

Image shown may not reflect  
actual Engine

## SPECIFICATIONS

### V-12, 4-Stroke-Cycle-Diesel

Emissions.....	IMO
Displacement.....	27.03 L (1,649.47 in <sup>3</sup> )
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.....	Keel
Weight, Net Dry (approx.).....	2,769 kg (6,105 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 centrifugal jacket water pump, expansion tank, 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

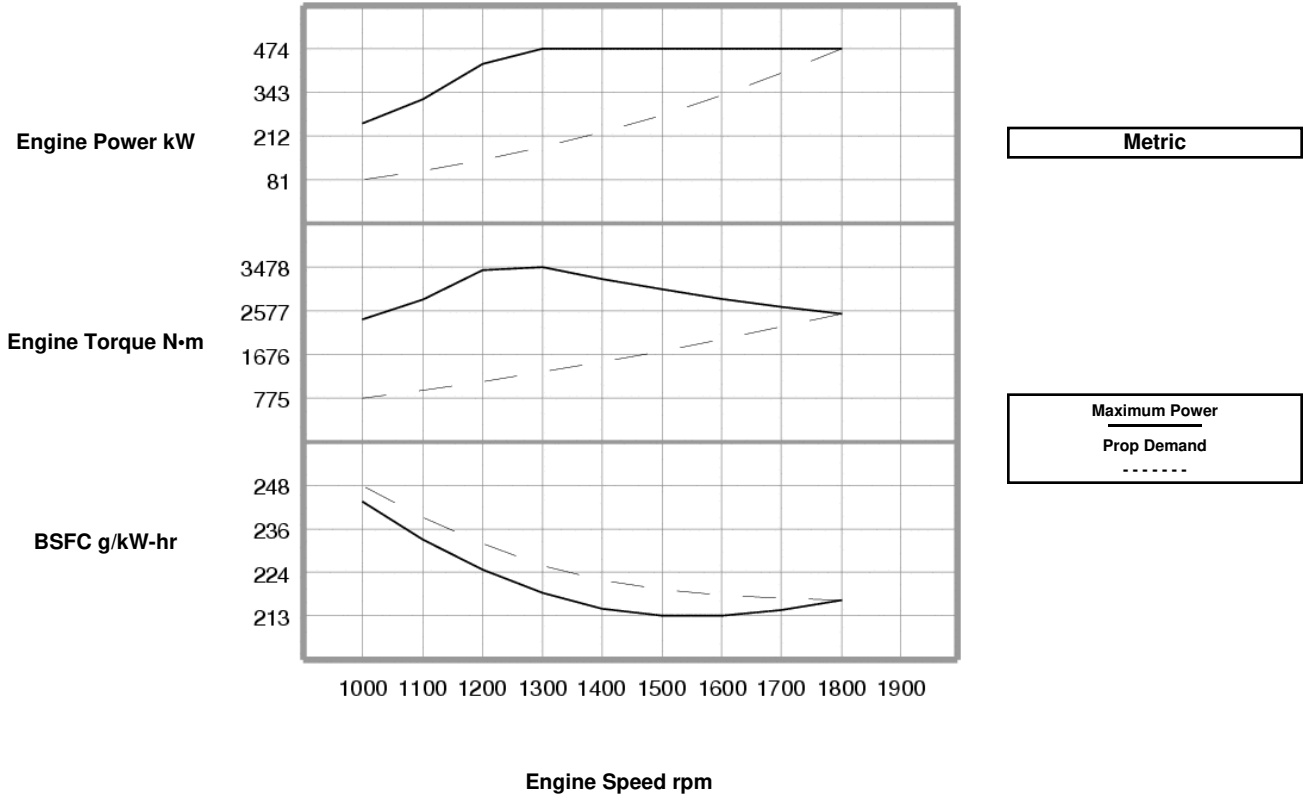
Vibration damper and guard, Caterpillar yellow paint, lifting eyes, variable engine wiring, customer wiring connector and service tool connector

### ISO Certification

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

**PERFORMANCE CURVES**

**A-RATING - DM6393-01**

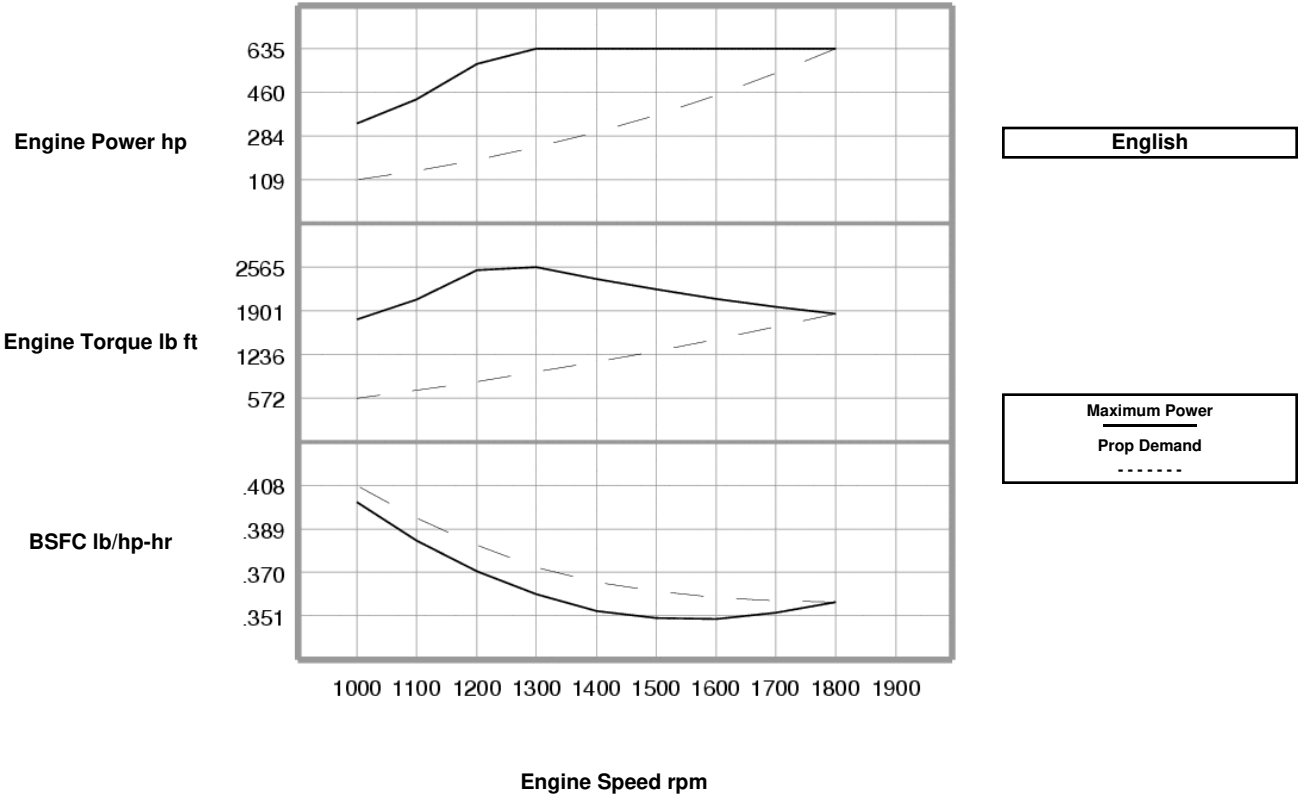


Maximum Power Data					Prop Demand Data				
Engine Speed rpm	Engine Power kW	Engine Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr	Engine Speed rpm	Engine Power kW	Engine Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
1800	474	2512	217.1	122.5	1800	473.5	2512	217.1	122.5
1700	474	2660	214.3	121.0	1700	398.9	2241	217.5	103.4
1600	474	2826	212.7	120.1	1600	332.5	1985	218.4	86.6
1500	474	3014	212.8	120.1	1500	274	1744	219.9	71.8
1400	474	3230	214.8	121.3	1400	222.8	1520	222.4	59.1
1300	474	3478	219.1	123.7	1300	178.4	1310	226.6	48.2
1200	429	3416	225.3	115.3	1200	140.3	1116	232.5	38.9
1100	322	2797	233.6	89.7	1100	108.1	938	239.6	30.9
1000	250	2389	243.8	72.7	1000	81.2	775	248.1	24.0

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

**PERFORMANCE CURVES**

**A-RATING - DM6393-01**



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	635	1853	.357	32.4	1800	635	1853	.357	32.4
1700	635	1962	.352	32.0	1700	535	1653	.358	27.3
1600	635	2084	.350	31.7	1600	446	1464	.359	22.9
1500	635	2223	.350	31.7	1500	367	1286	.362	19.0
1400	635	2382	.353	32.0	1400	299	1121	.366	15.6
1300	635	2565	.360	32.7	1300	239	966	.373	12.7
1200	576	2520	.370	30.5	1200	188	823	.382	10.3
1100	432	2063	.384	23.7	1100	145	692	.394	8.2
1000	335	1762	.401	19.2	1000	109	572	.408	6.3

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

**RATING DEFINITIONS AND CONDITIONS**

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**A Rating (Unrestricted Continuous) –**

% Load Factor: 80 to 100

% Time at Rated RPM: up to 80

Typical Time at Full Load: No Limit

Typical Hour/Year: 5000 to 8000

Typical Applications: For vessels operating at rated load and rated speed up to 100% of the time without interruption or load cycling (80% to 100% load factor).

Typical applications could include but are not limited to vessels such as freighters, tugboats, bottom drag trawlers, or deep river tugboats. Typical operation ranges from 5000 to 8000 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.

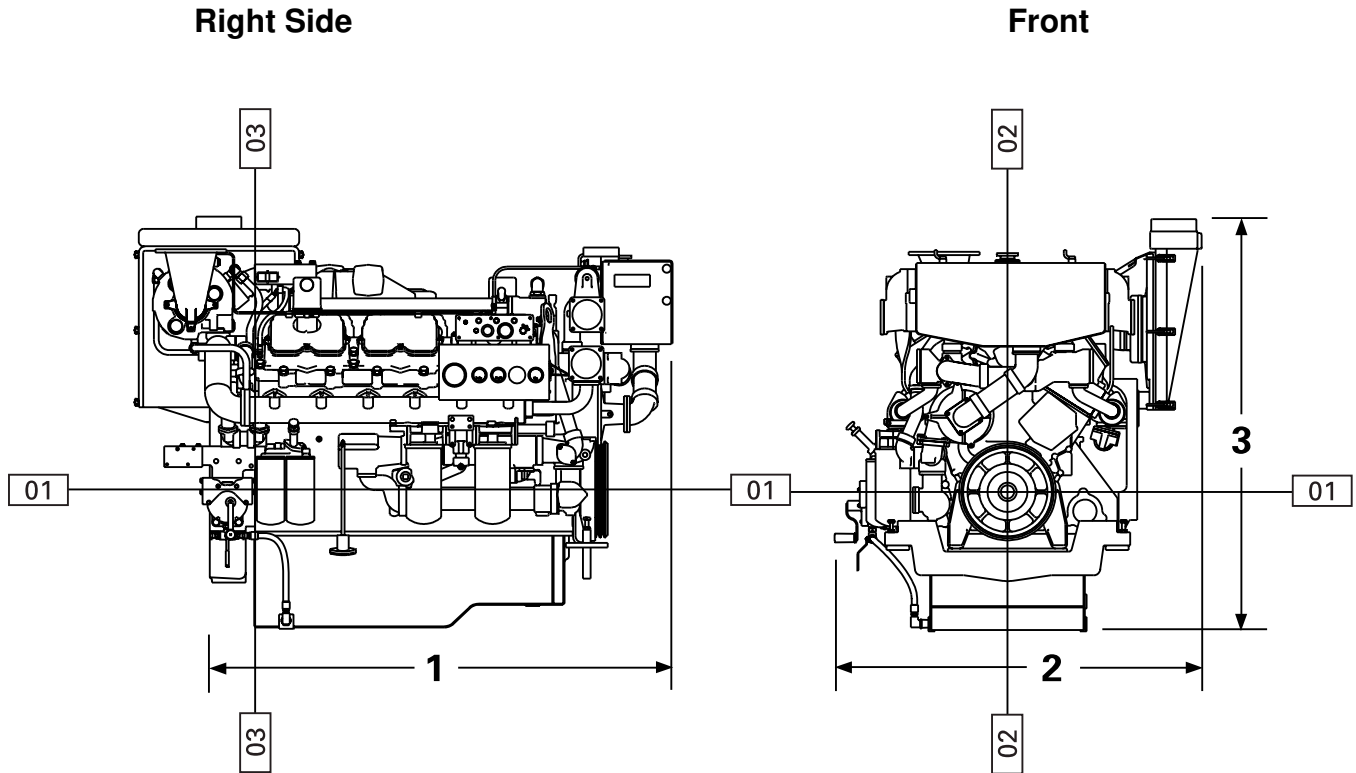
**Fuel rates**

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	1821.7 mm	71.72 in
(2) Width	1444.3 mm	56.86 in
(3) Height	1621.4 mm	63.83 in
Weight, Net Dry (approx)	2769 kg	6,105 lb

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 1832012).

Performance No.: DM6393-01

Feature Code: 412DM30

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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