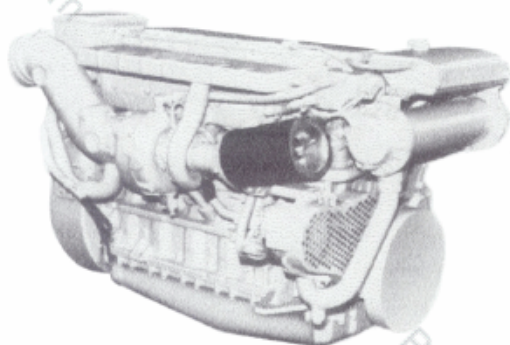


CATERPILLAR

Marine Engine

3116

153-261 bkW/205-350 bhp
2400-2800 rpm



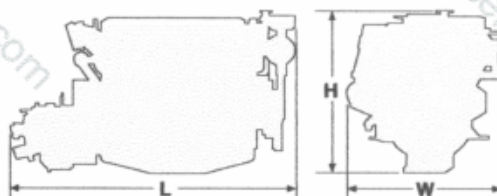
Shown with
Accessory Equipment

MARINE TRANSMISSION*

Marine Transmissions	Ratios	Dry Weight kg (lb)
MG5050	1.53:1, 2.04:1, 2.43:1	86 (189)
MG5061	1.48:1, 2.00:1, 2.43:1	98 (215)
MG506-1	1.5:1, 1.97:1, 2.5:1	100 (220)
MG506A	1.5:1, 1.97:1	125 (275)
MG507-1*	1.51:1, 1.98:1, 2.54:1, 2.99:1	159 (350)
MG5061A	1.54:1, 2.00:1, 2.47:1	95 (210)

*Transmission selection depends on input power, speed, ratio, and vessel application. Consult your Caterpillar dealer.

DIMENSIONS



TA Shown with Accessory Equipment

DIMENSIONS

	L		H		W	
	mm	in	mm	in	mm	in
MG5050	1605	63.2	860	33.8	816	32.1
MG5061	1663	65.5	860	33.8	816	32.1
MG506-1	1518	59.8	860	33.8	816	32.1
MG506A	1535	60.4	860	33.8	816	32.1
MG507-1*	1595	62.8	860	33.8	816	32.1
MG5061A	1663	65.5	860	33.8	816	32.1

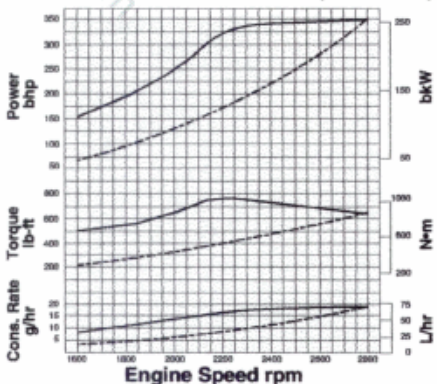
Power produced at the flywheel will be within standard tolerances up to 50° C (122° F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52° C (125° F) measured at the fuel filter base. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft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





PERFORMANCE CURVES

E Rating – 2800 rpm 261 kW (350 bhp) 355 mhp



Prop Demand Curve Data

Speed rpm	Power kW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2800	261	890	233	72.5
2600	209	768	218	64.3
2400	164	654	218	42.7
2200	127	550	220	33.2
2000	95	454	223	25.2
1800	69	368	225	18.6
1600	49	291	231	13.4
1400	33	223	246	9.6
1200	21	163	273	6.7

Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
2800	350	656	.383	19.2
2600	280	566	.358	14.3
2400	220	482	.358	11.3
2200	170	406	.362	8.8
2000	128	335	.366	6.7
1800	93	271	.370	4.9
1600	65	215	.379	3.5
1400	44	164	.404	2.5
1200	27	120	.449	1.8

TMI — TM9693-00

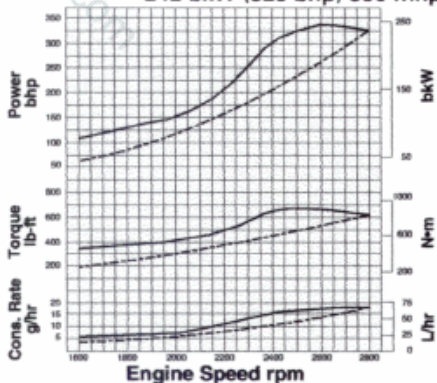
Max Power Curve Data

Power kW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
260	886	233	72.0
257	945	221	67.9
255	1013	221	67.0
243	1053	221	64.0
187	891	221	49.2
142	753	222	37.6
114	682	230	31.3
87	592	238	24.6
59	473	245	17.3

Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
348	653	.382	19.0
345	697	.364	17.9
341	747	.363	17.7
325	777	.363	16.9
250	657	.363	13.0
190	555	.366	9.9
153	503	.377	8.3
116	437	.391	6.5
80	349	.403	4.6

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

E Rating – 2800 rpm 242 kW (325 bhp) 330 mhp



Prop Demand Curve Data

Speed rpm	Power kW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2800	242	827	231	66.6
2600	194	713	220	50.9
2400	153	607	218	39.6
2200	118	510	218	30.6
2000	88	422	220	23.2
1800	64	342	224	17.2
1600	45	270	232	12.5
1400	30	207	251	9.1
1200	19	152	285	6.5

Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
2800	325	610	.379	17.6
2600	260	526	.362	13.4
2400	205	448	.358	10.5
2200	158	376	.359	8.1
2000	118	311	.362	6.1
1800	86	252	.368	4.5
1600	61	199	.382	3.3
1400	41	153	.413	2.4
1200	26	112	.468	1.7

TMI — DM3308-00

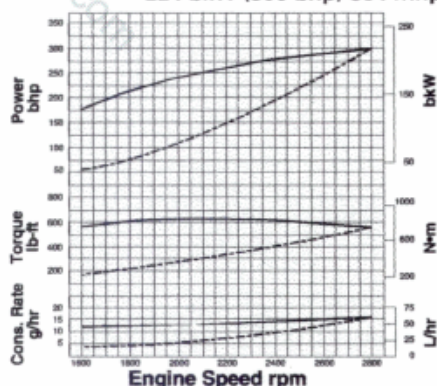
Max Power Curve Data

Power kW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
242	827	231	66.6
250	919	220	65.6
228	905	216	58.6
151	657	216	39.1
109	521	218	28.4
98	520	221	25.8
82	487	225	21.9
66	452	228	18.0
52	416	229	14.3

Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
325	610	.379	17.6
336	678	.361	17.3
305	667	.355	15.5
203	485	.356	10.3
146	384	.358	7.5
131	384	.363	6.8
109	359	.370	5.8
89	333	.375	4.8
70	307	.376	3.8

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

E Rating – 2800 rpm 224 kW (300 bhp) 304 mhp



Prop Demand Curve Data

Speed rpm	Power kW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2800	224	764	224	59.8
2600	179	659	217	46.3
2400	141	561	218	36.6
2200	109	472	220	28.5
2000	82	390	222	21.6
1800	60	316	225	16.0
1600	42	249	235	11.7
1400	28	191	258	8.6
1200	18	140	296	6.2

Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
2800	300	563	.368	15.8
2600	240	486	.356	12.2
2400	189	414	.358	9.7
2200	146	348	.361	7.5
2000	109	288	.364	5.7
1800	80	233	.370	4.2
1600	56	184	.387	3.1
1400	38	141	.424	2.3
1200	24	103	.486	1.6

TMI — TM8446-02

Max Power Curve Data

Power kW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
224	764	224	59.8
217	796	217	56.2
206	831	214	53.7
196	852	213	49.7
182	868	217	46.9
158	838	241	45.4
131	783	299	46.7
101	688	362	43.5
70	558	421	35.2

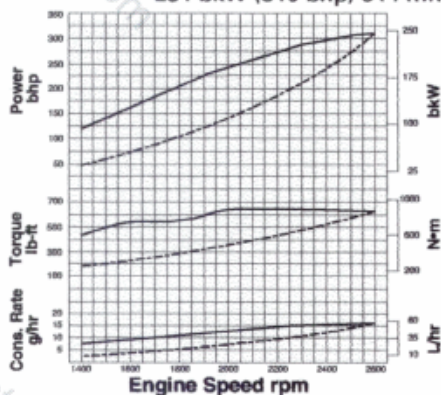
Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
300	563	.368	15.8
291	587	.357	14.8
280	613	.351	14.1
263	628	.350	13.1
244	640	.356	12.4
212	618	.396	12.0
176	578	.491	12.3
135	507	.595	11.5
94	412	.693	9.3

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

- Prop Demand ——— 3.8 Exponent
- Engine Performance Parameters: Power +/- 3%; Specific Fuel Consumption +/- 3%; Fuel Rate +/- 5%.

3116 MARINE ENGINE - 153-261 bkW**CATERPILLAR®****PERFORMANCE CURVES****D Rating - 2600 rpm**

231 bkW (310 bhp) 314 mhp

**Prop Demand Curve Data**

Speed rpm	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2600	231	848	228	62.9
2400	182	723	223	48.3
2200	140	607	223	37.2
2000	105	502	225	28.2
1800	77	407	228	20.8
1600	54	321	236	15.1
1400	36	246	248	10.7
1200	23	181	270	7.3

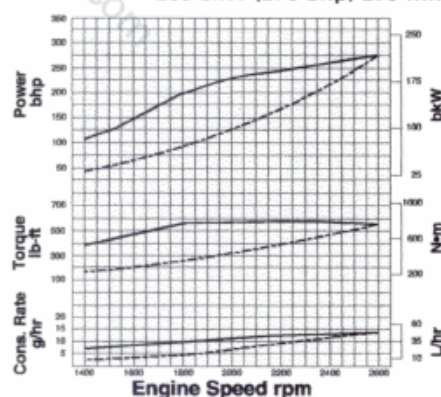
TMI - TM9694-00**Max Power Curve Data**

Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
231	848	228	62.9
219	872	227	59.4
205	890	231	56.3
186	888	237	52.5
144	762	247	42.2
128	767	256	39.1
88	599	269	28.1
69	551	277	22.9

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

D Rating - 2600 rpm

205 bkW (275 bhp) 279 mhp

**Prop Demand Curve Data**

Speed rpm	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2600	205	753	216	52.9
2400	161	642	218	41.8
2200	124	539	219	32.4
2000	93	446	220	24.4
1800	68	361	223	18.1
1600	48	285	231	13.2
1400	32	218	249	9.5
1200	20	160	278	6.7

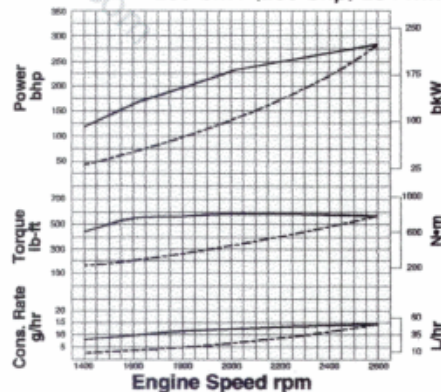
TMI - TM8447-02**Max Power Curve Data**

Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
205	753	216	52.9
194	773	215	49.8
183	793	214	46.7
170	810	216	43.7
148	785	228	40.2
106	634	253	32.0
79	538	280	26.3
63	497	306	22.8

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

C Rating - 2600 rpm

209 bkW (280 bhp) 284 mhp

**Prop Demand Curve Data**

Speed rpm	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2600	209	788	225	56.0
2400	164	654	222	43.5
2200	127	550	224	33.7
2000	95	454	226	25.6
1800	69	368	230	19.0
1600	49	291	239	13.9
1400	33	223	253	9.8
1200	21	164	279	6.8

TMI - TM9695-00**Max Power Curve Data**

Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
209	788	225	56.0
198	788	225	53.0
185	804	226	50.0
169	807	232	46.8
144	762	246	42.0
127	759	257	38.9
88	599	269	28.1
69	551	277	22.9

C RATING - 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.

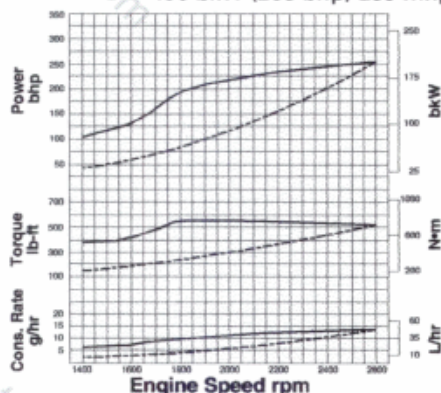
Prop Demand - - - - - 3.0 Exponent

Engine Performance Parameters: Power +/- 3%;

Specific Fuel Consumption +/- 3%; Fuel Rate +/- 5%.

3116 MARINE ENGINE - 153-261 bkW**PERFORMANCE CURVES****C Rating - 2600 rpm**

190 bkW (255 bhp) 259 mhp

**Prop Demand Curve Data**

Speed rpm	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2600	190	698	218	49.3
2400	149	595	215	38.4
2200	115	500	218	29.9
2000	87	413	221	22.8
1800	63	334	225	16.9
1600	44	264	231	12.2
1400	30	202	243	8.6
1200	19	149	266	5.9

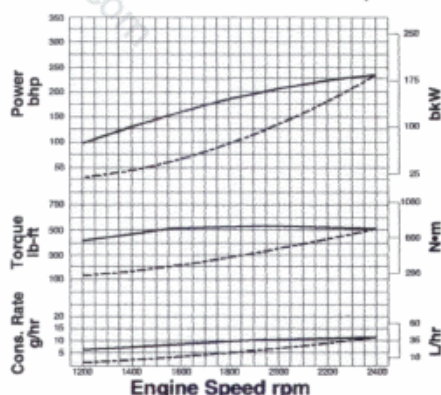
TMI - TM8448-02**Max Power Curve Data**

Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
190	698	218	49.3
186	741	214	47.4
174	757	213	44.2
161	768	215	41.3
147	777	221	38.6
96	574	236	27.1
77	521	265	24.1
62	491	261	19.2

C RATING - 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.

A, B Rating - 2400 rpm

172 bkW (230 bhp) 233 mhp

**Prop Demand Curve Data**

Speed rpm	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2400	172	682	215	44.0
2200	132	573	218	34.3
2000	99	474	221	26.1
1800	72	384	217	18.7
1600	51	303	221	13.4
1400	34	232	240	9.7
1200	21	171	271	6.9

Max Power Curve Data

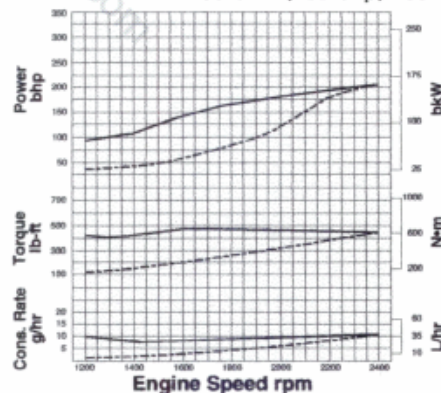
Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
172	682	215	44.0
163	707	214	41.5
152	726	218	39.3
138	733	224	36.9
119	713	239	33.9
97	664	256	29.7
72	572	273	23.4

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

B RATING - Vessels such as midwater 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.

A, B Rating - 2400 rpm

153 bkW (205 bhp) 208 mhp

**Prop Demand Curve Data**

Speed rpm	Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
2400	153	609	213	38.8
2200	118	512	216	30.3
2000	89	423	220	23.2
1800	65	342	226	17.3
1600	45	271	231	12.5
1400	30	207	242	8.8
1200	19	152	259	5.9

Max Power Curve Data

Power bkW	Torque N-m	Fuel Cons g/bkW-hr	Fuel Rate L/hr
153	609	213	38.8
145	628	213	36.7
135	643	215	34.5
122	648	219	32.0
109	651	247	32.1
81	554	313	30.4
71	566	446	37.8

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

B RATING - Vessels such as midwater 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%.

3116 MARINE ENGINE – 153-261 bkW**STANDARD ENGINE EQUIPMENT****Air intake**

dry-type, single-stage air cleaner with service indicator

Alternator

belt driven, 12 volt, 51 ampere

Cooling

transmission oil cooler, heat exchanger, engine oil cooler, watercooled exhaust manifold, auxiliary sea water pump, expansion tank, low water level contactor thermostats

Flywheel and housing

SAE No. 3, rear-mounted starter

Fuel

filter, shutoff solenoid — energized to run, forward routed control cable bracket

Governor

mechanical

Lubricating

oil filter, filler, dipstick

Starting

electric

Torsional vibration damper

Tachometer drive
magnetic pickup

ACCESSORY EQUIPMENT**Air intake**

walker airsep

Alternator

belt driven – 24 volt, 35 ampere; belt driven – 24 volt, 60 ampere; belt driven – 12 volt, 105 ampere

Cruise kit**Exhaust**

6" watercooled elbow, 5" dry elbow

Flexible engine mounts**Flywheel and housing**

SAE No. 3, front-mounted starter

SAE No. 2, front-mounted starter

Fuel

rear-routed control cable bracket, RH fuel filter, fuel/water separator, shutoff solenoid – energized to shutoff

Fuel

cooler, priming pump

Instruments and gauges

service meter, single and dual instrument panels

Lubrication

left hand mounted oil filter, filler, dipstick
top access oil filler and dipstick

Power takeoffs

front crankshaft mounted pulley, front mounted enclosed clutch, hydraulic pump drive pad

Protection devices

oil pressure and water temperature contactor

Support

flywheel housing mounted rear supports
front engine support
transmission mounted rear supports



3116 MARINE ENGINE – 153-261 bkw

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.

Materials and specifications are subject to change without notice.

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

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Supersedes LEHM7059-02

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