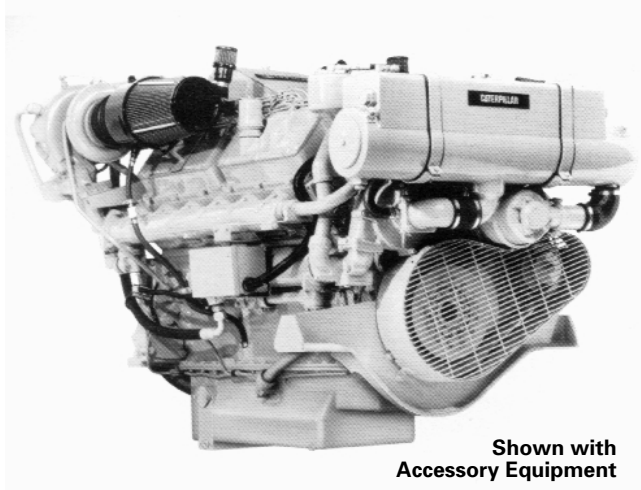




Marine Propulsion Engine 3412C

High Performance

615 bkW (825 bhp) 837 mhp @ 2100 rpm



Shown with
Accessory Equipment

STANDARD EQUIPMENT

Air Inlet System

Corrosion resistant aftercooler core; light-duty air cleaner open system (shipped loose)

Cooling System

Gear driven auxiliary sea water pump; gear driven centrifugal jacket water pump; block heaters, one on each side; expansion tank with heat exchanger and deaerators; oil cooler; thermostats and housing with 92°C (198°F) full open temperature

Exhaust System

Watercooled manifold and turbocharger; round flanged outlet, 130 mm (5.12 in.)

Flywheel and Flywheel Housing

SAE No. 1 (113 teeth) standard engine
SAE No. 0 (136 teeth) side access engine

Fuel System

Fuel priming pump, fuel transfer pump, fuel filter — RH service on port, LH service on starboard; flexible fuel lines

Instruments

Heavy-duty tachometer drive, SAE standard rotation; instrument panel — RH on port, LH on starboard; 4-hole panel with oil pressure, water temperature, and fuel pressure gauges (standard engine); 8-hole panel with oil pressure, water temperature, fuel pressure, and oil temperature gauges (side access engine)

Lube System

Oil level gauge and oil filter — RH service on port, LH service on starboard; crankcase breather; oil filter in valve cover; shallow center sump oil pan; deep sump oil pan (side access engine)

Mounting System

Front support (adjustable for standard engine only)

Protection System

Overspeed and air inlet shutoffs

General

Vibration damper and guard, Caterpillar yellow paint, lifting eyes

SPECIFICATIONS

V-12, 4-Stroke-Cycle-Diesel

Emissions IMO compliant

Displacement 27 L (1649 cu. in.)

Bore 137 mm (5.4 in.)

Stroke 152 mm (6.0 in.)

Aspiration Turbocharged-Aftercooled

Governor Hydra-mechanical

Engine Weight, Net Dry (approx) 2315 kg (5099 lb)

Capacity for Liquids

Cooling System 67.1 L (17.7 U.S. gal)

Lube Oil System (refill)

Shallow 68.1 L (17.7 U.S. gal)

Deep 138 L (36.5 U.S. gal)

Oil Change Interval

Shallow 250 hr

Deep 500 hr

Caterpillar DEO 10W30 or 15W40

Rotation (from flywheel end) Counterclockwise

ACCESSORY EQUIPMENT

Air Starting Motor — RH or LH (Side Access Engine Only)

Alarm Contactor for Oil Pressure, Water Temperature

24V 60 Amp Alternator

Appearance Kit

Auxiliary Sea Water Pump

Custom Paint

Digital Tachometer

Double Wall Fuel Lines and Drain

Duplex Oil Filter (Side Access Engine Only)

Electric Service Meter

24V Electric Starting Motor

Hydraulic Pump Drive

8-Hole Instrument Panel (Standard Engine Only)

Jacket Water Connection

Pilot House Instrument Panel

Primary Fuel Filter/Water Separator

Remote Positive Locking Governor Control

Spare Parts Kit

Storage Preservation

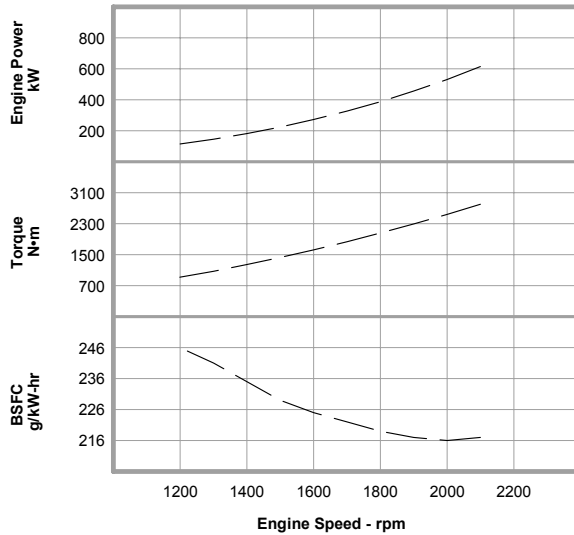
Two-Groove Pulley and Damper

Water Level Switch Gauge

PERFORMANCE CURVES

C Rating — DM6081-00

IMO Compliant

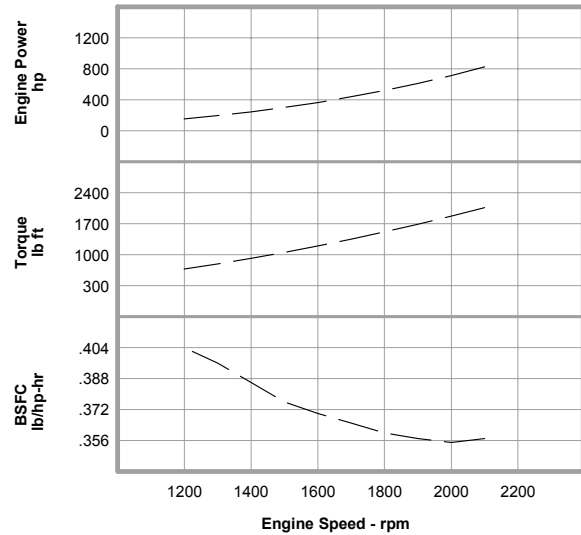


Metric Maximum Power
Prop Demand 615 kW

Performance Data

	Engine Speed rpm	Engine Power kW	Engine Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
Prop Demand Data	2100	615	2797	217.0	158.7
	2000	531	2537	216.0	136.9
	1900	456	2289	217.0	117.8
	1800	387	2055	219.0	101.1
	1700	326	1833	222.0	86.1
	1600	272	1623	225.0	72.9
	1500	224	1427	229.0	61.2
	1400	182	1243	235.0	51.0
	1300	146	1072	241.0	41.8
	1200	115	913	246.0	33.6

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

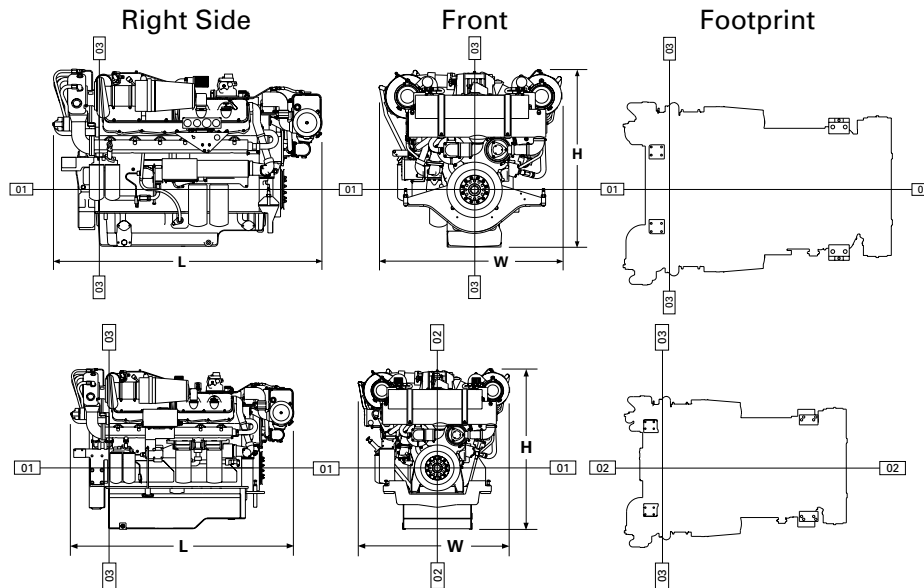


English Maximum Power
Prop Demand 825 hp

Performance Data

	Engine Speed rpm	Engine Power hp	Engine Torque lb ft	BSFC lb/hp-hr	Fuel Rate gph
Prop Demand Data	2100	825	2063	.357	41.9
	2000	712	1871	.355	36.2
	1900	611	1688	.357	31.1
	1800	519	1516	.360	26.7
	1700	438	1352	.365	22.7
	1600	365	1197	.370	19.3
	1500	301	1052	.376	16.2
	1400	244	917	.386	13.5
	1300	196	791	.396	11.0
	1200	154	673	.404	8.9

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*

	Standard Engine		Side Access Engine	
	mm	in.	mm	in.
Overall Length	1992.5	78.5	1992.5	78.4
Length from front to rear face of block	1650.6	65.0	1650.6	65.0
Overall Height	1311.9	51.7	1437.2	56.6
Height from crankshaft centerline to top of engine	888.8	35.0	888.8	35.0
Height from crankshaft centerline to bottom of oil pan	423.1	16.7	548.4	21.6
Overall Width	1362.1	53.6	1354.2	53.3
Width from crankshaft centerline to port side (left side)	646.2	25.4	646.2	25.4
Width from crankshaft centerline to starboard side (right side)	708.0	27.9	708.0	27.9
Standard Engine	Front		Rear	
	mm	in.	mm	in.
Customer mounting hole diameter	27.5	1.1		5/8
Width from crankshaft centerline to mounting holes	460.5	18.1	252.4	9.9
Length from crankshaft centerline to mounting holes	1209.0	47.6	312.7	12.3
	1301.0	51.2	57.9	2.3
			134.2	5.3
Side Access Engine	Front		Rear	
	mm	in.	mm	in.
Customer mounting hole diameter	20.5	0.8	15.7	0.6
Width from crankshaft centerline to mounting holes	431.8	17.0	352.7	13.9
Length from crankshaft centerline to mounting holes	457.2	18.0	413.0	16.3
	1242.5	48.9	78.4	3.1
	1261.5	49.7	154.6	6.1
	1350.5	53.2		
	1369.5	53.9		

*Illustrations and dimensions from drawings: 196-5459 Standard Engine, 123-7639 Side Access Engine.

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 2100 rpm
 Maximum Cruise Speed. 2000 rpm
 Maximum Continuous Cruise Speed. 1900 rpm

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.

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).



3412C MARINE PROPULSION — 615 bkW (825 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.

TMI Reference No.: DM6081-00 (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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