



CUMMINS ENGINE CO.LTD

Model: **STARPAC 6 CYLINDER C SERIES** 1500 rpm
 Data sheet:005 Jan 98

Rev03

GENERAL ENGINE DATA

		CPL 2216	CPL 0831	CPL 2218	CPL 2082
Type: 4 cycle,in-line,8.3 litres		6CT8.3G2	6CTA8.3G	6CTA8.3G2	6CTAA8.3G1
Engine Model		Turbo	Turbo and Aftercooled	Turbo and Aftercooled	Turbo, After-cooled Air to Air
Aspiration					
Bore/Stroke	mm	114/135	114/135	114/135	114/135
Compression Ratio		16.8:1	16.5:1	16.8:1	16.8:1
Firing Order		1-5-3-6-2-4	1-5-3-6-2-4	1-5-3-6-2-4	1-5-3-6-2-4
Rotation (viewed from front)		All Models Clockwise Rotation			
Weight Dry	kg	703	724	724	764
Weight Wet		755	780	780	820
kg					
C of G from FFOB		355	335	335	TBD
mm					
Installation Diagram		3626001	3626001	3626001	3673645

ENGINE MOUNTING

Maximum Bending Moment @ Rear Face of Block	Nm(lb.ft)	All Models:1356(1000)			
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AIR INDUCTION SYSTEM

Maximum Air Intake Restriction;					
With Dirty Filter Element	mmH ₂ O(in.Hg)	635	635	635	635
With Normal Duty Air Cleaner and Clean Element	mmH ₂ O(in.Hg)	254	254	254	254
Minimum Dirt Holding Capacity	g/CFM	All Models:3			

Exhaust System

Maximum Back Pressure	mmHg	All Models:76			
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COOLING SYSTEM

Maximum Top Tank Temp	Standby	104	104	104	104
°C		100	100	100	100
	Prime				
Minimum Pressure Cap Setting	Kpa(psi)	69(10)	69(10)	69(10)	69(10)
Standard Thermostat Setting (modulating)	°C	82-95	82-95	82-95	82-95

STANDARD COOLING WITH 26" FAN

Maximum Air Restriction On Discharge Side of Radiator	mmH ₂ O	10	10	10	10
Limiting Ambient Temperature	°C	52	52	52	52
Total Coolant Capacity	Litres	26	28	28	26
Cooling Fan Air Flow with Maximum Duct Restriction	M ³ /sec	3.5	3.1	3.1	2.9

LUBRICATION SYSTEM

Oil Pressure @ Rated Speed	Kpa(psi)	276-414 (40-60)	276-414 (40-60)	276-414 (40-60)	276-414 (40-60)
Oil Pan Capacity (OP 9012)	Litres High(Low)	19(15)	19(15)	19(15)	19(15)

ALL DATA SUBJECT TO CHANGE WITHOUT NOTICE
ENGINE MODEL

6CT8.3G2

6CTA8.3G

6CTA8.3G2

6CTAA8.3G1

FUEL SYSTEM

Type of Injection System	Bosch A3500	Bosch MW	Bosch P3000	BoschP3000
Maximum Restriction to Lift Pump mmHg		All Models:102		
Maximum Return Line Restriction mmHg		All Models:254		
Maximum flow to injection pump l/Hr		All Models 208		

ELECTRICAL SYSTEM

Battery Charging System (Neg. Ground)				
Amps(12V)	63	63	63	35
(24V)	40	40	40	40
Cranking Motor	All Models:Heavy Duty, Positive Engagement			
Maximum Resistance of Cranking Circuit				
Ohms(12V)	0.00075	0.00075	0.00075	0.00075
(24V)	0.002	0.002	0.002	0.002
Minimum Recommended Battery Capacity @ -18°C and above				
CCA(12V)	950	950	950	950
(24V)	475	475	475	475

Note: CCA according to STD SAE J537H

PERFORMANCE DATA

Steady State Stability @ Any Constant Load	+/- %	0.5	0.5	0.5	0.5
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Engine Model	Rating	RPM	Gross Engine Output BHP	BMEP Bar	Piston Speed m/sec	Engine Water Flow l/sec	Intake Air Flow l/sec	Exhaust Gas Flow l/sec	Exhaust Gas Temp °C	Heat Rejection Exhaust Kwm	Heat Rejection Ambient Kwm
6CT8.3G2	Standby	1500	181	12.8	6.8	2.8	166	463	560	113	25
	Prime	1500	164	11.7	6.8	2.8	158	423	521	100	21
6CTA8.3G	Standby	1500	241	17.2	6.8	2.8	177	569	654	141	27
	Prime	1500	219	15.6	6.8	2.8	163	514	638	127	24
6CTA8.3G2	Standby	1500	241	17.2	6.8	2.8	206	550	563	139	26
	Prime	1500	219	15.6	6.8	2.8	192	495	536	123	24
6CTAA8.3G1	Standby	1500	272	19.4	6.8	2.8	216	600	594	137	29
	Prime	1500	245	17.4	6.8	2.8	188	543	583	133	27

NOTE

- All data represents gross engine performance capabilities obtained and corrected in accordance with ISO 3046 conditions of 29.53 inHg (100 Kpa) barometric pressure, 361 ft (100 m) altitude, 77°F (25°C) air inlet temperature and 30% relative humidity with #2-D diesel fuel or a fuel corresponding to ASTM D975.
- Data is based on the engine operating with fuel system, water pump, and lubricating oil pump. Not included are battery charging alternator, fan and optional equipment, and driven components.
- Engine water flow at maximum 4 psi friction head.
- Data certified within +/- 5%.

NETT ENGINE OUTPUTS AND TYPICAL GENERATOR SET OUTPUTS, 50 Hz ONLY

Engine Model		6CT8.3G2	6CTA8.3G	6CTA8.3G2	6CTAA8.3G1
Nett Engine Output Kwm	Standby	130	175	175	195
	Prime	117	158	158	175
Typical Gen Set Output	Kwe(KVa)				
	Standby	120(150)	162(202)	162(202)	180(225)
	Prime	108(135)	146(183)	146(183)	161(202)

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Engine Model	6CT8.3G2	6CTA8.3G	6CTA8.3G2	6CTAA8.3G1
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FUEL CONSUMPTION DATA

Maximum Power Brake Specific Fuel Consumption	g/Kwm-Hr	211	208	210	209
Fuel Consumption	litres/hour				
	100% Standby	34	44	45	49.9
	100% Prime	30	40	40	44.5
	75% Prime	23	30	30	33.4
	50% Prime	15	20	20	22.2
	25% Prime	8.8	11	11	11.9
	0% Prime	3.7	3.4	3.3	3.5
Performance Curve		FR-90241	FR-9201	FR-90243	FR-90153

OPERATION AT ELEVATED TEMPERATURE AND ALTITUDE**Normal Operation**

Maximum Altitude Before Derate	m	1525	1525	1525	1000
Maximum Temperature Before Derate	°C	40	40	40	32

For Sustained Operation Above These Conditions

Derate Factor per 1000ft(300m)	%	4	4	4	4
Derate factor per 10°F(5°C)	%	1	1	1	7.5
Derate Factor per 10% Relative Humidity Above 30%	%	N/A	N/A	N/A	N/A

NOTE

- 5, Fuel consumption data taken from the relevant performance curve, and is based on a specific gravity of #2-D diesel of 0.85 Kg/litre.
- 6, Tabulation quotes typical fuel consumption within 5%
- 7, Reference data obtained and corrected in accordance with ISO 3046 conditions of 100Kpa barometric pressure, 110m altitude, 25°C air inlet temperature and relative humidity of 30%.
- 8, Net engine outputs quoted are based on maximum engine ratings less deductions for the standard STARPAC fan arrangement etc at standard operating conditions.
- 9, Typical Generator set outputs are based on an alternator efficiency range of 87-89% and 0.8 p.f.
- 10, All engines use dry type exhaust manifolds.
- 11, Data for 6CTAA8.3G1 is with RA9050 cooling package

CAUTION

Engines supplied without regard for the attached ratings guidelines may not be covered by warranty.

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