

MARINE PROPULSION

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Image shown may not reflect actual Engine

STANDARD ENGINE EQUIPMENT

Air Inlet System

Sea water aftercooler, 12-volt air inlet heater, air cleaner Crankcase breather, oil filter - front center service, oil 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 in permanent installation.) 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

Refill Capacity

level gauge - RH or LH service, oil filler - RH or LH service, oil pan drain - RH or LH service, gear driven engine oil pump

Emissions.....IMO Rated Engine Speed......2400 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 (1760 lbs)

Lube Ŏil Śystem..... 25 L (6.6 U.S. ğal) 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

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

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



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254 mhp (250 bhp) 187 bkW

PERFORMANCE CURVES

A-RATING - DM7590-01



Engine Speed rpm

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
2400	187	742	220.1	48.9	2400	186.5	742	220.1	48.9
2200	187	810	215.5	47.9	2200	143.7	624	220.6	37.8
2000	187	890	213.9	47.6	2000	107.9	515	222.5	28.6
1800	186	986	214.6	47.5	1800	78.7	417	225.5	21.2
1600	162	966	217.7	42.0	1600	55.3	330	232.2	15.3
1400	134	911	223.4	35.5	1400	37	253	243.2	10.7
1200	104	827	231.8	28.7	1200	23.3	186	254.2	7.1
1000	75	718	242.3	21.7	1000	13.5	129	261.6	4.2

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



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Engine Speed rpm

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
2400	250	547	.362	12.9	2400	250	547	.362	12.9
2200	250	597	.354	12.7	2200	193	460	.363	10.0
2000	250	656	.352	12.6	2000	145	380	.366	7.6
1800	249	727	.353	12.5	1800	106	308	.371	5.6
1600	217	712	.358	11.1	1600	74	243	.382	4.0
1400	179	672	.367	9.4	1400	50	187	.400	2.8
1200	139	610	.381	7.6	1200	31	137	.418	1.9
1000	101	530	.398	5.7	1000	18	95	.430	1.1

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RATING DEFINITIONS AND CONDITIONS

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.



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Engine Dimensions						
(1) Length to Flywheel Housing	1221.8 mm	48.1 in				
(2) Width	942.8 mm	37.12 in				
(3) Height	916.9 mm	36.1 in				
Weight, Net Dry (approx)	799 kg	1,761 lb				

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 2519637).



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