

Cummins

Technical Operations



ENGINE MODEL: 6CTA8.3-C260
CURVE & DATASHEET: FR92617

Rev00 Mar 15, 2008



Engine Performance Curve

Basic Engine Model:
6CTA8.3-C260

Curve Number:
FR92617

Pg. No.:

Engine Family:
D41

CPL Code:
0399

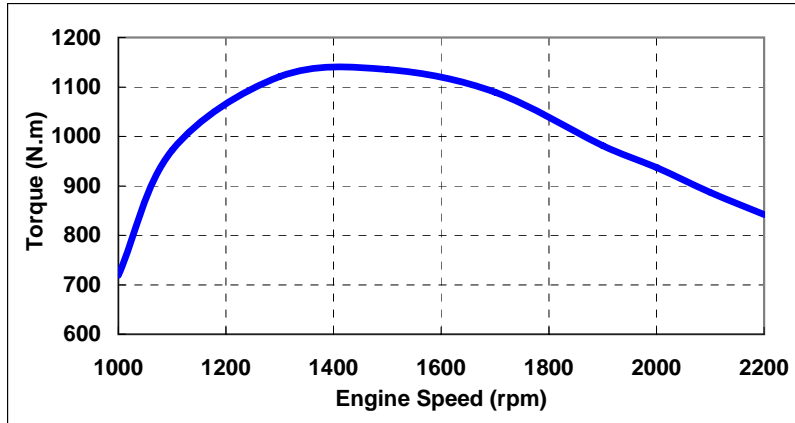
Date:
2008-03

01

Displacement: **8.3 L** Aspiration: **Turbocharged & Aftercooled**
 Bore: **114 mm** kW (BHP) @ RPM
 Stroke: **135 mm** No. of Cylinders: **6** **194(260) 2200**
 Emission Control: Fuel System: **Weifu PW2000/RSV** **8% Governor Regulation**

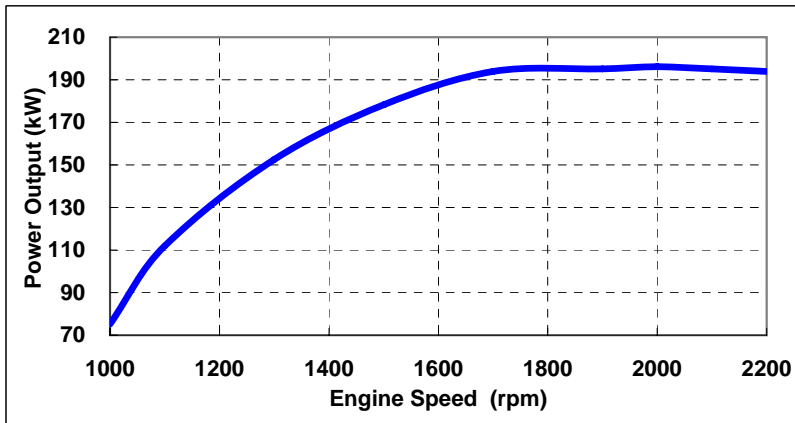
All data are based on the engine operating with fuel system, water pump, lubricating oil pump, and 3.4kPa inlet air restriction and with 10kPa exhaust restriction; not included are alternator, fan, optional equipment and driven components.

Performance Curve



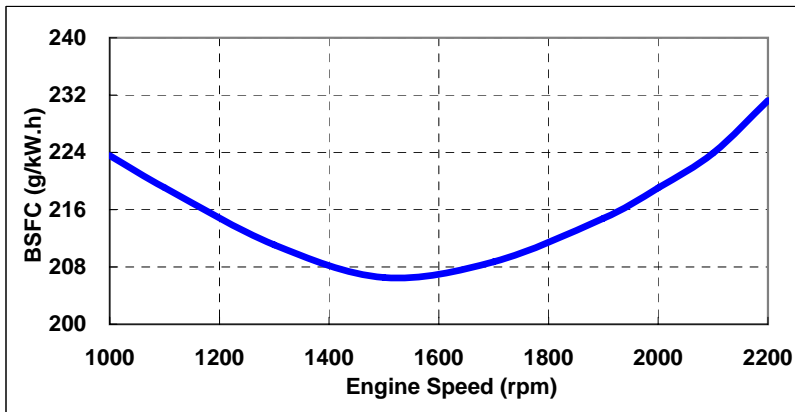
TORQUE

rpm	N.m
2200	842
2100	887
2000	937
1900	981
1700	1089
1500	1135
1300	1121
1100	972
1000	719



POWER OUTPUT

rpm	kW
2200	194
2100	195
2000	196
1900	195
1700	194
1500	178
1300	153
1100	112
1000	75



FUEL CONSUMPTION

rpm	g/kW.h
2200	231
2100	224
2000	219
1900	215
1700	209
1500	207
1300	211
1100	219
1000	224



Base Engine Data Sheet

ENGINE MODEL:	6CTA8.3-C260	CPL NUMBER:	0399	DATA:	2008-03-15
CONFIGURATION NUMBER:	D413061CX02	PERFORMANCE CURVE:	FR92617		
AFTERCOOLED SYSTEM:	JWAC	RATED POWER:	260 bhp @ 2200 rpm		
FUEL SYSTEM:	Weifu PW2000/RSV		194 kW @ 2200 rpm		

GENERAL ENGINE DATA

Engine Wet Weight (Pricing Configuration)	-kg	637
Moment of Inertia of Rotating Components(Excluding Flywheel)	-kg-m ²	0.37
Center of Gravity from Front Face of Block	-mm	427
Center of Gravity above Crankshaft Centerline	-mm	163

ENGINE MOUNTING

Maximum (Static) Bending Moment at Front Support Mounting Surface	-N.m	495
Maximum (Static) Bending Moment at Side Pad Mounting Surface	-N.m	TBD
Maximum (Static) Bending Moment at Rear Face of Block	-N.m	1356
Moment of Inertia of Complete Engine		
- Roil Axis	-kg-m ²	23.6
- Pitch Axis	-kg-m ²	65.2
- Yaw Axis	-kg-m ²	55.9

EXHAUST SYSTEM

Maximum Back Pressure	-mmHg	76
Exhaust Pipe Size Normally Acceptable	-mm	75
Maximum Static Supported Weight at the Turbocharger Outlet Flange	-N.m	22.7
Exhaust Manifold Insulation Acceptable	-Yes/No	No
Turbocharger Insulation Acception	-Yes/No	No

AIR INTAKE SYSTEM

Maximum Intake Air Restriction with Heavy Duty Air Cleaner		
-Clean Element	-mmH ₂ O	381
-Dirty Element	-mmH ₂ O	635
Minimum Dirt Holding Capacity with Heavy Duty Air Cleaner	-g/litre/sec.	53
Maximum Temperature Rise from Ambient to the Inlet of the Turbocharger	-°C	17
Maximum Pressure Drop from the Turbocharger Outlet to the Intake Manifold	-kPa	TBD

LUBRICATION SYSTEM

Normal Operating Oil Pressure Range	-kPa	276 - 345
Maximum Lube Oil Flow for Engine Accessories	-litre/min.	7.6
Maximum Sump Oil Temperature	-°C	121
Minimum Engine Oil Pressure for Engine Protection Devices:		
-At Rated Speed and Load	-kPa	276
-At Torque Peak Speed and Load	-kPa	207
-At Low Idle	-kPa	69
Minimum Required Lube System Capacity - Sump plus Filters	-litre	21.9
By-pass Filtration Required	-Yes/No	Yes
Angularity of Standard Oil Pan:(Values stated are for intermittent operation only):OP		
-Front Down	- degrees	45
-Front Up	- degrees	45
-Side to Side	- degrees	45

NOTE: Conditions refer to rated power and speed unless otherwise noted.

TBD - To Be Determined

N/A - Not Applicable



COOLING SYSTEM

Coolant Capacity - Engine Only	-litre	9.8
Maximum Engine Cooling Circuit External Resistance	-kPa	34
Minimum Pump Inlet Pressure with Open Thermostat and no Pressure Cap	-mmHg	TBD
Maximum Static Head of Coolant Above Engine Crankshaft Centerline	-m	TBD
Standard (modulating) Thermostat Range	-°C	83 - 95
Maximum Block Coolant Pressure with Closed Thermostat and no Pressure Cap	-kPa	276
Minimum Pressure Cap	-kPa	50
Maximum Engine Coolant Temperature at Engine Outlet	-°C	98.9
Maximum Engine Coolant Temperature for Engine Protection Devices	-°C	104.4
Minimum Engine Coolant Temperature at.....	-°C	79.4
Minimum Fill Rate	-litre/min.	19
Maximum Initial Fill Time	-min.	5
Minimum Coolant Expansion Space	- %	6
Maximum Deaeration Time	-min.	25
Minimum Drawdown	- %	11%
(Drawdown Must Exceed the Volume Not Filled at Initial Fill & Must Not Include Expansion Space)		
Fan-on Engine Coolant Outlet Temperature	-°C	93
Shutter Opening Coolant Outlet Temperature	-°C	93
Shutter Opening Intake Manifold Air Temperature	-°C	N/A

CRANKING SYSTEM

		12 Volt	24 Volt
Minimum Battery Capacity - Cold Soak at -18°C or Above			
-Engine Only - Cold Cranking Amperes	-CCA	1250	625
-Engine Only - Reserve Capacity	-min.	360	180
Maximum Starting Circuit Voltage Drop @ --- Amperes	-Volts	TBD	
Minimum Ambient Temperature for Unaided Cold Start	-°C		-12
Minimum Cranking Speed Required for Unaided Cold Start	-rpm		120
Breakaway Torque at Minimum Unaided Start Temperature	-N.m		1051
Cranking Torque at Minimum Unaided Start Temperature.....	-N.m		508
Cranking Torque at -10°C.....	-N.m		TBD

FUEL SYSTEM

Maximum Fuel Flow on the Supply Side of the Fuel Pump	-litre/hr.	300
Maximum Fuel Inlet Restriction		
-with clean fuel filter	-mmHg	102
-with dirty fuel filter	-mmHg	203
Maximum Fuel Drain Restriction		
-with check valves	-mmHg	510
-less check valves.....	-mmHg	TBD
Maximum Fuel Inlet Temperature	-°C	71
Minimum Fuel Tank Air Venting Capability Required at 6 inH ₂ O Back Pressure	-litre/hr.	340

NOTE: Conditions refer to rated power and speed unless otherwise noted.

TBD - To Be Determined

N/A - Not Applicable



PERFORMANCE DATA

Minimum Low Idle Speed	-rpm	1000
Maximum Governed Speed.....	-rpm	2460
Maximum Overspeed Capability	-rpm	3750
Closed Throttle Torque @ 700 rpm (for 1000 rpm Low Idle Speed)	-N.m	606
Minimum Combined Converter and Hydraulic Stall Speed	-rpm	1600
Crankshaft Thrust Bearing Load Limit		
-Maximum Intermittent	-N	1627
-Maximum Continuous	-N	1085

EMISSIONS

Estimated Free Field Sound Pressure Level At 15m and Full Load Governed Speed
(Excludes Noise from Intake,Exhaust,Cooling System and Driven Components)

-Right Side	-dBa	TBD
-Left Side	-dBa	TBD
-Front	-dBa	TBD
-Rear	-dBa	TBD

Gaseous Emissions per ISO 8178:

-NOx.....	g/kW.h	TBD
-HC.....	g/kW.h	TBD
-CO.....	g/kW.h	TBD
-Particulates.....	g/kW.h	TBD

Fuel Rating Option used for these Data: **FR92167**

Engine Speed.....	-rpm
Gross Power Output.....	-kW
Torque	-N.m
Intake Manifold Pressure	-kPa
Motoring Friction Horsepower	-kW
Turbocharger Compressor Outlet Pressure	-kPa
Intake Air Flow	-litre/sec.
Exhaust Gas Flow	-litre/sec.
Turbocharger Compressor Outlet Temperature	-°C
Exhaust Gas Temperature - Dry Stack	-°C
Heat Rejection to Ambient (Dry Manifold)	-kW
Heat Rejection to Coolant (Dry Manifold)	-kW
Heat Rejection to Fuel	-kW
Engine Coolant Flow	-litre/sec.
@ External Cooling Circuit Resistance	-kPa Δ P
Altitude Limitations:	
-Intermittent.....	-m
-Continuous.....	-m
Steady State Smoke	-Bosch

RATED	MAX POWER POINT	PEAK TORQUE
2200		1500
194		178
842		1135
158		145
TBD		TBD
164		147
309		194
874		568
168		150
480		509
TBD		TBD
TBD		TBD
TBD		TBD
5.0		3.4
34.5		17.3
3000		3000
2200		2200
1.21		0.96

NOTE: Conditions refer to rated power and speed unless otherwise noted.

TBD - To Be Determined

N/A - Not Applicable