



Image shown may not reflect
actual Engine

SPECIFICATIONS

V-12, 4-Stroke-Cycle-Diesel

Emissions.....	IMO
Displacement.....	27.03 L (1,649.47 in ³)
Rated Engine Speed.....	1800
Bore.....	137.2 mm (5.4 in)
Stroke.....	152.4 mm (6.0 in)
Aspiration.....	Turbocharged-Aftercooled
Governor.....	Electronic
Cooling System.....	Heat Exchanger
Weight, Net Dry (approx.).....	2,838 kg (6,257 lb)
Refill Capacity	
Cooling System.....	66.5 L (17.6 gal)
Lube Oil System.....	138.0 L (36.5 gal)
Oil Change Interval.....	400 hrs
Caterpillar Diesel Engine Oil 10W30 or 15W40	
Deep Sump Oil Pan	
Rotation (from flywheel end).....	Counterclockwise
Flywheel and Flywheel Housing.....	SAE No. 0
Flywheel Teeth.....	136

STANDARD ENGINE EQUIPMENT

Air Inlet System

Corrosion resistant aftercooler core, turbocharger inlet, regular-duty, panel type air cleaner, air cleaner inlet adapter

Cooling System

Gear-driven non-self-priming auxiliary sea water pump with bronze impeller, gear-driven centrifugal jacket water pump, titanium plate heat exchanger and expansion tank, coolant recovery system, engine oil cooler, thermostats and housing, transmission oil cooler

Exhaust System

Watercooled exhaust manifold and turbocharger, dry elbow and flange

Fuel System

Hydraulic Electronic Unit Injection (HEUI), fuel filter - RH or LH service, fuel transfer pump, fuel priming pump, flexible lines

Instrumentation

Instrument panel with electronic service meter, start/stop switch, emergency stop button, maintenance due lamp, diagnostic lamp, warning lamp, 15A breakers, and starter motor magnetic switch; RH or LH 5 hole instrument panel with oil pressure, water temperature, and fuel pressure gauges

Lube System

Crankcase breather, oil filter - RH or LH service, oil level gauge - RH or LH service, oil filler in valve cover, deep sump oil pan, manual sump pump

Mounting System

Front support

Protection System

Electronic - 24 volt only

General

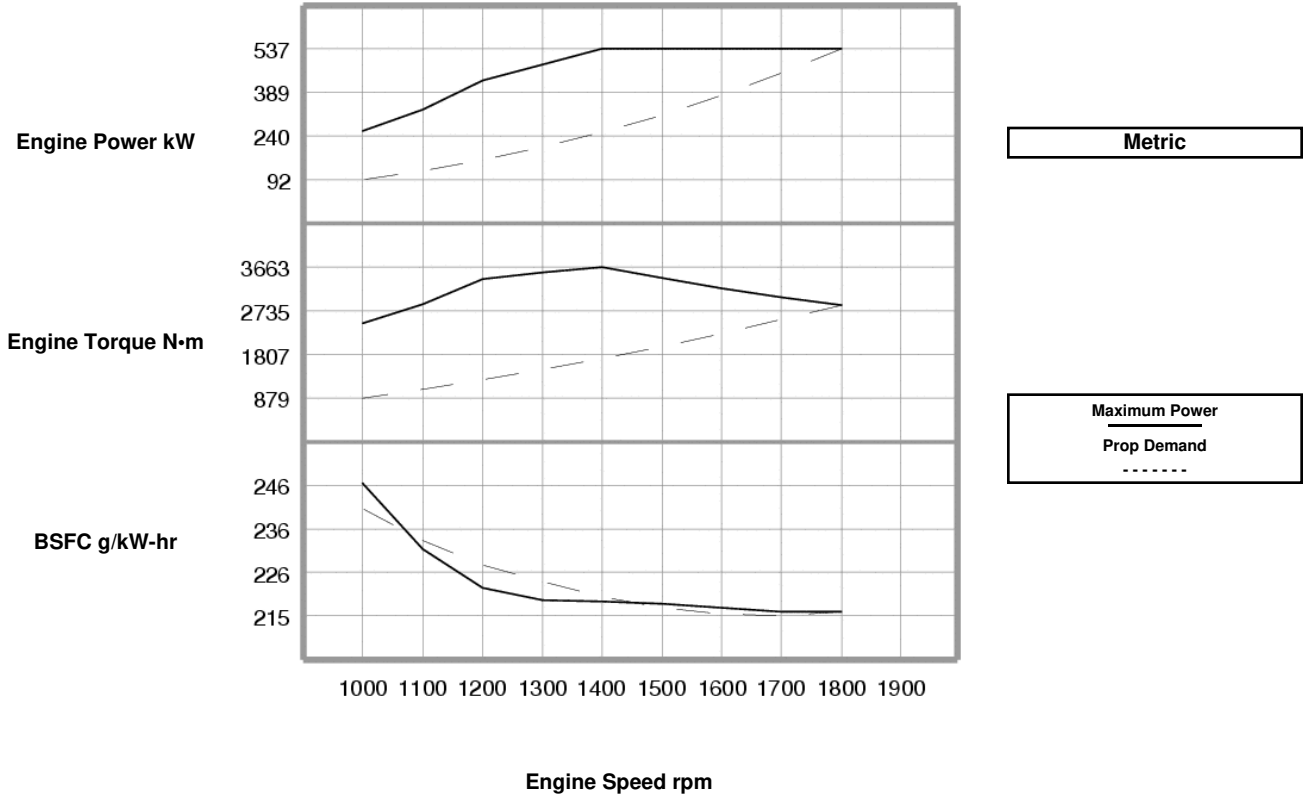
Vibration damper and guard, Caterpillar yellow paint, lifting eyes, variable engine wiring, customer wiring connector and service tool connector

ISO Certification

Factory-designed systems built at Caterpillar
ISO 9001:2000 certified facilities

PERFORMANCE CURVES

B-RATING - DM6396-01

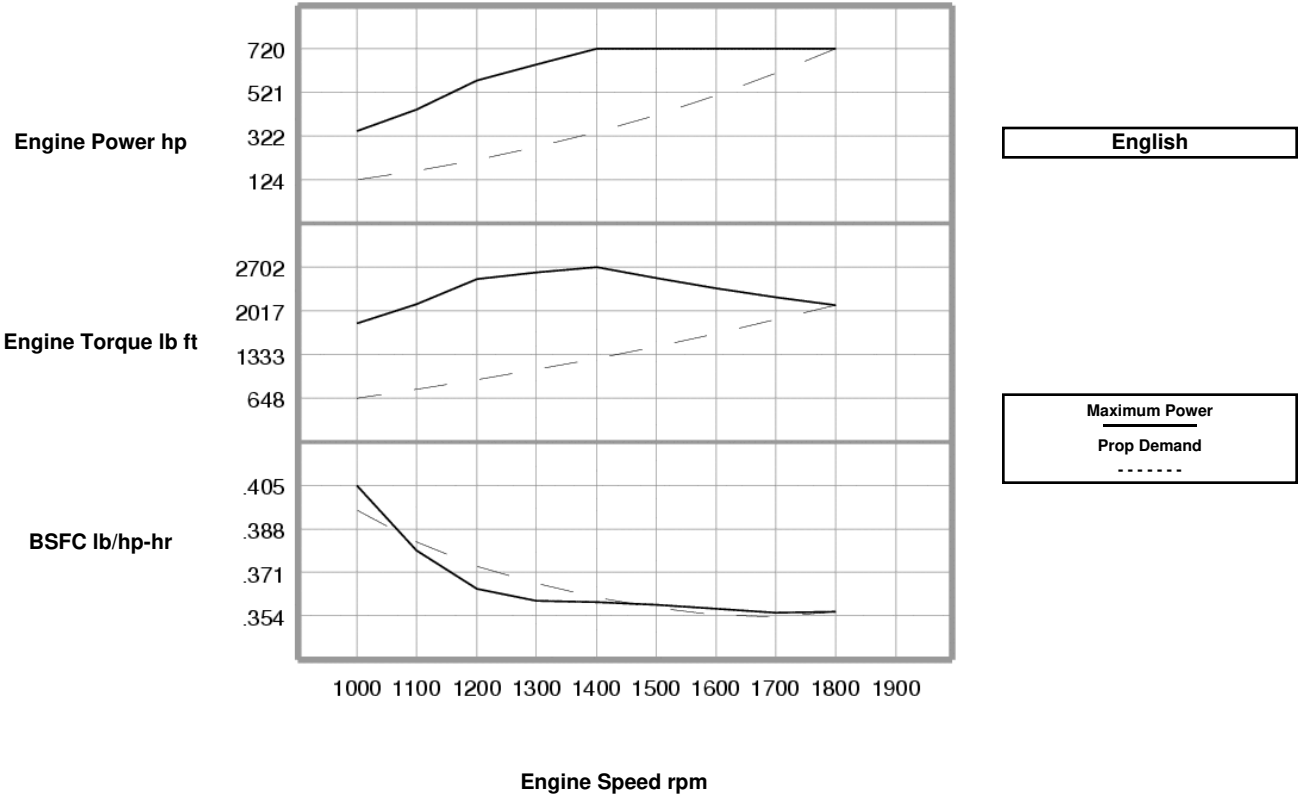


Maximum Power Data					Prop Demand Data				
Engine Speed rpm	Engine Power kW	Engine Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr	Engine Speed rpm	Engine Power kW	Engine Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
1800	537	2849	216.2	138.4	1800	537	2849	216.2	138.4
1700	537	3017	216.1	138.3	1700	452.4	2541	215.2	116.0
1600	537	3205	217	138.9	1600	377.2	2251	215.5	96.9
1500	537	3419	218	139.6	1500	310.8	1978	217.1	80.4
1400	537	3663	218.5	139.9	1400	252.7	1723	219.7	66.2
1300	482	3538	218.9	125.7	1300	202.3	1486	223.1	53.8
1200	428	3409	221.7	113.2	1200	159.1	1266	227.2	43.1
1100	330	2866	230.9	90.9	1100	122.6	1064	232.9	34.0
1000	257	2456	246.4	75.5	1000	92.1	879	240.5	26.4

NOTE: Prop demand data is a cubic prop demand curve with 3.0 exponent for displacement hulls only.

PERFORMANCE CURVES

B-RATING - DM6396-01



Maximum Power Data					Prop Demand Data				
Engine Speed rpm	Engine Power hp	Engine Torque lb ft	BSFC lb/hp-hr	Fuel Rate gph	Engine Speed rpm	Engine Power hp	Engine Torque lb ft	BSFC lb/hp-hr	Fuel Rate gph
1800	720	2101	.355	36.6	1800	720	2101	.355	36.6
1700	720	2225	.355	36.5	1700	607	1874	.354	30.6
1600	720	2364	.357	36.7	1600	506	1660	.354	25.6
1500	720	2522	.358	36.9	1500	417	1459	.357	21.2
1400	720	2702	.359	37.0	1400	339	1271	.361	17.5
1300	646	2609	.360	33.2	1300	271	1096	.367	14.2
1200	574	2514	.364	29.9	1200	213	934	.374	11.4
1100	443	2114	.380	24.0	1100	164	785	.383	9.0
1000	345	1811	.405	19.9	1000	124	648	.395	7.0

NOTE: Prop demand data is a cubic prop demand curve with 3.0 exponent for displacement hulls only.

RATING DEFINITIONS AND CONDITIONS

B Rating (Heavy Duty) –

% Load Factor: 40 to 80

% Time at Rated RPM: up to 40

Typical Time at Full Load: 10 hours out of 12

Typical Hour/Year: 3000 to 5000

Typical Applications: For vessels operating at rated load and rated speed up to 80% of the time with some load cycling (40% to 80% load factor).

Typical applications could include but are not limited to vessels such as mid-water trawlers, purse

seiner, crew and supply boats, ferries, or

towboats. Typical operation ranges from 3000 to 5000 hours per year.

Power

at declared engine speed is in accordance with ISO3046-1:2002E. Caterpillar maintains ISO9001:1994/QS-9000 approved engine test facilities to assure calibration of test equipment. Electronically controlled engines are set at the factory at the advertised power corrected to standard ambient conditions. The published fuel consumption rates are in accordance with ISO3046-1:2002E.

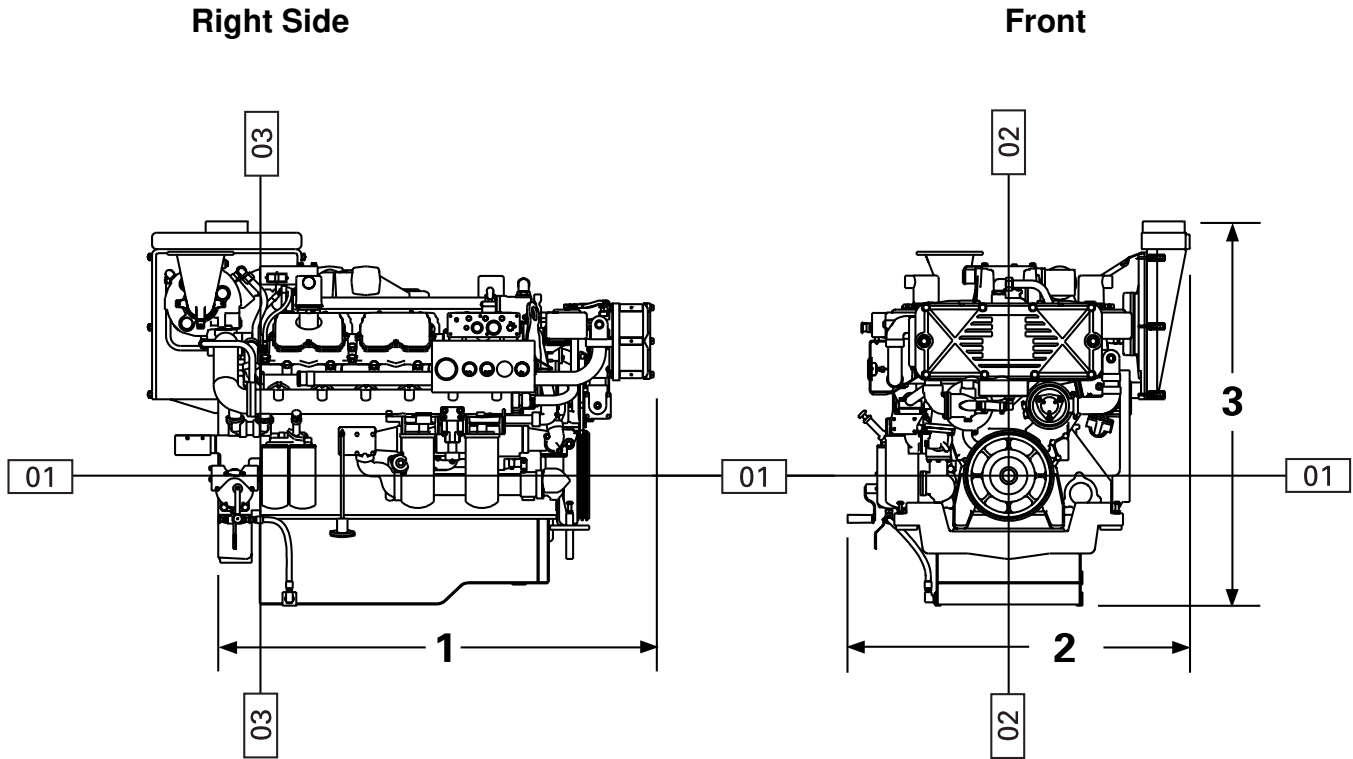
Fuel rates

are 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/L (7.001 lb/U.S. gal). Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.

Performance data is calculated in accordance with tolerances and conditions stated in this specification sheet and is only intended for purposes of comparison with other manufacturer's engines. Actual engine performance may vary according to the particular application of the engine and operating conditions beyond Caterpillar's control.

Power produced at the flywheel will be within standard tolerances up to 49° C (120° F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52° C (125° F) measured at the fuel filter base. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.

DIMENSIONS



Engine Dimensions		
(1) Length to Flywheel Housing	1839.2 mm	72.41 in
(2) Width	1444.3 mm	56.86 in
(3) Height	1621.4 mm	63.83 in
Weight, Net Dry (approx)	2838 kg	6,257 lb

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 1831405).

Performance No.: DM6396-01

Feature Code: 412DM23

U.S. Sourced

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Materials and specifications are subject to change without notice.

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

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