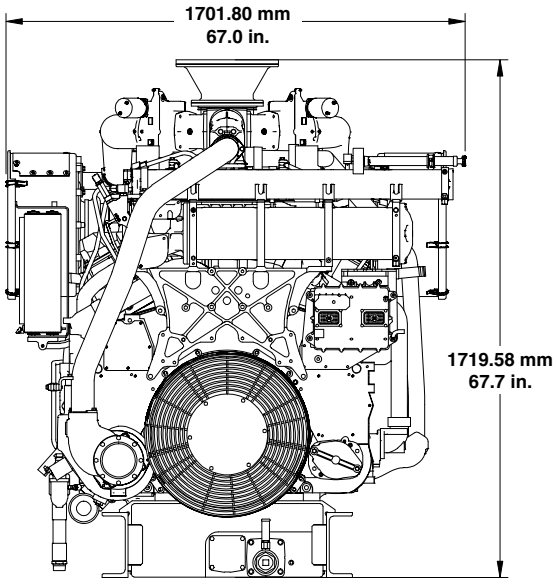
3512 LAND MECHANICAL ENGINE

760-1118 bkW (1020-1500 bhp)

LAND MECHANICAL ENGINE



Right Side View



Front View

Engine Dimensions		
Length	2674.62 mm	105.3 in.
Width	1701.80 mm	67.0 in.
Height	1719.58 mm	67.7 in.
Engine Weight (dry)	5203.75 kg	11,462 lb.

Note: Do not use for installation design. See general dimension drawings for detail. (Drawing #281-9127)

RATING DEFINITIONS AND CONDITIONS

Prime Power — 6,000 hrs./year, for applications with load factors less than or equal to 60%. Rated load (100%) usage is limited to 1 hour in 12. 10% overload available.

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.

Performance Number: DM2016-03
LEHW0060-00 (4-10)