

Cummins Inc. Engine Data Sheet

ENGINE MODEL : QSX15-G8

CONFIGURATION NUMBER : D103003GX03

DATA SHEET : DS-10550

DATE : 17May07

PERFORMANCE CURVE : FR-10550

INSTALLATION DIAGRAM

• Fan to Flywheel: 3170370

CPL NUMBER

• Engine Critical Parts List: 8588

GENERAL ENGINE DATA

Type	4 Cycle; In-line; 6-Cylinder Diesel
Aspiration	Turbocharged and Charge Air Cooled
Bore x Stroke	5.39 x 6.65 (137 x 169)
Displacement	912 (15)
Compression Ratio	17 : 1
Dry Weight (Approximate), Fan to Flywheel Engine	— lb (kg) 3020 (1370)
Wet Weight (Approximate), Fan to Flywheel Engine	— lb (kg) 3250 (1475)
Moment of Inertia of Rotating Components	
• with FW 1022 Flywheel	— lb _m • ft ² (kg • m ²) 106.7 (4.5)
• with FW 1025 Flywheel	— lb _m • ft ² (kg • m ²) 192.0 (8.1)
Center of Gravity from Front Face of Block	— in (mm) 19 (483)
Center of Gravity above Crankshaft Centerline	— in (mm) 10 (255)
Maximum Static Loading at Rear Main Bearing	— lb (kg) 5400 (2450)

ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Block	— lb • ft (N • m) 1500 (2034)
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EXHAUST SYSTEM

Maximum Back Pressure at Standby Power Rating	— in Hg (mm Hg) 3 (76)
Maximum Bending Moment to the Turbo Flange	— lb • ft (N • m) 11 (15)

AIR INDUCTION SYSTEM

Maximum Temperature Rise Between Engine Air Inlet and Intake Manifold	— °F (°C) 43 (24)
Maximum Intake Air Restriction Including Air Filter Plumbing	
• with Dirty Filter Element	— in H ₂ O (mm H ₂ O) 25 (635)
• with Clean Filter Element	— in H ₂ O (mm H ₂ O) 15 (381)
Maximum Allowable Pressure Drop from Turbo Outlet to Intake Manifold	— in Hg (mm Hg) 4 (102)

COOLING SYSTEM

Coolant Capacity — Engine Only	— US qt (liter) 25 (24)
Maximum Coolant Friction Head External to Engine	
— 1800 rpm	— psi (kPa) 10 (69)
— 1500 rpm	— psi (kPa) 8 (55)
Maximum Static Head of Coolant Above Engine Crank Centerline	— ft (m) 46 (14)
Standard Thermostat (Modulating) Range	— °F (°C) 180-200 (82-93)
Minimum Pressure Cap	— psi (kPa) 10 (70)
Maximum Top Tank Temperature for Standby / Prime Power	— °F (°C) 230 / 220 (110 / 104)

LUBRICATION SYSTEM

Oil Pressure @ Idle Speed (Minimum)	— psi (kPa) 20 (138)
@ Pressure Range — Cold	— psi (kPa) Up to 130 (Up to 900)
— Warm	— psi (kPa) 35-40 (242-276)
Maximum Oil Temperature	— °F (°C) 250 (121)
Oil Capacity with OP 1493 Oil Pan : High - Low	— US gal (liter) 22-19 (83-72)
Total System Capacity (Including Filter)	— US gal (liter) 24 (91)

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FUEL SYSTEM

Type Injection System	Cummins HPI-TP
Maximum Restriction at OEM Inlet Connection..... — in Hg (mm Hg)	5.0 (127)
Maximum Allowable Head on Injector Return Line (Consisting of Friction Head and Static Head)..... — in Hg (mm Hg)	6.5 (165)
Maximum Fuel Flow to Injection Pump..... — US gph (liter/hr)	112 (424)
Maximum Fuel Inlet Temperature..... — °F (°C)	160 (71)
Maximum Return Fuel Flow..... — US gph (liter/hr)	102 (386)
Maximum Return Fuel Temperature @ 160°F (71°C) Fuel Inlet Temperature..... — °F (°C)	210 (99)
Minimum Fuel Tank Vent Capability..... — cfm (liter/s)	1.2 (.55)

ELECTRICAL SYSTEM

Cranking Motor (Heavy Duty, Positive Engagement)..... — volt	24
Maximum Allowable Resistance of Cranking Circuit..... — ohm	0.002
Minimum Recommended Battery Capacity	
• Cold Soak @ 0 °F to 32 °F (-18 °C to 0 °C)..... — 0°F CCA	1425

COLD START CAPABILITY

Minimum Ambient Temperature for Cold Start with Coolant Heater to Rated Speed..... — °F (°C)	7 (-14)
Minimum Ambient Temperature for Unaided Cold Start to Low Idle Speed..... — °F (°C)	25 (-4)
Minimum Ambient Temperature for NFPA 110 Cold Start (90°F minimum coolant temperature)..... — °F (°C)	32 (0)

PERFORMANCE DATA

- 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, fan, and optional driven components.
 - Engine operating with fuel corresponding to grade No. 2-D per ASTM D975.
 - ISO 3046, Part 1, Standard Reference Conditions of:

Barometric Pressure : 100 kPa (29.53 in Hg)	Air Temperature : 25 °C (77 °F)
Altitude : 110 m (361 ft)	Relative Humidity : 30%

Steady State Stability Band at any Constant Load	— %	+/- 0.25%
Estimated Free Field Sound Pressure Level of a Typical Generator Set;		
Excludes Exhaust Noise; at Rated Load and 7.5 m (25 ft); 1800 rpm / 1500 rpm	— dBA	89.0 / 89.5
Exhaust Noise at 1 m Horizontally from Centerline of Exhaust Pipe Outlet Upwards at 45°; 1800 rpm / 1500 rpm	— dBA	125 / 123

	STANDBY POWER		PRIME POWER	
	60 hz	50 hz	60 hz	50 hz
Governed Engine Speed	1800	1500	1800	1500
Engine Idle Speed.....	675 - 775	675 - 775	675 - 775	675 - 775
Gross Engine Power Output.....	610 (455)	670 (500)	555 (414)	595 (444)
Brake Mean Effective Pressure.....	293 (2020)	388 (2675)	267 (1840)	344 (2371)
Piston Speed	1995 (10.1)	1663 (8.4)	1995 (10.1)	1663 (8.4)
Friction Horsepower.....	70 (52)	50 (37)	70 (52)	50 (37)
Engine Water Flow at Stated Friction Head External to Engine:				
• 3 psi Friction Head.....	105 (6.6)	84 (5.3)	105 (6.6)	84 (5.3)
• Maximum Friction Head.....	87 (5.5)	68 (4.3)	87 (5.5)	68 (4.3)
Turbo Compressor Outlet Pressure.....	34 (236)	40 (272)	33 (228)	35 (246)
Turbo Compressor Outlet Temperature	407 (208)	437 (225)	385 (196)	401 (205)
Intake Air Flow.....	1290 (608)	1280 (605)	1260 (595)	1150 (540)
Exhaust Gas Temperature	830 (443)	960 (515)	815 (435)	910 (488)
Exhaust Gas Flow.....	3200 (1510)	2900 (1370)	2905 (1370)	2660 (1255)
Air-to-Fuel Ratio	28.5 : 1	24.4 : 1	29.9 : 1	25.5 : 1
Radiated Heat to Ambient	2050 (36)	2260 (40)	2090 (37)	1880 (33)
Heat Rejection to Coolant.....	7365 (130)	9500 (167)	6930 (122)	8000 (141)
Heat Rejection to Exhaust.....	18700 (329)	22200 (390)	17200 (302)	18700 (329)
Heat Rejection to Fuel *.....	450 (8)	450 (8)	450 (8)	450 (8)
Heat Rejection to Aftercooler.....	6200 (109)	7200 (126)	5480 (96)	5700 (100)

* Maximum heat rejection which occurs at rated speed, no load.

N.A. - Data is Not Available
 N/A - Not Applicable to this Engine
 TBD - To Be Determined

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Cummins Inc.

Columbus, Indiana 47202-3005

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