



CUMMINS MERCUISER DIESEL
Charleston, SC 29405
Marine Performance Curves

Basic Engine Model
270B

Curve Number:
M-90806

Engine Configuration
D403045MX02

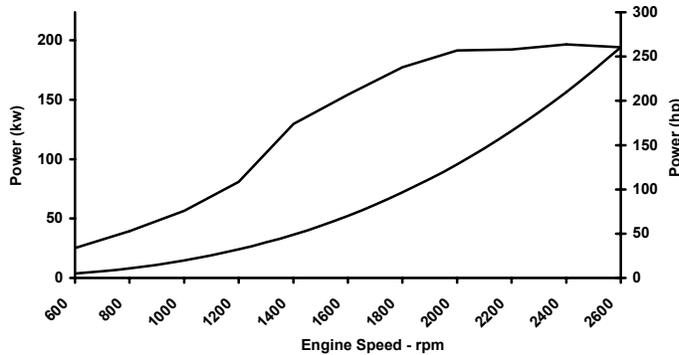
CPL Code:
2956

Date:
18-May-06

Displacement: **5.9 liter [359 in³]**
 Bore: **102 mm [4.02 in]**
 Stroke: **120 mm [4.72 in]**
 Fuel System: **Inline Bosch P7100**
 Cylinders: **6**

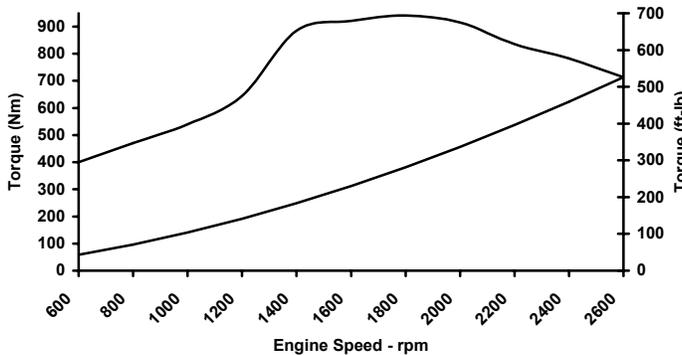
kW [bhp, mhp] @ rpm
 Advertised Power: **194 [260, 270] @ 2600**
 Aspiration: **Turbocharged / Jacket Water Aftercooled**
 Rating Type: **High Output**

CERTIFIED: This marine diesel engine conforms with the NOx requirements of the International Maritime Organization (IMO), MARPOL 73/78 Annex VI, Regulation 13 as applicable.



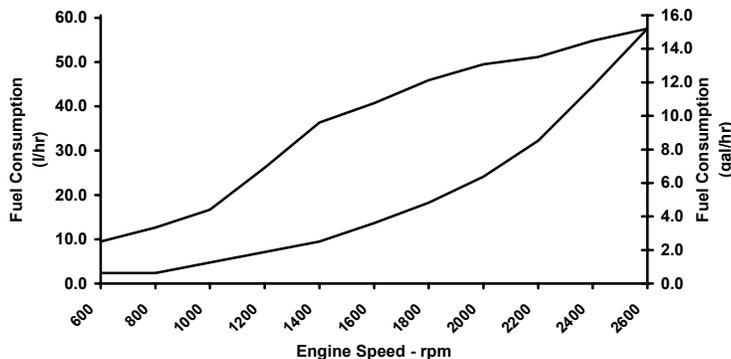
RATED POWER OUTPUT CURVE

rpm	kw	bhp
2600	194	260
2400	197	264
2200	192	258
2000	192	257
1800	177	238
1600	154	207
1400	130	174
1200	81	109
1000	57	76
800	39	53
600	25	34



FULL LOAD TORQUE CURVE

rpm	N-m	ft-lb
2600	713	526
2400	782	577
2200	835	616
2000	915	675
1800	941	694
1600	921	679
1400	884	652
1200	644	475
1000	540	398
800	470	347
600	400	295



FUEL CONSUMPTION - PROP CURVE

rpm	l/hr	gal/hr
2600	57.5	15.2
2400	44.6	11.8
2200	32.3	8.5
2000	24.1	6.4
1800	18.3	4.8
1600	13.6	3.6
1400	9.5	2.5
1200	7.1	1.9
1000	4.8	1.3
800	2.4	0.6
600	2.4	0.6

Rated Conditions: Ratings are based upon ISO 8665 and SAE J1228 reference conditions; air pressure of 100 kPa [29.612 in Hg], air temperature 25deg. C [77 deg. F] and 30% relative humidity. Power is in accordance with IMCI procedure. Member NMMA.

Rated Curves (upper) represents rated power at the crankshaft for mature gross engine performance capabilities obtained and corrected in accordance with ISO 3046. Propeller Curve (lower) is based on a typical fixed propeller demand curve using a 2.7 exponent. Propeller Shaft Power is approximately 3% less than rated crankshaft power after typical reverse/reduction gear losses and may vary depending on the type of gear or propulsion system used.

Fuel Consumption is based on fuel of 35 deg. API gravity at 16 deg C [60 deg. F] having LHV of 42,780 kJ/kg [18390 Btu/lb] and weighing 838.9 g/liter [7.001 lb/U.S. gal].

High Output (HO) Intended for use in variable load applications where full power is limited to one (1) hour out of every eight (8) hours of operation. Also, reduced power must be at or below 200 rpm of the maximum rated rpm. This power rating is for pleasure/non-revenue generating applications that operate 500 hours per year or less.

CHIEF ENGINEER

Propulsion Marine Engine Performance Data

Curve No. **M-90806**
DS : **4960**
CPL : **2956**
DATE: **18-May-06**

General Engine Data

Engine Model	270B
Rating Type	High Output
Rated Engine Power	194 [260] kW [hp]
Rated Engine Speed	2600 rpm
Rated Power Production Tolerance	±% 5
Rated Engine Torque	713 [526] N·m [lb-ft]
Peak Engine Torque @ 1800 rpm	942 [695] N·m [lb-ft]
Brake Mean Effective Pressure	1523 [221] kPa [psi]
Indicated Mean Effective Pressure	N.A. [N.A.] kPa [psi]
Minimum Idle Speed Setting	600 rpm
Normal Idle Speed Variation	50 rpm
High Idle Speed Range Minimum	2900 rpm
Maximum	3000 rpm
Maximum Allowable Engine Speed	N.A. rpm
Maximum Torque Capacity from Front of Crank ²	N.A. [N.A.] N·m [lb-ft]
Compression Ratio	15.3:1
Piston Speed	10.4 [2047] m/sec [ft/min]
Firing Order	1-5-3-6-2-4
Weight (Dry) - Engine With Heat Exchanger System - Average	517 [1140] kg [lb]

Fuel System¹

Fuel Consumption at Rated Speed	57.5 [15] l/hr [gal/hr]
Approximate Fuel Flow to Pump	238.5 [63] l/hr [gal/hr]
Maximum Allowable Fuel Supply to Pump Temperature	60.0 [140] °C [°F]
Approximate Fuel Flow Return to Tank	180.9 [48] l/hr [gal/hr]
Approximate Fuel Return to Tank Temperature	40.6 [105] °C [°F]
Maximum Heat Rejection to Drain Fuel	2.0 [118] kW [Btu/min]
Fuel Transfer Pump Pressure Range	151.7 [22] kPa [psi]

Air System¹

Intake Manifold Pressure	213 [63] kPa [in Hg]
Intake Air Flow	276 [585] l/sec [cfm]
Heat Rejection to Ambient	20 [1163] kW [Btu/min]

Exhaust System¹

Exhaust Gas Flow	642 [1360] l/sec [cfm]
Exhaust Gas Temperature (Turbine Out)	475 [886] °C [°F]
Exhaust Gas Temperature (Manifold)	N.A. [N.A.] °C [°F]

Emissions (in accordance with ISO 8178 Cycle E3)

NOx (Oxides of Nitrogen)	7.99 [5.96] g/kw-hr [g/hp-hr]
HC (Hydrocarbons)	N.A. [N.A.] g/kw-hr [g/hp-hr]
CO (Carbon Monoxide)	N.A. [N.A.] g/kw-hr [g/hp-hr]
PM (Particulate Matter)	N.A. [N.A.] g/kw-hr [g/hp-hr]

Cooling System¹

Sea Water After Cooled Engine

Sea Water Pump Specifications	MAB 0.08.17-07/16/2001
Pressure Cap Rating	103 [15] kPa [psi]
Thermostat Operating Range (Start to Open)	83 [181] °C [°F]
Thermostat Operating Range(Full Open)	95 [203] °C [°F]

TBD= To Be Determined

N/A = Not Applicable

N.A. = Not Available

¹ All Data at Rated Conditions.

² Consult Installation Direction Booklet for Limitations.

³ Heat rejection to coolant values are based on 50% water/50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴ Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

⁵ May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.

CUMMINS ENGINE COMPANY, INC
COLUMBUS, INDIANA

All Data is Subject to Change Without Notice - Consult the following Cummins intranet site for most recent data:

<http://www.cummins.com>