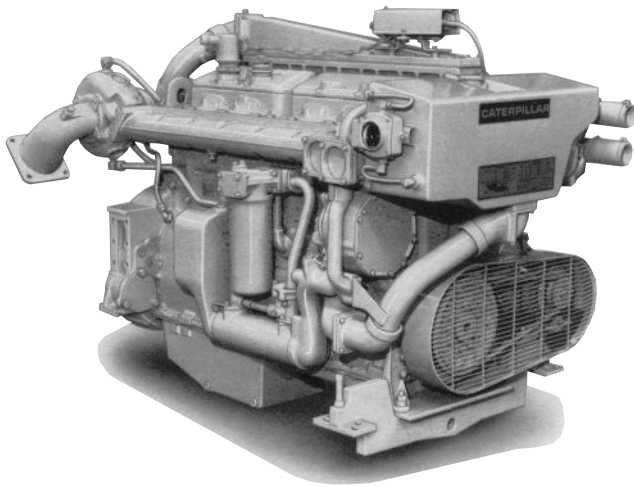




Marine Engine

3406C

272-433 kW/365-580 bhp
1800-2100 rpm



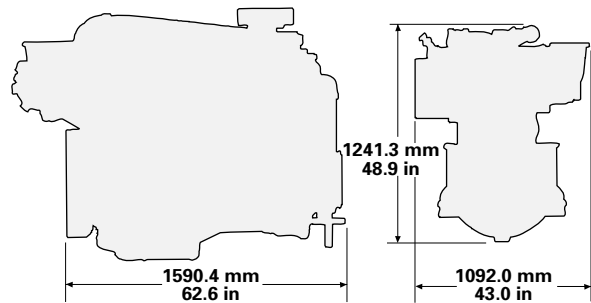
Shown with
Accessory Equipment

CATERPILLAR® ENGINE SPECIFICATIONS

In-line 6, 4-Stroke-Cycle Diesel

Bore — mm (in)	137 (5.4)
Stroke — mm (in)	165 (6.5)
Displacement — L (cu in)	14.6 (893)
Rotation (from flywheel end) ..	Counterclockwise
Compression Ratio	14.5:1
Capacity for Liquids — L (U.S. gal)	
Cooling System (engine only)	45.4 (12.0)
Lube Oil System (refill)	34.0 (9.0)
Oil Change Interval (fuel)	9500 (2500)
Engine Weight, Net Dry (approx) — kg (lb)	
Turbocharged-Aftercooled (TA) ...	1470 (3240)

DIMENSIONS



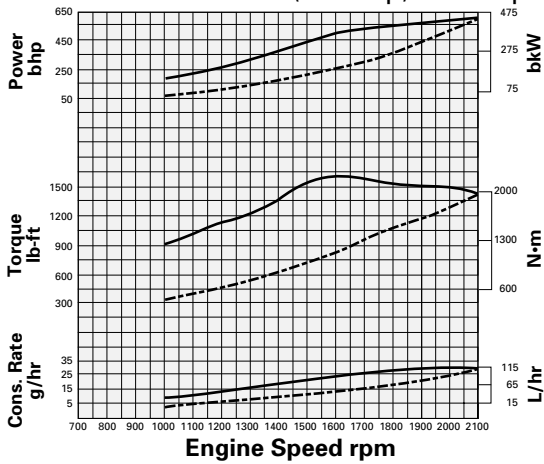
Power produced at the flywheel will be within standard tolerances up to 50° C (122° F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52° C (125° F) measured at the fuel filter base. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.



PERFORMANCE CURVES

Turbocharged-Aftercooled

E Rating – 2100 rpm
433 bkW (580 bhp) 588 mhp

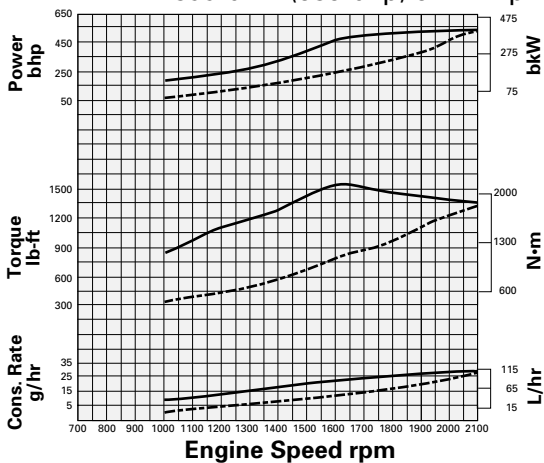


Speed rpm	Prop Demand Curve Data				Max Power Curve Data			
	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2100	433	1967	218	112.6	433	1967	218	112.6
2000	374	1784	211	94.0	427	2038	215	109.4
1900	320	1610	209	79.6	417	2095	212	105.3
1800	272	1445	209	67.9	402	2135	208	99.6
1700	229	1289	212	58.0	384	2155	210	96.2
1600	191	1142	216	49.2	366	2183	213	92.9
1400	128	874	223	34.0	268	1831	220	70.3
1200	81	642	230	22.1	190	1508	210	47.4
1000	47	446	245	13.7	130	1239	241	37.2

Speed rpm	Prop Demand Curve Data				Max Power Curve Data			
	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
2100	580	1451	.358	29.7	580	1451	.358	29.7
2000	501	1316	.347	24.8	572	1503	.353	28.9
1900	430	1187	.344	21.0	559	1545	.349	27.8
1800	365	1066	.344	17.9	539	1575	.342	26.3
1700	308	951	.349	15.3	514	1589	.345	25.4
1600	257	842	.355	13.0	491	1610	.350	24.5
1400	172	645	.367	9.0	360	1350	.362	18.6
1200	108	474	.378	5.8	254	1112	.345	12.5
1000	63	329	.403	3.6	174	914	.396	9.8

E RATING – Planing hull vessels such as pleasure craft, harbor patrol, harbor master, and some fishing and pilot boats.

D Rating – 2100 rpm
399 bkW (535 bhp) 542 mhp

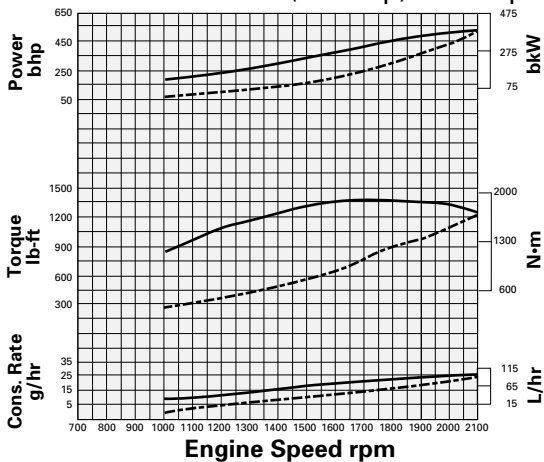


Speed rpm	Prop Demand Curve Data				Max Power Curve Data			
	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2100	399	1814	220	104.8	399	1814	220	104.8
2000	345	1646	213	87.7	396	1893	218	102.9
1900	296	1485	211	74.2	390	1959	215	100.1
1800	251	1333	211	63.1	378	2006	212	95.6
1700	212	1189	215	54.2	360	2023	213	91.3
1600	177	1053	219	46.1	344	2051	214	87.7
1400	118	806	225	31.8	250	1706	221	66.0
1200	74	592	231	20.5	182	1448	228	49.5
1000	43	411	244	12.5	120	1146	230	32.9

Speed rpm	Prop Demand Curve Data				Max Power Curve Data			
	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
2100	535	1338	.362	27.7	535	1338	.362	27.7
2000	462	1214	.350	23.2	532	1396	.358	27.2
1900	396	1095	.347	19.6	523	1445	.353	26.4
1800	337	983	.347	16.7	507	1480	.349	25.3
1700	284	877	.353	14.3	483	1492	.350	24.1
1600	237	777	.360	12.2	461	1513	.352	23.2
1400	159	594	.370	8.4	335	1258	.363	17.4
1200	100	437	.380	5.4	244	1068	.375	13.1
1000	58	303	.401	3.3	161	845	.378	8.7

D RATING – Planing hull vessels such as off-shore patrol boats, customs, police, and some fire and fishing boats. Also used for bow and stern thrusters.

C Rating – 2100 rpm
358 bkW (480 bhp) 487 mhp



Speed rpm	Prop Demand Curve Data				Max Power Curve Data			
	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2100	358	1628	219	93.4	358	1628	219	93.4
2000	309	1477	216	79.6	357	1705	216	92.2
1900	265	1333	215	67.8	351	1766	214	89.8
1800	225	1196	215	57.8	340	1806	212	86.2
1700	190	1067	218	49.4	325	1826	209	81.1
1600	158	945	222	41.8	310	1851	205	76.0
1400	106	724	229	28.9	245	1672	206	60.2
1200	67	532	236	18.8	181	1441	211	45.5
1000	39	369	251	11.6	120	1146	230	32.9

Speed rpm	Prop Demand Curve Data				Max Power Curve Data			
	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
2100	480	1201	.360	24.7	480	1201	.360	24.7
2000	415	1089	.355	21.0	479	1258	.355	24.4
1900	356	983	.353	17.9	471	1303	.352	23.7
1800	302	882	.353	15.3	456	1332	.349	22.8
1700	255	787	.358	13.1	436	1347	.344	21.4
1600	212	697	.365	11.0	416	1365	.337	20.1
1400	142	534	.376	7.6	329	1233	.339	15.9
1200	90	392	.388	5.0	243	1063	.347	12.0
1000	52	272	.413	3.1	161	845	.378	8.7

C RATING – Vessels such as ferries, harbor tugs, fishing boats moving at higher speeds out and back (i.e. lobster, crayfish, and tuna), off-shore service boats, and also displacement hull yachts and short trip coastal freighters where engine load and speed are cyclical.

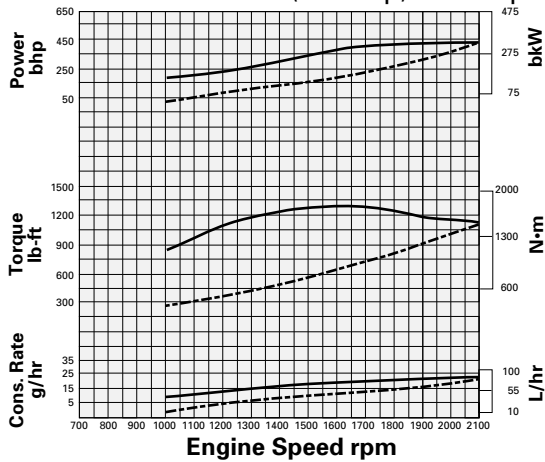
- Prop Demand ----- 3.0 Exponent
- Engine Performance Parameters: Power +/- 3%; Specific Fuel Consumption +/- 3%; Fuel Rate +/- 5%.

3406C MARINE ENGINE – 272-433 bkW



PERFORMANCE CURVES

B Rating – 2100 rpm 328 bkW (440 bhp) 446 mhp



Prop Demand Curve Data

Speed rpm	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2100	328	1492	218	85.2
2000	283	1353	215	72.5
1900	243	1221	214	61.9
1800	207	1096	215	52.9
1700	174	977	219	45.4
1600	145	866	223	38.5
1400	97	663	230	26.7
1200	61	487	239	17.4
1000	35	338	255	10.8

Max Power Curve Data

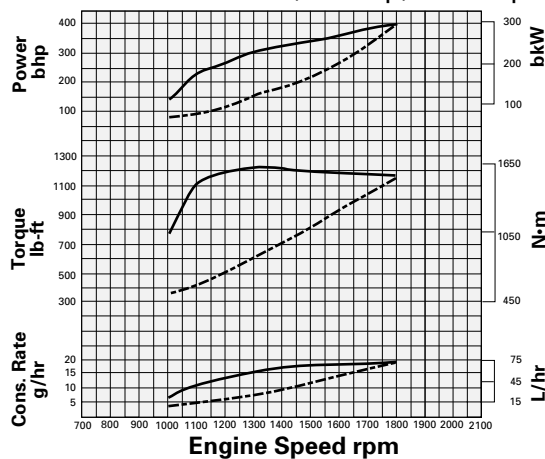
Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
328	1492	218	85.2
326	1554	213	82.7
320	1608	210	80.2
311	1651	209	77.6
299	1677	212	75.4
281	1680	214	71.9
245	1667	221	64.5
182	1448	228	49.5
120	1146	230	32.9

Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
2100	440	1100	.358	22.5
2000	380	998	.353	19.2
1900	326	901	.352	16.4
1800	277	808	.353	14.0
1700	233	721	.360	12.0
1600	195	639	.367	10.2
1400	130	489	.378	7.1
1200	82	359	.393	4.6
1000	47	249	.419	2.9

Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
440	1100	.358	22.5
437	1146	.350	21.8
429	1186	.345	21.2
417	1218	.344	20.5
400	1237	.349	19.9
377	1239	.352	19.0
328	1230	.363	17.0
244	1068	.375	13.1
161	845	.378	8.7

B RATING – Vessels such as mid-water trawlers, purse seiners, crew and supply boats, ferries, and towboats where locks, sandbars, and curves dictate frequent slowing, and engine load and speed are constant with some cycling.

B Rating – 1800 rpm 298 bkW (400 bhp) 406 mhp



Prop Demand Curve Data

Speed rpm	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
1800	298	1581	207	73.6
1700	251	1410	209	62.6
1600	209	1249	213	53.1
1500	173	1098	216	44.5
1400	140	956	219	36.6
1300	112	825	222	29.7
1200	88	703	224	23.6
1100	68	590	230	18.6
1000	51	488	239	14.6

Max Power Curve Data

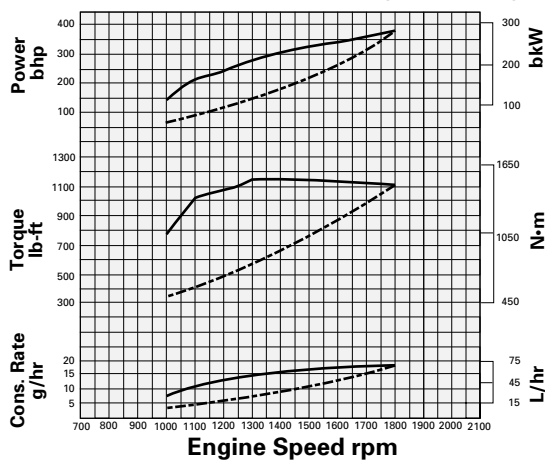
Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
298	1581	207	73.6
284	1594	208	70.5
269	1608	210	67.4
255	1621	211	64.1
240	1635	212	60.7
225	1649	214	57.3
203	1615	216	52.3
174	1506	222	45.9
109	1045	225	29.3

Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
1800	400	1166	.340	19.4
1700	337	1040	.344	16.5
1600	281	921	.350	14.0
1500	231	810	.355	11.8
1400	188	705	.360	9.7
1300	151	608	.365	7.8
1200	118	519	.368	6.2
1100	91	435	.378	4.9
1000	69	360	.393	3.9

Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
400	1166	.340	19.4
381	1176	.342	18.6
361	1186	.345	17.8
342	1196	.347	16.9
321	1206	.349	16.0
301	1216	.352	15.1
272	1191	.355	13.8
233	1111	.365	12.1
147	771	.370	7.7

B RATING – Vessels such as mid-water trawlers, purse seiners, crew and supply boats, ferries, and towboats where locks, sandbars, and curves dictate frequent slowing, and engine load and speed are constant with some cycling.

B Rating – 1800 rpm 283 bkW (380 bhp) 385 mhp



Prop Demand Curve Data

Speed rpm	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
1800	283	1501	207	69.9
1700	238	1339	210	59.7
1600	199	1186	214	50.7
1500	164	1043	217	42.4
1400	133	908	220	34.9
1300	107	783	223	28.3
1200	84	667	225	22.5
1100	65	561	232	17.8
1000	49	463	241	14.0

Max Power Curve Data

Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
283	1501	207	69.9
270	1515	209	67.2
256	1529	210	64.2
243	1544	212	61.2
229	1560	213	58.0
212	1555	215	54.1
182	1444	217	46.9
158	1368	222	41.6
109	1045	225	29.3

Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
1800	380	1107	.340	18.5
1700	320	988	.345	15.8
1600	267	875	.352	13.4
1500	220	769	.357	11.2
1400	179	670	.362	9.2
1300	143	578	.367	7.5
1200	113	492	.370	5.9
1100	87	414	.381	4.7
1000	65	341	.396	3.7

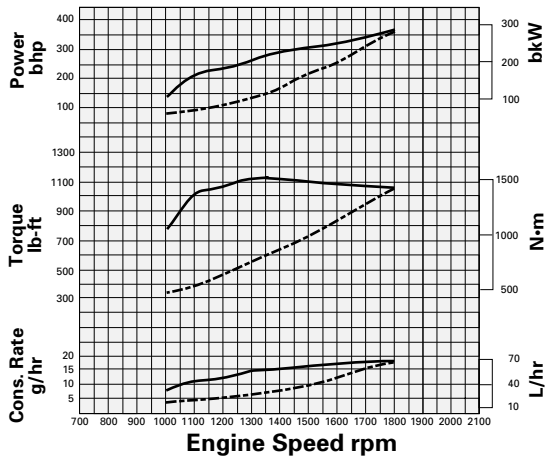
Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
380	1107	.340	18.5
362	1117	.344	17.8
344	1128	.345	17.0
325	1139	.349	16.2
307	1151	.350	15.3
284	1147	.353	14.3
243	1065	.357	12.4
211	1009	.365	11.0
147	771	.370	7.7

B RATING – Vessels such as mid-water trawlers, purse seiners, crew and supply boats, ferries, and towboats where locks, sandbars, and curves dictate frequent slowing, and engine load and speed are constant with some cycling.

- Prop Demand ----- 3.0 Exponent
- Engine Performance Parameters: Power +/- 3%; Specific Fuel Consumption +/- 3%; Fuel Rate +/- 5%.

PERFORMANCE CURVES

A Rating – 1800 rpm 272 bkW (365 bhp) 370 mhp



Prop Demand Curve Data

Speed rpm	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
1800	272	1443	207	67.2
1700	229	1287	211	57.5
1600	191	1140	214	48.8
1500	157	1002	218	40.9
1400	128	873	221	33.7
1300	103	753	223	27.3
1200	81	641	227	21.8
1100	62	539	233	17.3
1000	47	445	243	13.5

Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
1800	365	1064	.340	17.8
1700	307	949	.347	15.2
1600	256	841	.352	12.9
1500	211	739	.358	10.8
1400	172	644	.363	8.9
1300	137	555	.367	7.2
1200	108	473	.373	5.8
1100	83	398	.383	4.6
1000	62	328	.399	3.6

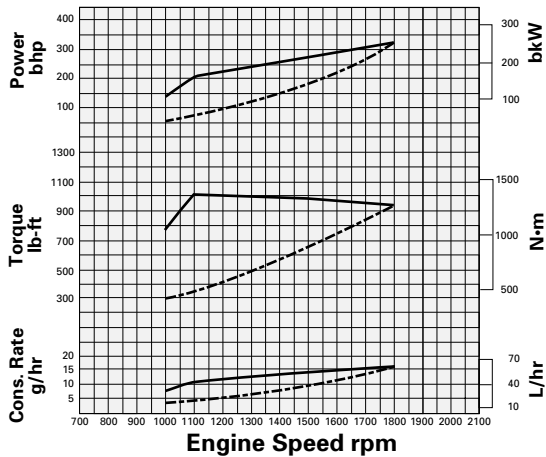
Max Power Curve Data

Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
272	1443	207	67.2
260	1462	209	64.8
248	1477	210	62.1
234	1492	212	59.2
221	1506	213	56.1
207	1519	215	52.9
182	1444	217	46.9
158	1368	222	41.6
109	1045	225	29.3

Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
365	1064	.340	17.8
349	1078	.344	17.1
332	1089	.345	16.4
314	1100	.349	15.6
296	1111	.350	14.8
277	1120	.353	14.0
243	1065	.357	12.4
211	1009	.365	11.0
147	771	.370	7.7

A RATING – For heavy-duty service in vessels such as freighters, tugboats, bottom drag trawlers, and deep river towboats when the engine is operated at rated load and speed up to 100% of the time without interruption or load cycling.

A Rating – 1800 rpm 240 bkW (322 bhp) 327 mhp



Prop Demand Curve Data

Speed rpm	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
1800	240	1273	209	59.9
1700	202	1136	213	51.4
1600	169	1006	217	43.6
1500	139	884	221	36.5
1400	113	770	223	30.1
1300	90	664	227	24.4
1200	71	566	231	19.6
1100	55	475	239	15.6
1000	41	393	249	12.2

Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
1800	322	939	.344	15.8
1700	271	838	.350	13.6
1600	226	742	.357	11.5
1500	186	652	.363	9.6
1400	151	568	.367	8.0
1300	121	490	.373	6.4
1200	95	417	.380	5.2
1100	73	350	.393	4.1
1000	55	290	.409	3.2

Max Power Curve Data

Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
240	1273	209	59.9
231	1297	211	58.0
221	1316	212	55.8
209	1331	214	53.2
197	1343	214	50.3
184	1351	216	47.3
170	1355	217	44.1
157	1363	221	41.4
109	1045	225	29.3

Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
322	939	.344	15.8
310	957	.347	15.3
296	971	.349	14.7
280	982	.352	14.1
264	991	.352	13.3
247	996	.355	12.5
228	999	.357	11.6
211	1005	.363	10.9
147	771	.370	7.7

A RATING – For heavy-duty service in vessels such as freighters, tugboats, bottom drag trawlers, and deep river towboats when the engine is operated at rated load and speed up to 100% of the time without interruption or load cycling.

- Prop Demand ----- 3.0 Exponent
- Engine Performance Parameters: Power +/- 3%; Specific Fuel Consumption +/- 3%; Fuel Rate +/- 5%.

RATING DEFINITIONS AND CONDITIONS

Ratings are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in Hg) and 25° C (77° F). These ratings also apply at ISO3046/1, DIN6271, 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/liter (7.001 lbs/U.S. gal).

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