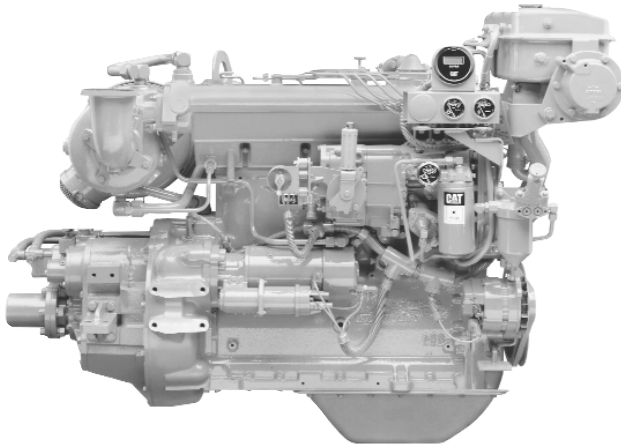




Marine Propulsion 3304B Engine

123 kW (165 bhp) 167 mhp @ 2200 rpm



Shown with Accessory Equipment

SPECIFICATIONS

I-4, 4-Stroke-Cycle-Diesel

Emissions	Non-IMO
Displacement	7 L (425 cu. in.)
Bore	121 mm (4.8 in.)
Stroke	152 mm (6.0 in.)
Aspiration	Turbocharged
Governor	Hydra-mechanical
Engine Weight, Net Dry (approx)	
Heat Exchanger Cooled	810 kg (1786 lb)
Keel Cooled	768 kg (1690 lb)
Capacity for Liquids	
Cooling System	12.9 L (3.4 U.S. gal)
Lube Oil System (refill)	19.0 L (5.0 U.S. gal)
Oil Change Interval	250 hr
Caterpillar DEO 10W30 or 15W40	
Rotation (from flywheel end)	Counterclockwise

STANDARD EQUIPMENT

Air Inlet System

Regular duty single stage dry air cleaner

Cooling System

Gear driven self-priming auxiliary sea water pump with rubber impeller (heat exchanger engines only), gear driven centrifugal jacket water pump, engine oil cooler, expansion tank, engine-mounted heat exchanger with removable tube bundle (heat exchanger engines only), thermostat and housing, transmission oil cooler

Exhaust System

Watercooled manifold and turbocharger; dry elbow and flange, 102 mm (4 in.)

Flywheel and Flywheel Housing

SAE No. 2 (156 teeth)

Fuel System

Fuel priming pump, fuel transfer pump, fuel filter, flexible fuel lines

Instruments

Fuel pressure gauge, service meter, heavy-duty tachometer drive

Lube System

Top-mounted crankcase breather, LH oil filter and oil level gauge

Mounting System

Front support

General

Caterpillar yellow paint, lifting eyes

ACCESSORY EQUIPMENT

Air Starting Motor

Alarm Contactor (Oil Pressure, Water Temperature)

12V 51 Amp, 24V 35 Amp, 24V 60 Amp Alternator

Auxiliary Drive Pulley

Digital Tachometer

Double Wall Fuel Lines

Duplex Fuel Filters

Electric Overspeed Shutoff

Electric Starting Motor

Ether Starting Aid

Exhaust Elbows, Pipes, Rain Caps, Flexible Fittings

Front Enclosed Clutch

Fuel Ratio Control

Hydraulic Pump Drive

Magnetic Pickup

Manual Shutoff

Pilot House Instrument Panel

Primary Fuel Filter/Water Separator

Remote-Mounted Pilot House Controls

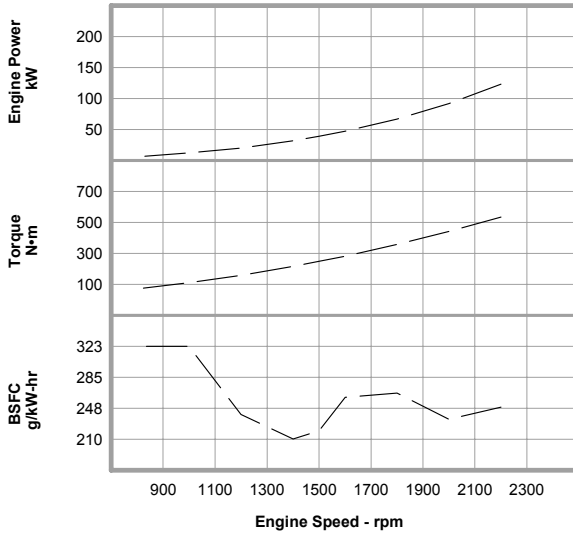
Remote Positive Locking Governor Control

Solenoid Shutoffs

Spare Parts Kit

PERFORMANCE CURVES

C Rating — TM1529-02

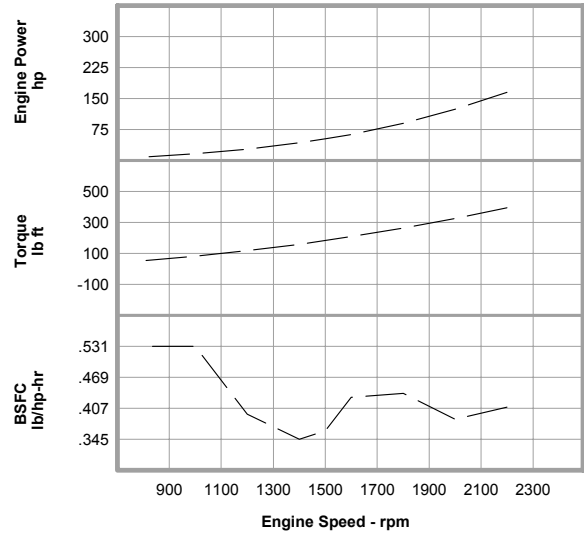


Metric Maximum Power
Prop Demand **123 kW**

Performance Data

	Engine Speed rpm	Engine Power kW	Engine Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
Prop Demand Data	2200	123	534	249.0	36.5
	2000	92	441	234.0	25.8
	1800	67	357	266.0	21.4
	1600	47	282	261.0	14.7
	1500	39	248	220.0	10.2
	1400	32	216	210.0	7.9
	1200	20	159	240.0	5.7
	1000	12	110	323.0	4.4
	800	6	71	323.0	2.3

Cubic prop demand curve with 3.0 exponent for displacement hulls only.

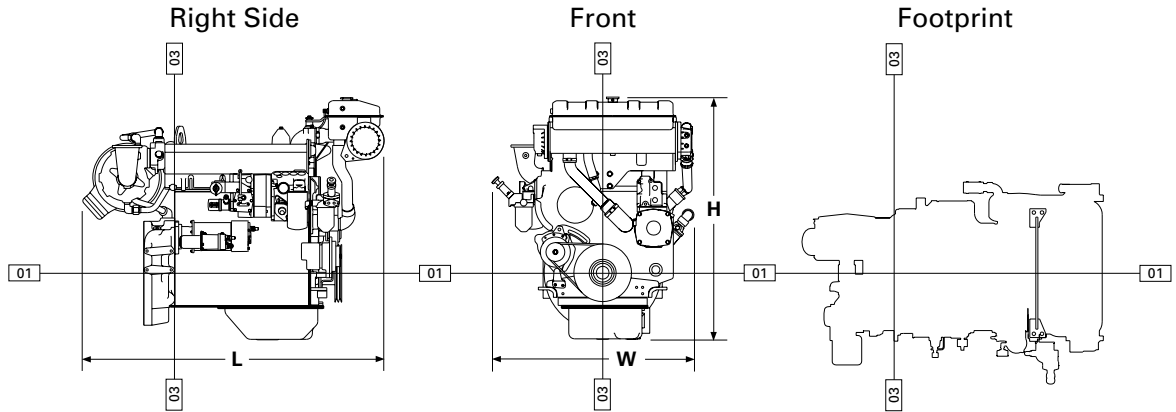


English Maximum Power
Prop Demand **165 hp**

Performance Data

	Engine Speed rpm	Engine Power hp	Engine Torque lb ft	BSFC lb/hp-hr	Fuel Rate gph
Prop Demand Data	2200	165	394	.409	9.6
	2000	124	325	.385	6.8
	1800	90	263	.437	5.7
	1600	63	208	.429	3.9
	1500	52	183	.362	2.7
	1400	43	159	.345	2.1
	1200	27	117	.395	1.5
	1000	16	81	.531	1.2
	800	8	52	.531	.6

Power produced at the flywheel will be within standard tolerances up to 50°C (122°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*

	mm	in.
Overall Length	1420.9	55.9
Length from front to rear face of block	986.6	38.8
Length from rear face of block to back of flywheel housing	146.3	5.8
Overall Height	1141.3	44.9
Height from crankshaft centerline to top of engine	827.7	32.6
Height from crankshaft centerline to bottom of engine	313.6	12.4
Overall Width	953.0	37.5
Width from crankshaft centerline to port side (left side)	430.3	16.9
Width from crankshaft centerline to starboard side (right side)	522.7	20.6
	Front	
	mm	in.
Customer mounting hole diameter	16.7	0.7
Width from crankshaft centerline to side	285.8	11.3
Length from rear face of block to front	659.4	26.0
	697.5	27.5

*Illustrations and dimensions from drawing: 118-7824

RATING DEFINITIONS AND CONDITIONS

C Rating –

Typical Application . . . Vessels such as ferries, harbor tugs, fishing boats moving at higher speeds out and back (e.g. lobster, crayfish, and tuna), offshore service boats, and also displacement hull yachts and short trip coastal freighters where engine load and speed are cyclical.

- Typical Hours Per Year 2000 to 4000
- Time at Rated Speed Up to 50%
- Load Factor 20 to 80%
- Typical Time at Full Load 6 out of 12 hours
- Rated Speed 2200 rpm
- Maximum Cruise Speed 2100 rpm
- Maximum Continuous Cruise Speed 2000 rpm

Engine Performance Parameters

- Power ±3%
- Specific Fuel Consumption ±3%
- Fuel Rate ±5%

Ratings are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

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.



3304B MARINE PROPULSION — 123 bkW (165 bhp)

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 manufacturers' engines. Actual engine performance may vary according to the particular application of the engine and operating conditions beyond Caterpillar's control.

TM Reference No.: TM1529-02 (6-19-01)

Materials and specifications are subject to change without notice.

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

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