



3512B

**2282 mhp (2250
bhp) 1678 bkW**

MARINE PROPULSION

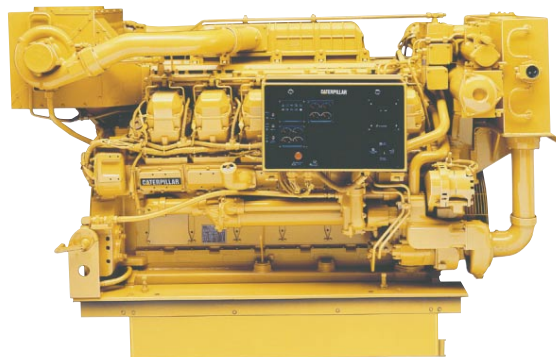


Image shown may not reflect actual Engine

SPECIFICATIONS

V-12, 4-Stroke-Cycle-Diesel

Displacement.....	51.75 L (3,157.98 in ³)
Rated Engine Speed.....	1925
Bore.....	170.0 mm (6.69 in)
Stroke.....	190.0 mm (7.48 in)
Aspiration.....	Turbocharged-Aftercooled
Governor.....	Electronic
Cooling System.....	Heat Exchanger
Weight, Net Dry (approx.).....	6,538 kg (14,414 lb)
Refill Capacity	
Cooling System (engine only).....	156.8 L (41.4 Gal)
Lube Oil System (refill).....	155.0 L (40.9 gal)
Oil Change Interval.....	250 hrs
Caterpillar Diesel Engine Oil 10W30 or 15W40	
Rear Sump Oil Pan	
Rotation (from flywheel end).....	Counterclockwise
Flywheel and Flywheel Housing.....	SAE NO. 00
Flywheel Teeth.....	183

STANDARD ENGINE EQUIPMENT

Air Inlet System

Sea water aftercooler with copper-nickel tubes and copper fins, regular duty air cleaner, dual turbochargers

Cooling System

Self-priming auxiliary sea water pump, gear driven centrifugal jacket water pump, air separator, coolant shunt tank, engine oil cooler, thermostats and housing

Exhaust System

Dry gas-tight exhaust manifolds with thermo-laminated heat shields, dual turbochargers with watercooled bearings and thermo-laminated heat shields, vertical exhaust outlet

Fuel System

Electronically controlled unit injectors, front mounted dual fuel filters with service indicators, fuel transfer pump

Lube System

Top mounted crankcase breather; front mounted oil filters, RH oil level gauge, RH oil filler, rear sump oil pan, gear type oil pump, gear type scavenge oil pump

Mounting System

Front trunion, rear pads on sides of flywheel housing

Power Take-Offs

Accessory drive on lower RH and lower LH, two-sided front housing

Protection System

ADEM II electronic monitoring system with customer programmable engine deration strategies, emergency stop push button

General

Vibration damper and guard, Caterpillar yellow paint, lifting eyes (Engines for heat exchanger cooling do NOT include heat exchanger. Keel cooling conversion available.)

ISO Certification

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



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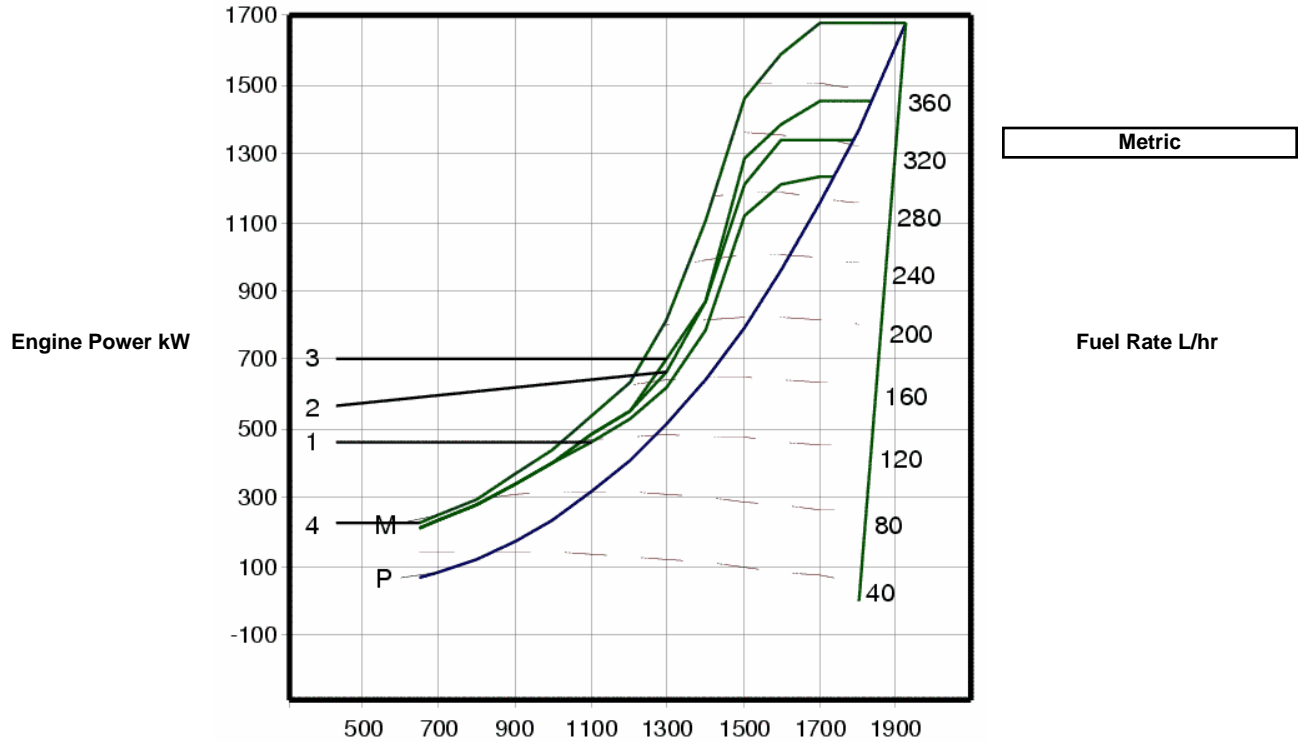
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PERFORMANCE CURVES

E-HP/HIP - DM6904-01

Aftercooler Temperature 30° C (86° F)



Engine Speed rpm					Engine Speed rpm				
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
Zone 1 Curve 1					Max Limit Curve 4				
1735	1230.5	6773	201	294.8	1925	1678	8324	207.4	414.9
1500	1122	7143	200.2	267.7	1600	1586	9466	199.1	376.5
1300	623	4576	208.3	154.7	1400	1108	7558	202.1	266.9
1100	464	4028	213.9	118.3	1100	533	4627	218.4	138.8
900	340	3608	221.6	89.8	900	370	3926	225	99.2
650	211	3100	230	57.9	650	224	3291	233.2	62.3
Zone 2 Curve 2					Prop Demand Curve P				
1785	1342	7179	202.4	323.8	1925	1678	8324	207.4	414.9
1500	1210	7703	199.3	287.5	1600	963.5	5751	200.9	230.7
1300	665	4885	208.3	165.1	1400	645.5	4403	206.3	158.8
1100	481	4176	214.8	123.2	1100	313.1	2718	213.1	79.5
900	340	3608	221.7	89.9	900	171.5	1820	226.1	46.2
650	211	3100	230	57.9	650	64.6	949	285.1	22.0
Zone 3 Curve 3									
1835	1454	7567	203.9	353.4	1925	1678	8324	207.4	414.9
1500	1289	8206	199.2	306.1	1600	1586	9466	199.1	376.5
1300	705	5179	208.3	175.1	1400	1108	7558	202.1	266.9
1100	481	4176	214.8	123.2	1100	533	4627	218.4	138.8
900	340	3608	221.7	89.9	900	370	3926	225	99.2
650	211	3100	230	57.9	650	224	3291	233.2	62.3

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



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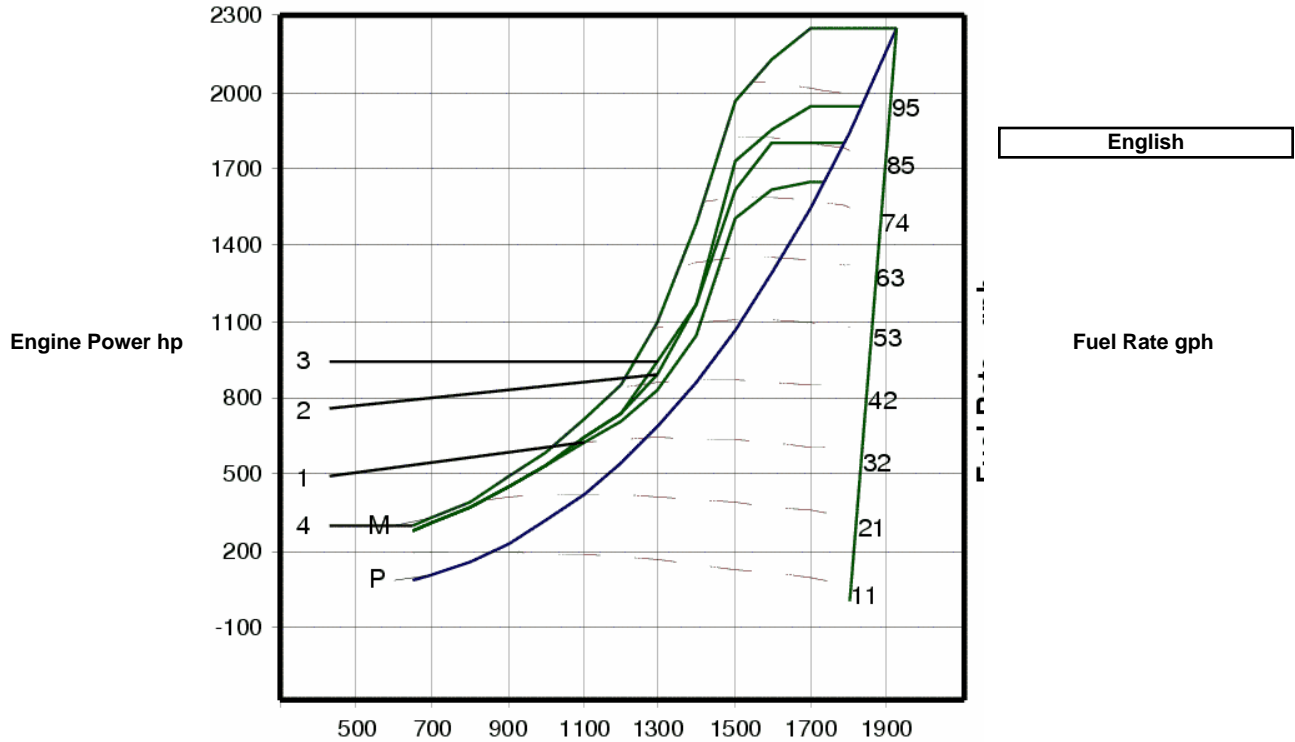
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PERFORMANCE CURVES

E-HP/HIP - DM6904-01

Aftercooler Temperature 30° C (86° F)



Zone 1 Curve 1					Max Limit Curve 4				
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
1735	1650	4995	.330	77.9	1925	2250	6139	.341	109.6
1500	1505	5268	.329	70.7	1600	2127	6982	.327	99.5
1300	835	3375	.342	40.9	1400	1486	5574	.332	70.5
1100	622	2971	.352	31.3	1100	715	3413	.359	36.7
900	456	2661	.364	23.7	900	496	2896	.370	26.2
650	283	2286	.378	15.3	650	300	2427	.383	16.5
Zone 2 Curve 2					Prop Demand Curve P				
1785	1800	5295	.333	85.5	1925	2250	6139	.341	109.6
1500	1623	5681	.328	75.9	1600	1292	4242	.330	60.9
1300	892	3603	.342	43.6	1400	866	3247	.339	42.0
1100	645	3080	.353	32.5	1100	420	2005	.350	21.0
900	456	2661	.364	23.7	900	230	1342	.372	12.2
650	283	2286	.378	15.3	650	87	700	.469	5.8
Zone 3 Curve 3									
1835	1950	5581	.335	93.4	1925	2250	6139	.341	109.6
1500	1729	6052	.327	80.9	1600	2127	6982	.327	99.5
1300	945	3820	.342	46.3	1400	1486	5574	.332	70.5
1100	645	3080	.353	32.5	1100	715	3413	.359	36.7
900	456	2661	.364	23.7	900	496	2896	.370	26.2
650	283	2286	.378	15.3	650	300	2427	.383	16.5

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



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RATING DEFINITIONS AND CONDITIONS

Ehp Rating

% 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: Revenue or non-revenue producing vessels.

Power

at declared engine speed is in accordance with ISO3046-1:2002E. Caterpillar maintains ISO9001:1994/QS-9000 approved engine test facilities to assure accurate 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.



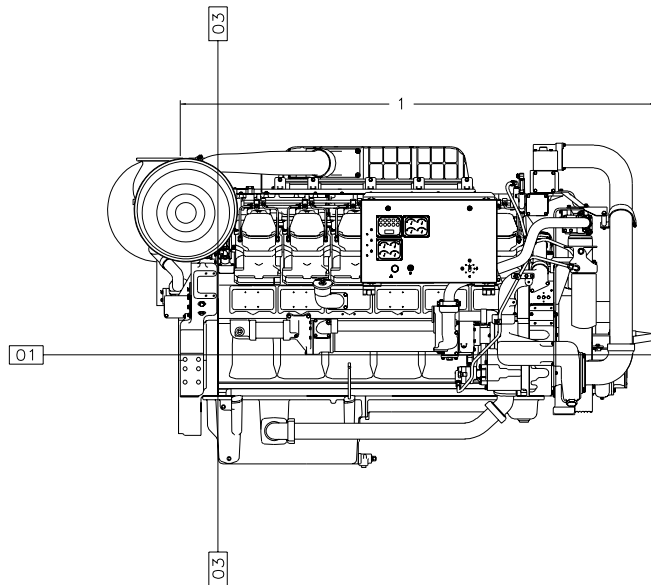
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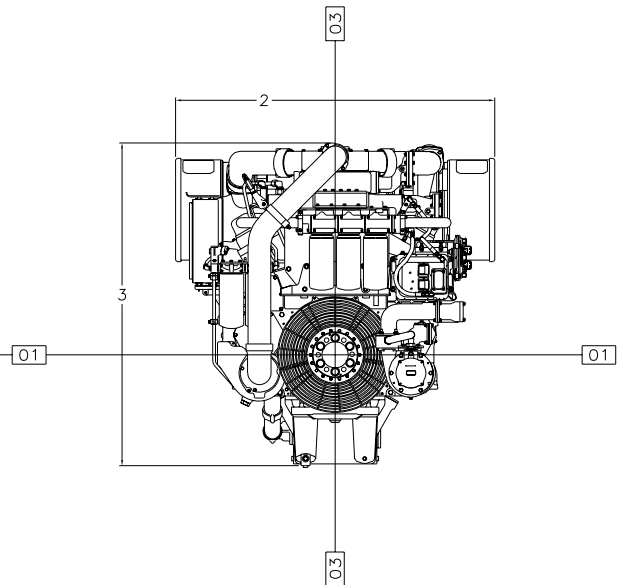
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DIMENSIONS

Right Side



Front



Engine Dimensions		
(1) Length to Flywheel Housing	2669.2 mm	105.09 in
(2) Width	1982.5 mm	78.05 in
(3) Height	1806.3 mm	71.11 in
Weight, Net Dry (approx)	6538 kg	14,414 lb

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 2339506).



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Performance No.: DM6904-01

Feature Code: 512DM36

U.S. Sourced

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