	Chongqing Cummins Engine Company Inc. Engine Data Sheet		ENGINE SERIES			
			Engine MODEL	KTA38-G2B		
	Performance curves	C-662	CPL	CQ609	DATA SHEET	DS-662
	Feature No.	D233020D×02	Installation Diagram	4061305	Sheet No.	4 Pages

GENERAL ENGINE DATA

Type	12-cylinder, Four-stroke, V-type
Aspiration	Turbocharger and Air to Air after Cooled
Bore x stroke – mm(in) x mm(in).....	159 × 159 (6.25 X 6.25)
Displacement – L(in ³)	38 (2300)
Compression ratio	14.5 : 1
Engine Dry Weight	
Air-cooled container with the flywheel -- Kg(lb.).....	3719 (8200)
With heat exchanger --Kg(lb.).....	4366(9625)
Engine Wet Weight	
Air-cooled container with the flywheel -- Kg(lb.).....	3946(8700)
With heat exchanger --Kg(lb.).....	5003(11030)
Moment of Inertia of Rotating Components relative to the centre line of crankshaft , excluding flywheel	
-----kg•m ² (lbm.ft ²).....	3.96(94.0)
With FW6001 Flywheel---kg•m ² (lbm.ft ²).....	10.45 (248.0)
With FW6011 Flywheel---kg•m ² (lbm.ft ²).....	20.78 (493.0)
From Center of Gravity to Rear Face of Flywheel Housing (FH 6024)—mm(in).....	980(38.6)
Center of Gravity above Crankshaft Centerline(engine itselg)—mm(in).....	279(11.0)
Maximum Stationary Load allowed by the end of the bearing-- Kg(lb.).....	907(2000)
Firing sequence.....	1R-6L-5R-2L-3R-4L-6R-1L-2R-5L-4R-

INSTALL of ENGINE SUSPENSION

Maximum Bending Moment at Rear Face of Block--N•m(lb.ft).....	6101(4500)
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EXHAUST SYSTEM

Maximum Exhausting of Back Pressure —kPa (in•Hg).....	10 (3)
Maximum diameter of exhaust pipe—mm(in).....	152(6)

AIR INDUCTION SYSTEM

Maximum Intake Air Restriction

• with Dirty Filter Element—kPa(in. H ₂ O).....	6.23(25)
• with Normal Duty Air Cleaner and Clean Filter Element —kPa(in. H ₂ O).....	2.49(10)
• with Heavy Duty Air Cleaner and Clean Filter Element—kPa(in. H ₂ O).....	3.73(15)

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COOLING SYSTEM

Coolant Capacity

Engine Only—L(U.S. Gal).....	123.8(32.7).
With HX 6076 Radiator(exclude expansion tank)—L(U.S. gal).....	199.5(52.7)
Maximum Coolant Friction Head External to Engine.....	34.5(5.0)
Maximum Loss of Pressure External to Coolant System.....	34.5(5.0)
Maximum Static Head of Coolant above Engine Crank Centerline—m(ft).....	18.3(60)
Standard Thermostat (Modulating) Range--°C (°F).....	82 – 93(180 -200)
Minimum Cap Pressure at sea level altitude—kPa(PSI).....	69(10)
Maximum Top Tank Temperature for Standby / Prime Power--°C (°F)	104 /100(220 / 212)
Minimum Raw Water Flow@90°F (32°C) to HX6076 Heat Exchanger--GPM (L/min).....	108(409)
Maximum Raw Water Inlet Pressure of HX6076 Heat Exchanger— PSI (kPa).....	50(345)
Maximum Static Pressure to Coolant Liquid(nonuse cap pressure) — PSI (kPa).....	15(103)
Minimum Water Replenishing to Coolant Liquid—L(U.S. gal).....	23.8(6.3)
Maximum Inlet Friction to Raw Water Pump —mm Hg(in. Hg).....	254(10)
Maximum Suction Lift to Raw Water Pump—m(ft).....	4.6(15)
Maximum Delivery Lift to Raw Water Pump—m(ft).....	20.5(67.3)
Minimum Allowable Rate to Water Replenishing—L/min(U.S. GPM).....	18.9(5)
Maximum Allowable Time to First Water Replenishing—min.....	5
Maximum Allowable Percentage that Expanding Volume of Coolant Liquid in Volumetric Content of System —%.....	5
Maximum Allowable Time to Exhaust —min.....	25

LUBRICATION SYSTEM

Oil Pressure

@ Idle Speed—kPa (PSI).....	138 (20)
@ Governed Speed —kPa (PSI).....	310 -448 (45 - 65)
Oil Flow at Rated Speed —L/min(U.S. GPM).....	469(124)
Maximum Allowable Oil Temperature— °C (°F).....	121 (250)

The Capacity of Oil Bypass Filters


Rotation Type—L(U.S.gal.).....	2×2.6 (2×0.7)
Convertible Filter Type—L(U.S.gal.).....	2×11.0 (2×2.9)

Oil Capacity with OP 6008 Oil Pan

High Level—L(U.S.gal.).....	185.5 (49.0)
Low Level—L(U.S.gal.).....	128.7 (34.0)
Total System Capacity (Including Bypass Filter) —L(U.S.gal.).....	135.1(35.7)
Angularity of OP 6008 Oil Pan (Front/Back).....	30°

FUEL SYSTEM

Type of Injection System.....Direct Injection in Cummins PT

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Maximum Resistance of Fuel--Supply at PT Fuel Injection Pump

- with Clean Fuel Filter—kPa (in. Hg) 4 (13.55)
- with Dirty Fuel Filter—kPa (in. Hg) 8 (27.09)

Maximum Allowable Head on Oil Injector Return Line

- with Non-return Valve—kPa (in. Hg)..... 22.0 (6.5)
- without Non-return Valve—kPa (in. Hg).....8.5 (2.5)

Minimum Allowable Ventilation Capacity to Fuel Tank—L/h(ft³/h)..... 425(15)

(In the Back Pressure of 8.4kPa (2.5in. Hg) or Lower Back—pressure Time)

ELECTRICAL SYSTEM

Cranking Motor (Heavy Duty, Positive Engagement) — Volt 24

Battery Charging System, Negative Ground — Ampere..... 35

Maximum Allowable Resistance of Cranking Circuit— ohm..... 0.002

Recommended Minimum Battery Capacity

- Cold Soak @ 50 °F (10 °C) and Above— 0°F CCA..... 1200
- Cold Soak @ 32 °F to 50 °F (0 °C to 10 °C) — 0°F CCA..... 1800
- Cold Soak @ 0 °F to 32 °F (-18 °C to 0 °C) — 0°F CCA..... 1800

PERFORMANCE DATA


Steady State Stability Band at any Constant Load — %.....±0.25

All data is based on:

- Engine operating with fuel system, water pump, lubricating oil pump, air cleaner and exhaust silencer; not included are battery charging alternator, air compressor, fan, and optional driven components.
- Engine operating with diesel corresponding to grade No. 2-D per ASTM or SNMP MIB 2 # .
- SAE J1349, Standard Reference Conditions of:
 Barometric Pressure : 100 kPa (29.61 in. Hg)
 Air Temperature : 25 °C (77 °F)
 Altitude : 90 m (300 ft)

Water Vapour Pressure: 1.0kPa (0.30 in. Hg)

Note :The specification will be changed without notice. Please refer to the website to see recent data,<http://www.ccec.easia.cummins.com-/Publish/design/>

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Engine Performance Data	Standby Power		Prime Power	
	60Hz	50Hz	60Hz	50 Hz
Governed Engine Speed--rpm		1500		1500
Engine Idle Speed--rpm		575-650		575-650
Gross Engine Power Output -kWm(BHP)		789(1057)		711(953)
Brake Mean Effective Pressure-kPa(PSI)		1663(241)		285(41)
Piston Speed--m/s(ft/min)		7.9(1555)		7.9(1555)
Friction Horsepower--kWm(BHP)		86(115)		86(115)
Engine Data with Dry Type Exhaust Manifold				
Exhaust Gas Temperature--°C (°F)		500 (932)		490 (914)
Exhaust Gas Flow--L/s(CFM)		3018(6394)		2600 (5508)
Radiated Heat to Ambient-kW(BTU/min)		135(7677)		105 (5971)
Heat Rejection to Coolant-kW(BTU/min)		490 (27866)		420 (23885)
Engine coolant Air Flow--L/s(CFM)		19.6(310.7)		19.6(310.7)

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