CATERPILLAR®

C7 ACERT ™

MARINE PROPULSION

460 mhp (454 bhp) 339 bkW

Image shown may not reflect actual Engine

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Displacement..... 7.2 L (442 cu in)
Rated Engine Speed.....2800
Bore..... 110 mm (4.33 in)
Stroke..... 127 mm (5.0 in)
Aspiration..... Turbocharged-Aftercooled
Governor..... Electronic
Cooling System.....Heat Exchanger
Weight, Net Dry (approx.)..... 799 kg (1,761 lb)
Refill Capacity
Cooling System.....39 L (10.3 U.S. gal)
Lube Oil System..... 25 L (6.6 U.S. gal)
Oil Change Interval..... 200 hrs
Caterpillar Diesel Engine Oil 10W30 or 15W40
Rotation (from flywheel end).....Counterclockwise
Flywheel and Flywheel Housing.....SAE. No. 3
Flywheel Teeth.....126

STANDARD ENGINE EQUIPMENT

Air Inlet System

Sea water aftercooler, 12-volt air inlet heater, air cleaner with fumes disposal (closed system)

Charging System

12V 51 amp belt driven charging alternator and mounting

Cooling System

Gear driven auxiliary sea water pump, belt driven centrifugal jacket water pump, auxiliary sea water lines, expansion tank, transmission oil cooler, engine-mounted heat exchanger with removable tube bundle and replaceable copper-nickel tubes, block heater, thermostat and housing

Exhaust System

Watercooled exhaust manifold and turbocharger, fumes disposal routed to turbocharger inlet

Fuel System

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

Lube System

Crankcase breather, oil filter - front center service, oil level gauge - RH or LH service, oil filler - RH or LH service, oil pan drain - RH or LH service, gear driven engine oil pump

Mounting System

Front mount is included and provides a mounting surface of 1 mm (.04 in) below the centerline of the engine

Front mount is not included (Do not use shipping mounts in permanent installation.)

Protection System

Electronic overspeed shutoff

Starting System

12V rear facing electric starting motor

General

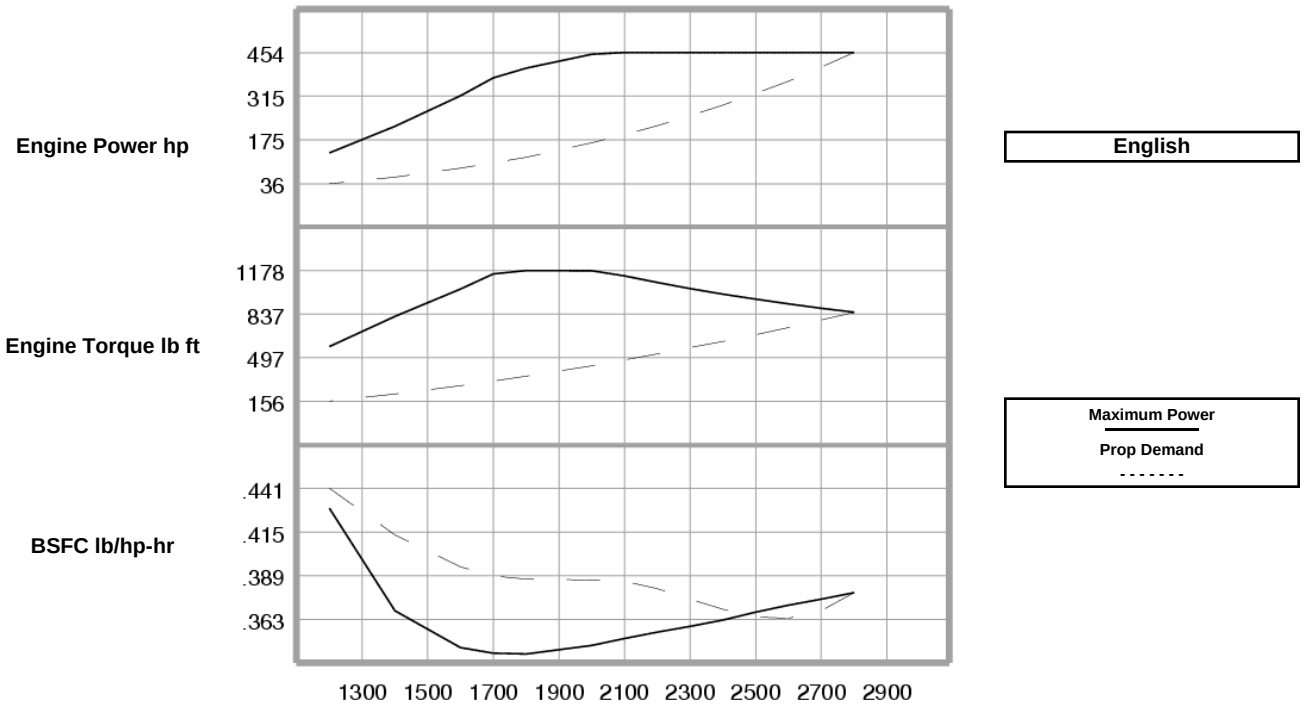
Vibration damper and guard, Caterpillar yellow paint, lifting eyes

ISO Certification

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

PERFORMANCE CURVES

E-RATING - DM8122-00

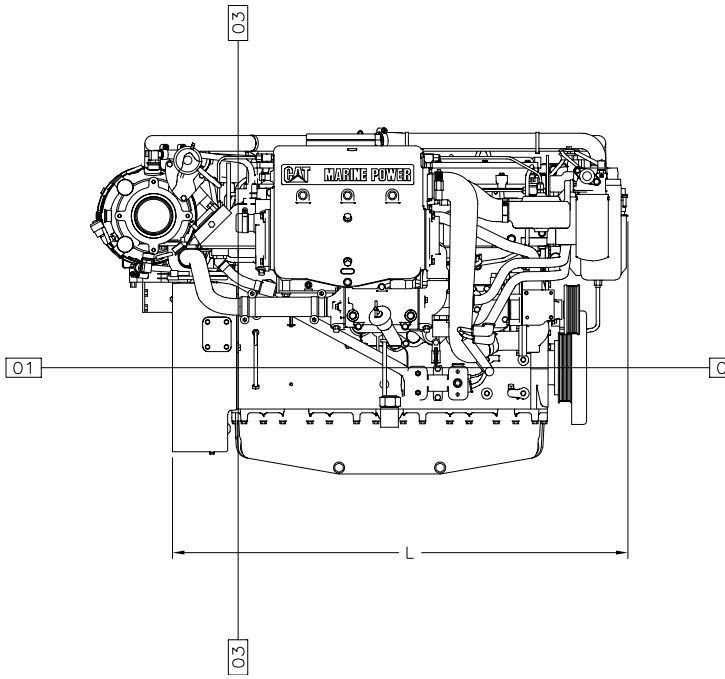


Maximum Power Data					Prop Demand Data				
Engine Speed rpm	Engine Power hp	Engine Torque lb ft	BSFC lb/hp-hr	Fuel Rate gph	Engine Speed rpm	Engine Power hp	Engine Torque lb ft	BSFC lb/hp-hr	Fuel Rate gph
2800	454	852	.379	24.6	2800	454	851	.379	24.6
2700	454	883	.375	24.3	2700	407	791	.368	21.4
2600	454	918	.371	24.1	2600	363	734	.364	18.9
2500	454	954	.367	23.8	2500	323	679	.364	16.8
2400	454	993	.363	23.5	2400	286	625	.369	15.1
2300	454	1037	.359	23.3	2300	252	575	.375	13.5
2200	454	1084	.355	23.0	2200	220	526	.381	12.0
2100	454	1136	.351	22.8	2100	191	479	.386	10.5
2000	448	1176	.347	22.2	2000	165	434	.387	9.1
1800	404	1178	.342	19.7	1800	121	352	.387	6.7
1700	373	1152	.343	18.3	1700	102	314	.389	5.7
1600	315	1035	.346	15.6	1600	85	278	.394	4.8
1400	219	820	.368	11.5	1400	57	213	.413	3.4
1200	134	585	.429	8.2	1200	36	156	.441	2.2

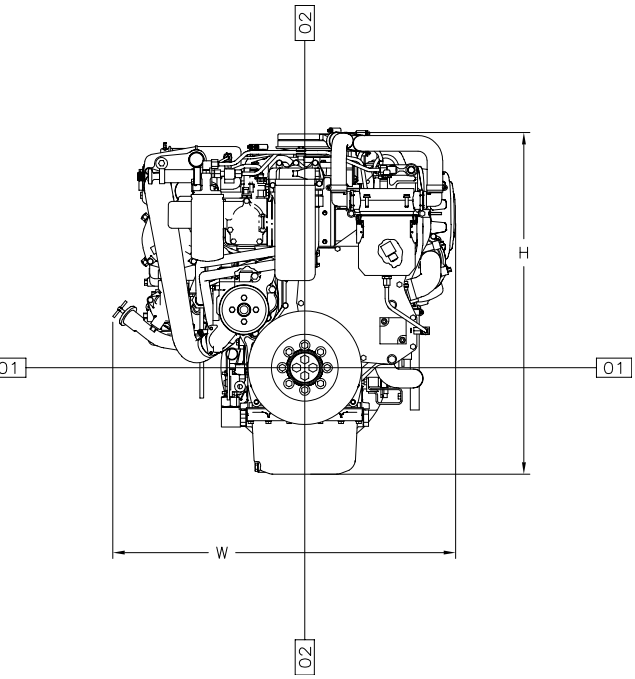
NOTE: Prop demand data is a cubic prop demand curve with 3.0 exponent for displacement hulls only.

DIMENSIONS

Right Side



Front



Engine Dimensions		
(1) Length to Flywheel Housing	1225.4 mm	48.24 in
(2) Width	936.7 mm	36.88 in
(3) Height	921.5 mm	36.28 in
Weight, Net Dry (approx)	799 kg	1,761 lb

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 2863205).

RATING DEFINITIONS AND CONDITIONS

E Rating (High Performance) -
% Load Factor: up to 30
% Time at Rated RPM: up to 8
Typical Time at Full Load: 1/2 hours out of 6
Typical Hour/Year: 250 to 1000
Typical Applications: For vessels operating at rated load and rated speed up to 8% of the time (up to 30% load factor). Typical applications could include but are not limited to vessels such as pleasure craft, harbor patrol boats, harbor master boats, some fishing or patrol boats. Typical operation ranges from 250 to 1000 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 35º API [16ºC (60ºF)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29ºC (85ºF) 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 49º C (120º F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52º C (125ºF) 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.

Performance No.: DM8122-00
Feature Code: C07MC01
U.S. Sourced
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