	CHONGQING CUMMINS ENGINE PROFORMANCE CURVE	Engine Model **KTA38-C1200**	Characteristic No. **D232025CX02**	
			CPL Code **C-4424-C**	Date **2006-3**

Displacement: 37.7L
Bore: 159mm
Stroke: 159mm
Fuel System: PT Pump
Cylinders: 12

Advertised Power: 895 kW@2100 rpm
1200 HP@2100 rpm
Peak Torque: 4475 N.m@1500 rpm
Aspiration: Turbocharged & Inter-cooled
Rating Type: Continuous

General Engine Data

Engine Type…….. 12 Cylinders, V Type
Aspiration…….. Turbocharger & Intercooled
Bore*Stroke…… 159*159
Displacement…… 37.7 L
Compression Ratio …….. 13.8
Engine Wet Weight (Pricing Configuration)…… 4016 kg
Moment of Inertia of Rotating Components (No Flywheel)……..…….. 3.96 kg·m2
Center of Gravity from Front Face of Block……..……... 831 mm
Center of Gravity above Crankshaft Centerline……279 mm
Ignition Sequence…… 1R-6L-5R-2L-3R-4L-6R-1L-2R-5L-4R-3L

Engine Mounting

Maximum (Static) Bending Moment at Rear Face of Block…… 1601 N.m
Moment of Inertia of Complete Engine…… TBD N.m

Exhaust System

Maximum Back Pressure…….. 10 kPa
Exhaust Pipe Size Normally Acceptable……... 152 mm

Air Intake System

Maximum Intake Air Restriction with Heavy Duty Air Cleaner
— Clean Element……..…….. 3.74 kPa
— Dirty Element……..……... 6.23 kPa
Minimum Dirt Holding Capacity with Heavy Duty Air Cleaner…… 53 gm.L/s

Lubrication System

Normal Operating Oil Pressure Range…….…… 69 – 345 kPa
Lube Oil Flow at Rated Speed…….…….. 469.4 litre/min.
Maximum Sump Oil Temperature……..…….. 124 ℃

Oil Pressure:

— At Rated Speed…….…..... 310-448 kPa

— At Low Idle…….…… 138 kPa

Oil Capacity:

— High Position ……..…..... 185.49 L

— Low Position ……..…..... 128.7 L

Lube System Capacity(except the Bypass Filter)…….……..……..…… 201 litre

Max. Oil Consumption…….…… N/A

Angularity of Standard Oil Pan: (Values stated are for intermittent operation only):

— Front Down…….. 30 º

— Front Up…… 30º

Cooling System

Coolant Capacity - Engine Only…….….. 118 L

Maximum Engine Cooling Circuit External Resistance……... 34.5 kPa

Minimum Pump Inlet Pressure with Open Thermostat and no Pressure Cap…….. N/A

Maximum Static Head of Coolant Above Engine Crankshaft Centerline…… 7.6m

Standard (modulating) Thermostat Range…… 80-90 ℃

Maximum Block Coolant Pressure with Closed Thermostat and no Pressure Cap……. 241 kPa

Minimum Pressure Cap…… 48 kPa

Maximum Engine Coolant Temperature at Engine Outlet…….. 93.3℃

Minimum Engine Coolant Temperature……... 71.1℃

Minimum Fill Rate…… 18.9 litre/min

Maximum Initial Fill Time…… 5 min

Minimum Coolant Expansion Space……...…….…….……5% of System Capacity

Maximum Deaeration Time…… 25 min.

Minimum Drawdown…….…….…….…… 20 L

(Drawdown Must Exceed the Volume Not Filled at Initial Fill & Must Not Include Expansion Space)

Electric System

Engine Running Without Load

Cool Start Current CCA …….. 18000 A

Current Capacity When Restart……..……. 640KVA

Biggest Resistance Allowed by Starting Circuit:

—12 V Starter Motor…… 0.00075 Ω

—24 V Starter Motor…… 0.002 Ω

Performance Data:

Idle Speed …… 725 r/min

Maximum No-load Speed…… 2400 r/min

Maximum Over Speed Ability……..…… .2625 r/min

Clutch Joint Effective Torque…… 3390 N.m

Crankshaft Bearing Load Limit:

Maximum Clearance Load …… 6672 N

Maximum Continuous Load…… 3336 N

Fuel Rating Option used for these Data: FR91536	Max. Power		Continuous Power	
	Max. Power	Max. Torque	Max. Power	Max. Torque
Engine Speed…… -rpm	2100	1300	1800	1300
Gross Power Output…… -kW	895	638	716	541
Torque……..…….... -N.m	4068	4678	3797	3973
Engine Fan Consumed Power				
Engine Power at 38℃(Radiator)…….. KW	28	8.2	24	7.5
Engine Power at 52℃(Radiator)…….. KW	28	8.2	24	7.5
Fuel Line Rated Point Pressure……. kPa	862	552	655	414
Intake Manifold Pressure……...…… -kPa	145	101	115	78
Mean Effective Pressure……....… -kW	1358	1558	1268	1324
Mean Piston Speed…….. -kPa	11.1	6.9	9.5	6.9
Friction Power……..-kPa	173	60	127	60
Intake Air Flow…… -litre/sec	1204	656	876	599
Exhaust Gas Flow				
Dry Type Manifold…….. L/s	3162	1907	2322	1694
Wet Type Manifold…….. L/s				
Exhaust Temperature				
Dry Type Manifold…….. -℃	527	607	529	582
Wet Type Manifold…….. -℃				
Heat Rejection to Ambient				
Dry Type Manifold…….. -kW	137	96	107	81
Wet Type Manifold…….. -kW				
Heat Rejection to Coolant				
Dry Type Manifold…….. -kW	568	338	407	272
Wet Type Manifold…….. -kW				
Engine Coolant Flow…… -litre/sec	30	18	26	18
Fan Cooling Air Flow				
Air Flow at 38℃(Radiator)…….. -L/s	35617	20296	33111	17193
Air Flow at 52℃(Radiator)…….. -L/s	33229	18927	30892	16048

Note: All the data are based on engine with Fuel Pump, Water Pump, Oil pump, Air Filter and Muffler, but not including AC Generator, Air Compressor, Fan and other choose equipment and drive components. Data subject to change without prior notice