



CUMMINS ENGINE COMPANY, INC
Columbus, Indiana 47201

Marine Performance Curve

Basic Engine Model:
6CTA8.3-M (JW)

Curve Number:
M-90726

Marine
Pg. No.
6C
61

Engine Configuration:
D413046MX02

CPL Code:
2833

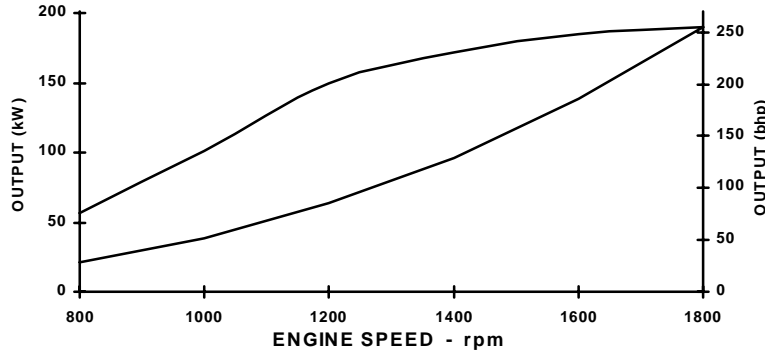
Date:
28Aug04

Displacement: **8.3 liters [504.5 in.³]**
Bore: **114 mm [4.49 in.]**
Stroke: **135 mm [5.32 in.]**
Fuel System: **Inline Bosch P3000 RSV**
Cylinders: **6**

Advertised Power: **190 (255) @ 1800** kW [bhp] @ rpm

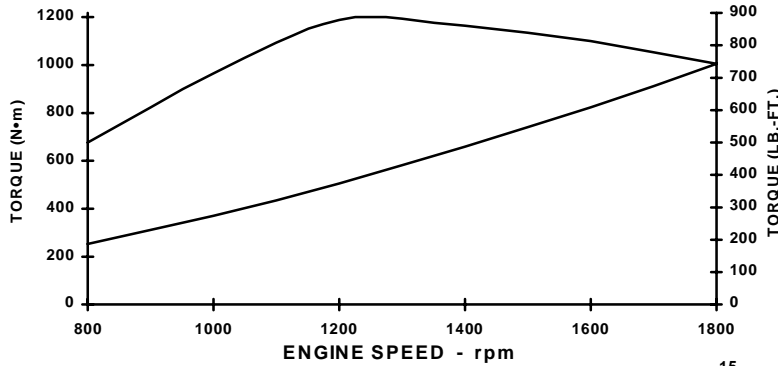
Aspiration: **Turbocharged / Jacket Water Aftercooled**
Rating Type: **Continuous**

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.



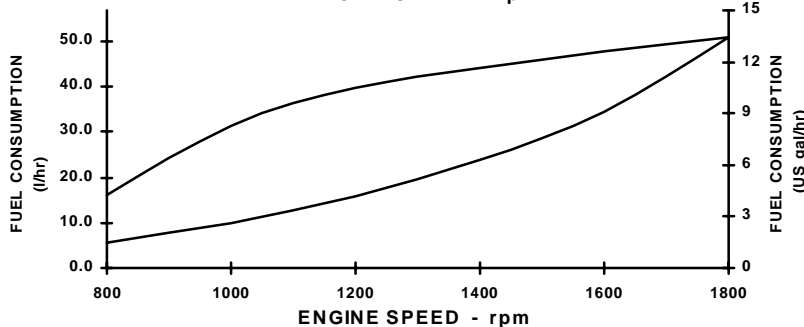
RATED POWER OUTPUT CURVE

rpm	kW	bhp
1800	190	255
1600	185	248
1400	172	230
1200	150	201
1000	101	136
800	57	76



FULL LOAD TORQUE CURVE

rpm	Nm	lb.-ft.
1800	1010	745
1600	1102	813
1400	1170	863
1200	1193	880
1000	967	713
800	677	499



FUEL CONSUMPTION - PROP CURVE

rpm	l/hr	gal/hr
1800	50.9	13.4
1600	34.4	9.1
1400	23.7	6.3
1200	15.9	4.2
1000	9.8	2.6
800	5.6	1.5

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

Rated Curves (upper) represent 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° API gravity at 16°C [60°F] having LHV of 42,780 kJ/kg [18390 Btu/lb] and weighing 838.9 g/liter [7.001 lb/U.S. gal].

Continuous Rating: This power rating is intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO 3046 Standard Power Rating.

CHIEF ENGINEER

Marine Engine Performance Data

Curve No. M-90726
DS-4961
CPL: 2833
DATE: 28Aug04

General Engine Data

Engine Model	6CTA8.3-M (JW)
Rating Type	Continuous
Rated Engine Power	190 [255] kW [HP]
Rated Engine Speed	1800 rpm
Rated HP Production Tolerance	±5 %
Rated Engine Torque	1009 [744] Nm [ft/lb]
Peak Engine Torque @ 1200 RPM	1193 [880] Nm [ft/lb]
Brake Mean Effective Pressure	1533 [222] kPa [PSI]
Minimum Idle Speed Setting	680 rpm
Normal Idle Speed Variation	±50 rpm
High Idle Speed Range - Minimum	2025 rpm
High Idle Speed Range - Maximum	2125 rpm
Compression Ratio	16.8:1
Piston Speed	8.1 [1596] m/sec [ft/min]
Maximum Torque Capacity from Front of Crank ²	N.A.
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	712 [1570] kg [lb]
Weight (Dry) Engine With Heat Exchanger System - Average	767 [1690] kg [lb]

Fuel System¹

Fuel Consumption @ Rated Speed	51 [13] liter/hr [GPH]
Approximate Fuel Flow to Pump	110 [29] liter/hr [GPH]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140] °C [°F]
Approximate Fuel Flow Return to Tank	59 [16] liter/hr [GPH]
Approximate Fuel Return to Tank Temperature	42 [108] °C [°F]
Maximum Heat Rejection to Drain Fuel⁵	7 [374] kW [BTU/min]
Fuel Transfer Pump Pressure Range	124 - 172 [18-25] kPa [PSI]

Air System¹

Intake Manifold Pressure	1240 [49] mm Hg [in. Hg]
Intake Air Flow	250 [529] liter/sec [CFM]
Heat Rejection to Ambient	11 [600] kW [BTU/min]

Exhaust System¹

Exhaust Gas Flow	541 [1146] liter/sec [CFM]
Exhaust Gas Temperature (Turbine Out)	419 [785] °C [°F]
Exhaust Gas Temperature (Manifold)	594 [1100] °C [°F]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	7.68 [5.73] g/kw-hr [g/bhp-hr]
HC (Hydrocarbons)	0.44 [0.33] g/kw-hr [g/bhp-hr]
CO (Carbon Monoxide)	0.44 [0.33] g/kw-hr [g/bhp-hr]
PM (Particulate Matter)	0.19 [0.14] g/kw-hr [g/bhp-hr]

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler	227 [60] liter/min [GPM]
Standard Thermostat Operating Range (Min.)	71 [160] °C [°F]
Standard Thermostat Operating Range (Max.)	77 [170] °C [°F]
Heat Rejection to Engine Coolant ³	160 [9100] kW [BTU/min]
Sea Water Flow (With Heat Exchanger Option) ⁴	208 [55] liter/min [GPM]
Pressure Cap Rating (With Heat Exchanger Option)	103 [15] kPa [PSI]

INSTALLATION DIAGRAMS:

3884600

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection 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.

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

⁵May 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>