



Marine Engine Performance Data
Dongfeng Cummins Engine Co., Ltd.
Xiangfan, Hubei Province, China
<http://www.dcec.com.cn>

Basic Engine Model:
6BTA5.9-M150

150 BHP (110kW) @ 2200 RPM

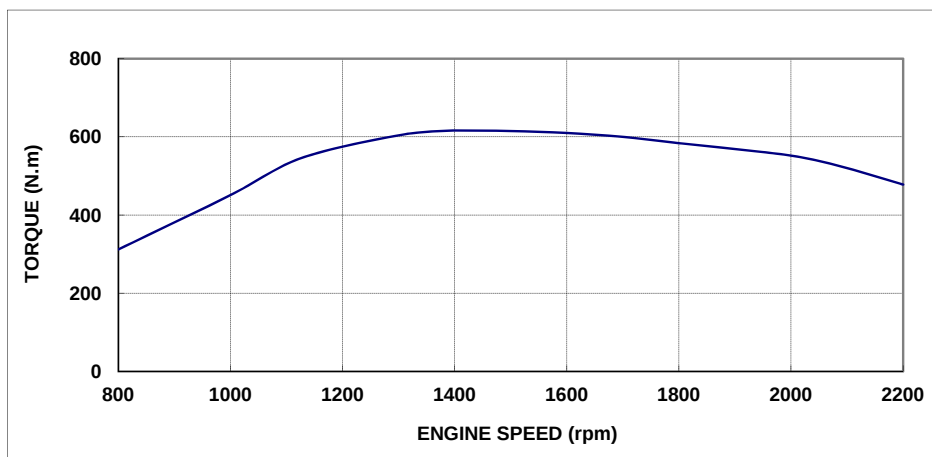
Configuration	CPL Code	Revision
D403045MX02	3111	2007-3-25

Compression Ratio: **17.3:1**
Bore: **102 mm**
Stroke: **120 mm**

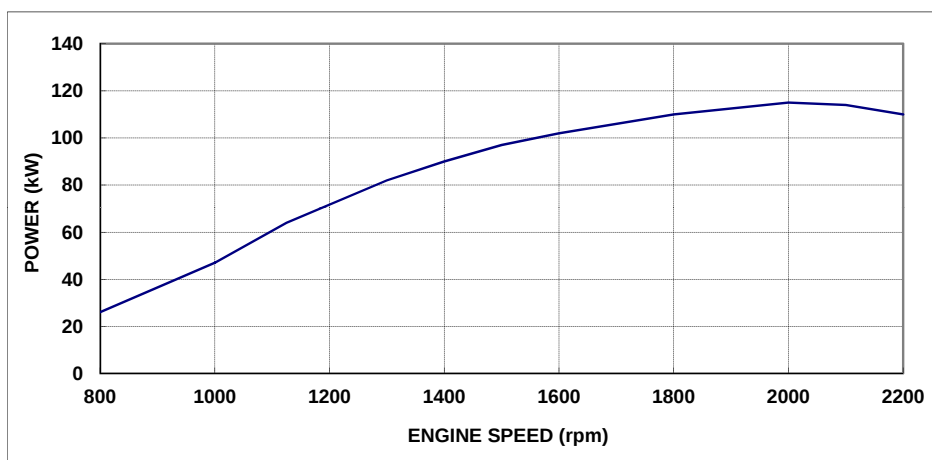
Aspiration: **Turbocharged & Aftercooled**
Displacement: **5.9 L**
No. of Cylinders: **6**
Fuel System: **WEIFU AD/RSV**

All data is based on the engine operating with fuel system, water pump, and 10 in H₂O (2.488 kPa) inlet air restriction with 5.98 in (152 mm) inner diameter, and with 2.01 in Hg (7 kPa) exhaust restriction with 4.02 in (102 mm) inner diameter; not included are alternator, fan, optional equipment and driven components. Coolant flows and heat rejection data based on coolants as 50% ethylene glycol/50% water. All data is subject to change without notice.

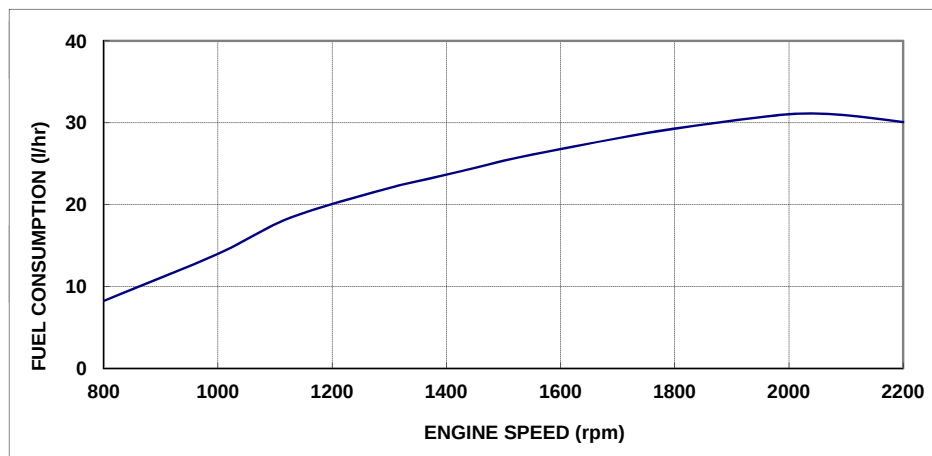
Performance curve



Torque Output	
rpm	N.m
2200	478
2000	552
1800	584
1700	600
1500	615
1300	604
1125	545
800	312



Power Output	
rpm	kW
2200	110
2000	115
1800	110
1700	106
1500	97
1300	82
1125	64
800	26



Fuel Consumption	
rpm	l/hr
2200	30
2000	31
1800	29
1700	28
1500	25
1300	22
1125	18
800	8

Curves shown above represent gross engine performance capabilities obtained and corrected in accordance with GB/T18297 conditions of 100kPa (29.61 in. Hg) barometric pressure [80 m (263 ft.) altitude], 25°C (77°F) inlet air temperature, and 1 kPa (0.30 in. Hg) water vapor pressure with No.0# diesel fuel.

GENERAL ENGINE DATA

Engine Model.....	6BTA5.9-M150
Rating Type	Continuous
Rated Engine Power.....-kW [bhp]	110kW (150 BHP)
Rated Engine Speed.....-rpm	2200
Max Power.....-kW	120
Max Power Speed.....-rpm	2270
Idle Speed Setting.....-rpm	750±100
High Idle Speed	2460
Compression Ratio	17.3:1
Piston Speed*	8.8
Firing Order.....	1-5-3-6-2-4
Weight (Dry) Engine only - Average.....-kg	443
Center of Gravity from Front Face of Block.....-mm	391
Center of Gravity above Crankshaft Centerline.....-mm	140

ENGINE MOUNTING

Maximum (Static) Bending Moment at Front Support Mounting Surface.....-N•m	435
Maximum (Static) Bending Moment at Rear Fax 541.....-N•m	1356
Installation/Operating Angles - Engine Installation 17.3:1	
-In-Line drive: Installation: Static Installed Engine Pitch Angle	
-Engine Front Up From Horizontal Min.	12°
-Engine Front Up From Horizontal..... Max.	12°
-Vee Drive: Installation: Static Installed Engine Pitch	
-Engine Front Up From Horizontal Min.	2°
-Engine Front Up From Horizontal Max.	12°

EXHAUST SYSTEM*

Maximum Back Pressure.....-kPa	10
Exhaust Gas Flow.....-litre/sec	365
Exhaust Gas Temperature Turbine In Manifold.....-°C	580
Exhaust Gas Temperature Turbine Out.....-°C	450
Exhaust Pipe Size Normally Acceptable.....-mm	75
Maximum Static Supported Weight at the Turbocharger Outlet Flange.....-N•m	14

AIR INTAKE SYSTEM

Maximum Intake Air Restriction with Heavy Duty Air Cleaner	
— Dirty Element.....-kPa	6.2
— Clean Element.....-kPa	3.7
Maximum Temperature Rise from Ambient to the Inlet of the Turbocharger..-°C	17
Intake Air Flow*.....-kg/h	700
Heat Rejection to Ambient	-kW
Recommended intake piping size (inner diameter).....-mm	75

FUEL SYSTEM

Maximum Fuel Flow on the Supply Side of the Fuel Pump.....-litre/hr	190
Maximum fuel supply restriction at fuel pump inlet	
— with clean fuel filter element(s) at maximum fuel flow.....-kPa	14
— with dirty fuel filter element(s) at maximum fuel flow	-kPa
Maximum fuel drain restriction (total head)	
— before (or without) check valve.....-kPa	69
Maximum fuel inlet temperature.....-°C	60
Approximate Fuel Return to Tank Temperature.....-°C	46

COOLING SYSTEM*

Coolant capacity - engine only.....	-litre	10.4
Minimum water pump inlet pressure with non-deaerating or partially deaerating cooling system.....	-kPa	TBD
Maximum static head of coolant above crankshaft centerline.....	-m	TBD
Standard (modulating) Thermostat Range.....	-°C	82-93
Max. Allowable Block Coolant System Pressure	-kPa	276
Minimum pressure cap rating at sea level.....	-kPa	50
Maximum coolant operating temperature at engine outlet (max. top tank temp):.....	-°C	101.6
Minimum operating block coolant temperature.....	-°C	71
Minimum coolant expansion space (% of system capacity).....	- %	6
Heat Rejection to Coolant.....	-kW	TBD
Maximum recommended external coolant flow restriction in engine circuit:.....	-kPa	34
Maximum deaeration time.....	-min.	25
Minimum drawdown (% total cooling system capacity).....	- %	11
Full ON Fan engine coolant outlet temperature.....	-°C	93

LUBRICATION SYSTEM

Normal Operating Oil Pressure Range		
— minimum low idle.....	-kPa	69
—maximum rated speed.....	-kPa	345
Maximum Lube Oil Flow for Engine Accessories.....	-litre/min.	4.0
Maximum Sump Oil Temperature.....	-°C	127
Minimum Required Lube System Capacity - Sump plus Filters.....	-litre	16.3
By-pass Filtration Required.....	-Yes/No	No
Angularity of Standard Oil Pan: (Values stated are for intermittent operation only):		
— Front Down.....	- °	45
— Front Up.....	- °	45
— Side to Side.....	- °	45

CRANKING SYSTEM

Minimum Battery Capacity - Cold Soak at 0°F (–18°C) or Above		12V	24V
— Engine Only - Cold Cranking Amperes.....	-CCA	950	475
— Engine Only - Reserve Capacity.....	-min.	260	130
Maximum Starting Circuit Voltage Drop.....	-Volts	TBD	
Minimum Ambient Temperature for Unaided Cold Start.....	-°C(°F)	-12	
Minimum Cranking Speed Required for Unaided Cold Start.....	-rpm	120	
Maximum starting circuit resistance.....	-Ohm	0.00075	0.002

EMISSIONS DATA

NO _x (Oxides of Nitrogen).....	-g/kW.h	TBD
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*All Data at Rated Conditions

ALL DATA CERTIFIED WITHIN 5%

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

All data is subject to change without notice, sorry for inform.

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