



# Chongqing Cummins Engine Co. Ltd.

## Engine Data Sheet

**MODEL:** NTAA855-G7A  
**CONFIGURATION NO.:** D093629DX02  
**CPL NUMBER:** CQ132  
**PRIME POWER N.A.**

**DATA SHEET:** DS-184E  
**PERFORMANCE CURVE:** C-184E  
**INSTALLATION DIAGRAM:** 4061323  
**DATE:** 2006-9-22

**STANDBY POWER:** 545 HP (407 kW) at 1500 r/min

**REVISION:** 02

### GENERAL ENGINE DATA

Type.....	4-Cycle;In-line;6-Cylinder	
Aspiration .....	Turbocharged,Air-Air Cooled	
Bore x Stroke - in.×in. (mm×mm).....	5.5 ×6	( 140 × 152 )
Displacement - in. <sup>3</sup> (L).....	855	( 14 )
Compression Ratio .....	14.0:1	
Firing Order .....	1-5-3-6-2-4	
<b>Dry Weight</b>		
--Engine Only - lb. (kg).....	2800	( 1270 )
<b>Wet Weight</b>		
--Engine Only - lb. (kg).....	2910	( 1320 )
Moment of Inertia of Rotating Components - With FW1109 flywheel - lb.ft. <sup>2</sup> (kg·m <sup>2</sup> ).....	118.5	( 4.99 )
Center of Gravity from Rear Face of Flywheel Housing - in.(mm) .....	27.7	( 704 )
Center of Gravity Above Crankshaft Centerline - in.(mm) .....	5.5	( 140 )

### ENGINE MOUNTING

Maximum Allowable Bending Moment at Rear Face of Block - lb.ft. (N·m).....	1000	( 1356 )
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### EXHAUST SYSTEM

Maximum Allowable Back Pressure - in.Hg (kPa).....	3.0	( 10 )
Standard Exhaust Pipe Diameter - in. (mm).....	5.0	( 127 )

### AIR INDUCTION SYSTEM

<b>Maximum Allowable Intake Air Restriction</b>		
--With Clean Filter Element - in. H <sub>2</sub> O (kPa).....	15	( 3.74 )
--With Dirty Filter Element - in. H <sub>2</sub> O (kPa) .....	25	( 6.22 )
Maximum Intake Pressure Fall from Turbo to Intake Manifold - PSI (kPa).....	5.0	( 17 )
Maximum Intake Manifold Temperature Rise - °F (°C).....	43	( 24 )
Minimum Dirt Holding Capacity - g/CFM ( g/L/s ).....	25	( 53 )
Maximum Allowable Intake Air Temperature ΔT - °F (°C).....	30	( 17 )

### COOLING SYSTEM

Coolant Capacity - Engine Only - U.S. gal (L).....	5.5	( 20.8 )
- With Radiator - U.S. gal (L).....	16.0	( 60.6 )
Maximum Coolant Friction Head External to Engine - PSI (kPa).....	6	( 41 )
Maximum Static Head of Coolant (exclusive of Pressure Cap) - PSI (kPa) .....	15	( 103 )
Maximum Static Head of Coolant Above Engine Crank Centerline -ft. (m) .....	46	( 14.0 )
Standard Thermostat (Modulating) Range - °F (°C) .....	180 - 202	( 82 - 94 )
Minimum Allowable Pressure Cap -PSI (kPa).....	7.0	( 48.2 )
Maximum Coolant Temperature - °F (°C).....	205	( 96 )
Maximum Top Tank Temperature - °F (°C).....	212	( 100 )
Minimum Top Tank Temperature - °F (°C).....	160	( 71 )
Minimum Coolant Expansion Space - % of System Capacity .....	5	
Minimum Coolant Makeup Capacity - U.S. gal (L).....	1.1	( 4.2 )

**LUBRICATION SYSTEM**

Oil Pressure @ Idle Speed - PSI (kPa).....	15 Min	( 103 ) Min
@ Governed Speed - PSI (kPa).....	35-50	( 241 - 345 )
Maximum Allowable Oil Temperature - °F (°C).....	250	( 121 )
Maximum Oil Consumption - U.S.qt./h (L/h).....	0.25	( 0.24 )
Oil Pan Capacity - Low / High - U.S. gal. (L).....	7.5 / 9.5	( 28.4 / 36.0 )
Total System Capacity - U.S. gal. (L).....	10.2	( 38.6 )
Angularity of Oil Pan - Front Down/Front Up/Side to Side.....	38°/38°/38°	

**FUEL SYSTEM**

Type Injection System.....	Direct Injection Cummins PT	
Maximum Allowable Restriction to Fuel Pump		
-- With Clean Fuel Filter - in.Hg (kPa).....	4.0	( 13.5 )
-- With Dirty Fuel Filter - in.Hg (kPa).....	8.0	( 27.1 )
Maximum Allowable Head on Injector Return Line		
-- With Check Valve - in.Hg (kPa).....	6.5	( 22.0 )
-- Without Check Valve - in.Hg (kPa).....	2.5	( 8.5 )
Minimum Fuel Supply Line Size - in. (mm).....	0.625	( 16 )
Minimum Fuel Return Line Size - in. (mm).....	0.5	( 13 )
Maximum Fuel Pump Supply - U.S.gal/h (L).....	113	( 426 )
Fuel Rail Pressure - PSI (kPa).....	173	( 1196 )
Maximum Fuel Temperature °F (°C).....	160	( 71 )

**ELECTRICAL SYSTEM**

Minimum Recommended Battery Capacity ( 24V )		
-- Cold Soak (No Load) - CCA.....	900	
- Minimum Reserved Capacity - CCA.....	320	
-- Cold Soak (With Load) - CCA.....	900	
- Minimum Reserved Capacity - CCA.....	320	
Maximum Allowable Resistance of Cranking Circuit - ohm.....	0.002	
Standard Cranking Motor (Heavy Duty , Positive Engagement) - volt.....	24	
Standard Battery Charging System , Negative Ground - ampere.....	35	

**PERFORMANCE DATA**

Idle Speed - r/min .....	575 - 650	
Maximum No-Load Governed Speed - r/min .....	1800	
Maximum over Speed Capability - r/min .....	2700	
Minimum Crankshaft Rotation for unaided Cold Start - r/min.....	150	
Minimum Torque for unaided Cold Start - lb.ft. (N·m).....	375	( 509 )
Exhaust Sound Pressure at 1m from Exhaust Outlet -1500r/min -dBA.....	N/A	

All data is based on :

--Engine Operating with fuel system, water pump, lubricating oil pump, air cleaner and exhaust silencer, fan, and optional driven components.

--Engine operating with fuel corresponding to grade No.2-D per **ASTM D975**.

--**ISO 3046**, Part1, Standard Reference Conditions of : Barometric Pressure:100kPa(29.5in.Hg); Altitude: 110m (361ft.); Air Temperature: 25°C (77°F) ; Relative Humidity: 30% .

--This Data Sheet includes both air-cooled (Fan/Radiator) & raw water cooled (Heatexchanger/Raw Water Pump) type engine.

	Prime Power	Standby Power	
	N.A.	50Hz	
		1500	
Governed Engine Speed - r/min.....			
Gross Engine Power Output - HP (kW) .....		545	(407)
Torque lb.-ft. (N·m).....		1911	(2591)
Brake Mean Effective Pressure - PSI (kPa) .....		337	(2326)
Piston Speed - ft./min (m/s).....		1500	(7.62)
Friction Horsepower - HP (kW).....		30	(22)
Intake Air Flow - CFM (L/s) .....		1164	(549)
Engine Water Flow - GPM (L/min.) .....		79	(5)
Raw Water Flow - GPM (L/s) .....		54	(3.4)
Fuel Consumption - U.S.gal/h (L/h).....		28.5	(108)
Oil Flow - GPM (L/s) .....		35	(2.2)
Exhaust Gas Temperature (After Turbine) - °F (°C).....		884	( 473 )
Exhaust Gas Flow (After Turbine) - CFM (L/s).....		2619	(1240)
Air to Fuel Ratio.....		24.2 : 1	
Heat Radiation - BTU (kW).....		2900	(51)
Heat Rejection to Coolant - BTU (kW).....		17370	(305)
Heat Rejection to Ambient - BTU (kW).....		14480	(254)

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Data Sheet: DS-184E

Date: 2006-9-22

**CHONGQING CUMMINS ENGINE CO. LTD.**

CHONGQING, CHINA, 400031

All Data is Subject to Change Without Notice - contact CCEC for most recent data . Tel : 86-400-889-9990