you can depend on TAYLOR POWER SYSTEMS

Model: TM200

Shown with optional equipment

Ratings Range

		60Hz
Standby:	kW	170-200
	kVA	213-250
Prime:	kW	160-180
	kVA	200-225

Generator	Voltage	PH	Hz	Standby Rating		Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
UCI274J311	277/480	3	60	200/250	301	180/225	271
	139/240	3	60	200/250	602	180/225	542
	254/440	3	60	200/250	328	180/225	296
	127/220	3	60	200/250	657	180/225	591
	240/416	3	60	200/250	347	180/225	313
	120/208	3	60	200/250	695	180/225	625
	120/240	3	60	200/250	602	180/225	542
	219/380	3	60	200/250	380	180/225	219
	120/240	1	60	160/160	667	150/150	625
HCI444E06	120/240	1	60	200/200	833	160/160	667

Features

- Single source responsibility for the generator set and accessories.
- Prototype and production tested to insure one step load acceptance per NFPA 110.
- Two year limited warranty on generator sets and accessories.
- Unit conforms to CSA, NEMA, EGSA, ANSI and other standards.
- Heavy duty 4 cycle industrial engine for reliability and fuel efficiency.
- Brushless rotating field generator with class H insulation.
- Trailer with integral fuel tank and storage
- Integral vibration isolators.
- EPA Tier 3 Certified Engine.

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor.
STANDBY RATINGS: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271.
PRIME POWER RATINGS: Prime power ratings apply to installations where utility power in unavailable or unreliable. At varying load the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload power in accordance with ISO-3046/1, BS5514, AS2789, and DIN 6271. For limited running time and base load ratings consult the factory. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.
GENERAL GUIDELINES FOR DERATION: Altitude: Derate 0.5% per 100m (328 ft.) elevation above 1000m (3279 ft.)

Cummins Inc.	Basic Engine Model: QSB7-G5 NR3	Curve Number: FR-92278	G-DRIVE QSB 1
Columbus, Indiana 47202-3005	Engine Critical Parts List: CPL: 42605	Date: 12Dec07	
Engine Data Sheet			

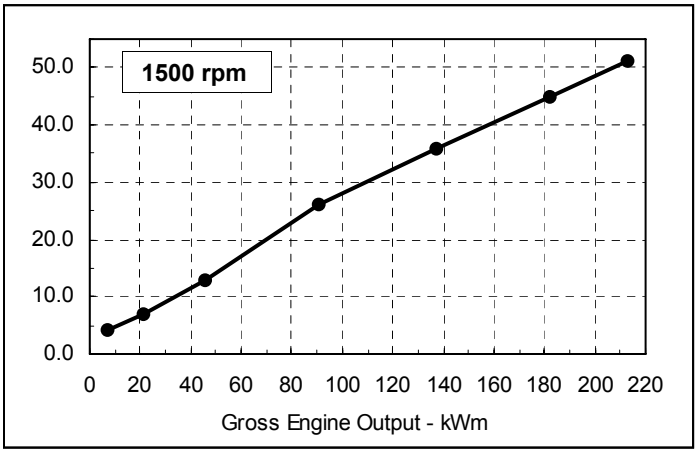
Displacement : **6.69** litre (**408** in^3)	Bore : **107** mm (**4.21** in.) Stroke : **124** mm (**4.88** in.)
No. of Cylinders :**6**	Aspiration : **Turbocharged and Air to Air Aftercooled**

Engine Speed	Standby Power		Prime Power		Continuous Power	
rpm	kWm	hp	kWm	hp	kWm	hp
1500	213	285	182	244	152	204
1800	242	324	208	279	164	220

Engine Performance Data @ 1500 rpm

OUTPUT POWER			FUEL CONSUMPTION			
%	kWm	hp	kg/ kWm·h	lb/ hp·h	litre/ hour	US gal/ hour
STANDBY POWER						
100	213	285	0.203	0.334	51	13.4
PRIME POWER						
100	182	244	0.210	0.346	45	11.9
75	137	183	0.223	0.367	36	9.5
50	91	122	0.246	0.404	26	6.9
25	46	61	0.240	0.394	13	3.4
CONTINUOUS POWER						
100	152	204	0.221	0.364	40	10.5

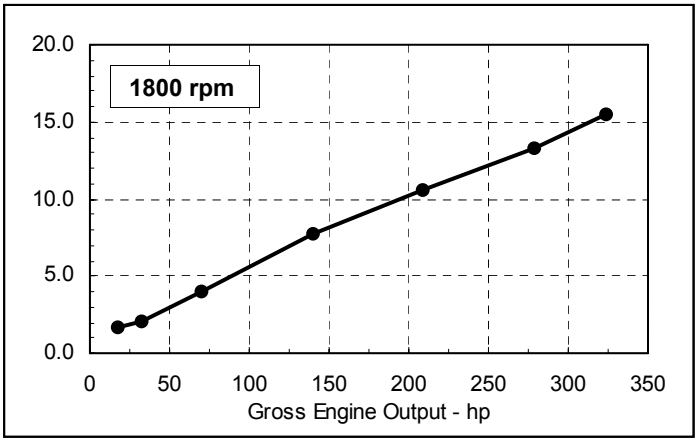
litre/hour



Engine Performance Data @ 1800 rpm

OUTPUT POWER			FUEL CONSUMPTION			
%	kWm	hp	kg/ kWm·h	lb/ hp·h	litre/ hour	US gal/ hour
STANDBY POWER						
100	242	324	0.206	0.339	59	15.5
PRIME POWER						
100	208	279	0.206	0.339	50	13.3
75	156	209	0.219	0.360	40	10.6
50	104	140	0.242	0.398	30	7.8
25	52	70	0.245	0.404	15	4.0
CONTINUOUS POWER						
100	164	220	0.216	0.355	42	11.0

US gallons/hour



CONVERSIONS:(litres = US Gal x 3.785) (US Gal = litres x 0.2642)

Data Subject to Change Without Notice

These guidelines have been formulated to ensure proper application of generator drive engines in A.C. generator set installations. **STANDBY POWER RATING:** Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. Under no condition is an engine allowed to operate in parallel with the public utility at the Standby Power rating. This rating should be applied where reliable utility power is available. A Standby rated engine should be sized for a maximum of an 80% average load factor and 200 hours of operation per year. This includes less than 25 hours per year at the Standby Power rating. Standby ratings should never be applied except in true emergency power outages. Negotiated power outages contracted with a utility company are not considered an emergency. **PRIME POWER RATING:** Applicable for supplying electric power in lieu of commercially purchased power. Prime Power applications must be in the form of one of the following two categories:**UNLIMITED TIME RUNNING PRIME POWER:** Prime Power is available for an unlimited number of hours per year in a variable load application. Variable load should not exceed a 70% average of the Prime Power rating during any operating period of 250 hours. The total operating time at 100% Prime Power shall not exceed 500 hours per year. A 10% overload capability is available for a period of 1 hour within a 12-hour period of operation. Total operating time at the 10% overload power shall not exceed 25 hours per year. **LIMITED TIME RUNNING PRIME POWER:** Limited Time Prime Power is available for a limited number of hours in a non-variable load application. It is intended for use in situations where power outages are contracted, such as in utility power curtailment. Engines may be operated in parallel to the public utility up to 750 hours per year at power levels never to exceed the Prime Power rating. The customer should be aware, however, that the life of any engine will be reduced by this constant high load operation. Any operation exceeding 750 hours per year at the Prime Power rating should use the Continuous Power rating.**CONTINUOUS POWER RATING**: Applicable for supplying utility power at a constant 100% load for an unlimited number of hours per year. No overload capability is available for this rating.

Reference AEB 10.47 for determining Electrical Output.

Data shown above represent gross engine performance capabilities obtained and corrected in accordance with ISO-3046 conditions of 100 kPa (29.53 in Hg) barometric pressure [110 m (361 ft) altitude], 25 °C (77 °F) air inlet temperature, and relative humidity of 30% with No. 2 diesel or a fuel corresponding to ASTM D2.
Derates shown are based on 15 in H_2O air intake restriction and 2 in Hg exhaust back pressure.

The fuel consumption data is based on No. 2 diesel fuel weight at 0.85 kg/litre (7.1 lbs/US gal). Power output curves are based on the engine operating with fuel system, water pump and lubricating oil pump; not included are battery charging alternator, fan, optional equipment and driven components.

Data Status: --Limited-Production--

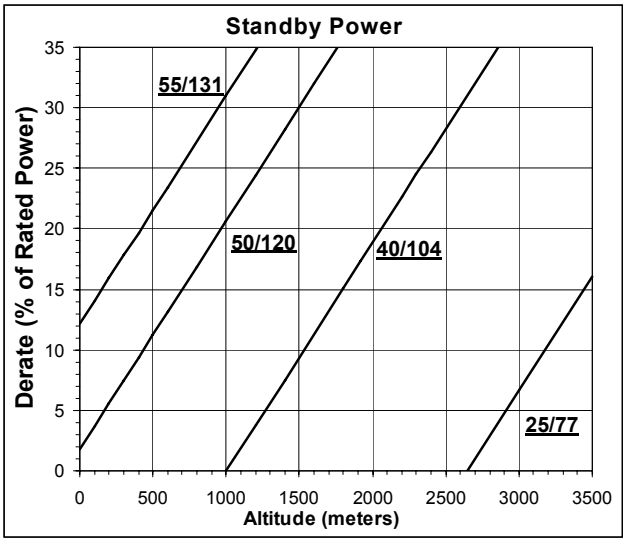
Data Tolerance: ± 5%

Chief Engineer:

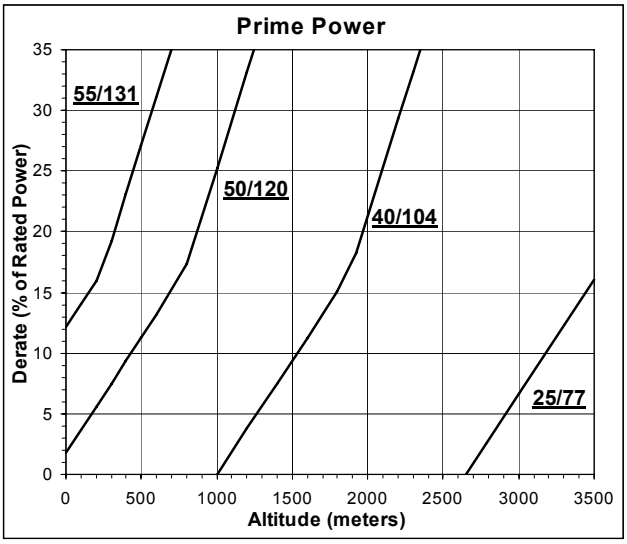
QSB7-G5 NR3

1500 rpm Derate Curves

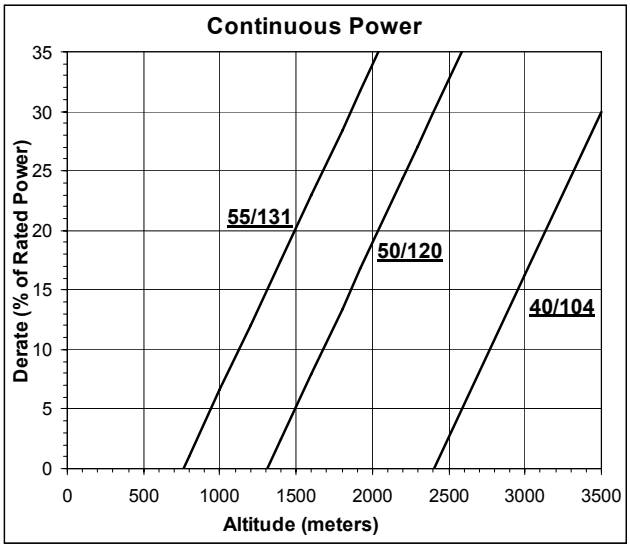
Ambient Temp. ºC/ºF



Ambient Temp. ºC/ºF



Ambient Temp. ºC/ºF



Operation At Elevated Temperature And Altitude:

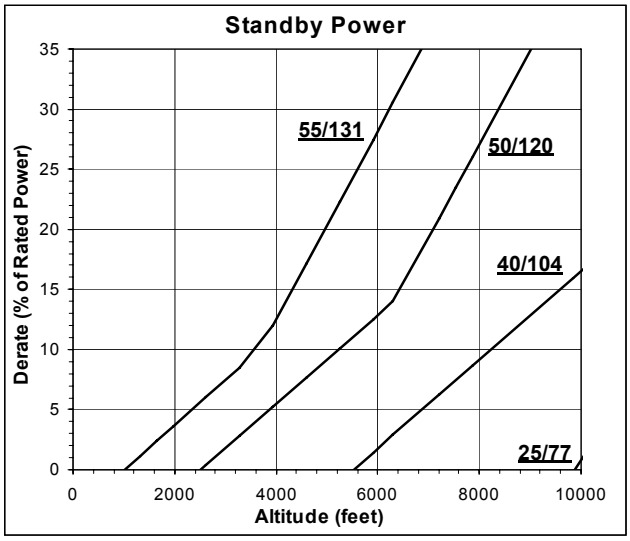
For **Standby Operation** above these conditions, derate by an additional 6% per 300 m (1000 ft), and 21% per 10º C (18º F).

For **Prime Operation** above these conditions, derate by an additional 12% per 300 m (1000 ft), and 43% per 10º C (18º F).

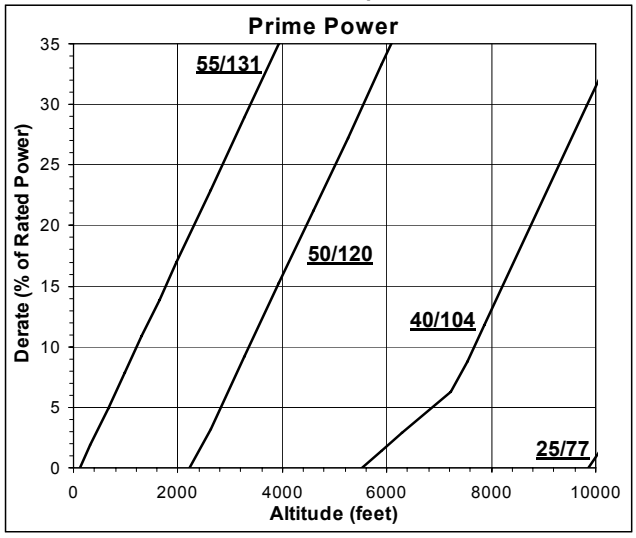
For **Continuous Operation** above these conditions, derate by an additional 8% per 300 m (1000 ft), and 30% per 10º C (18º F).

1800 rpm Derate Curves

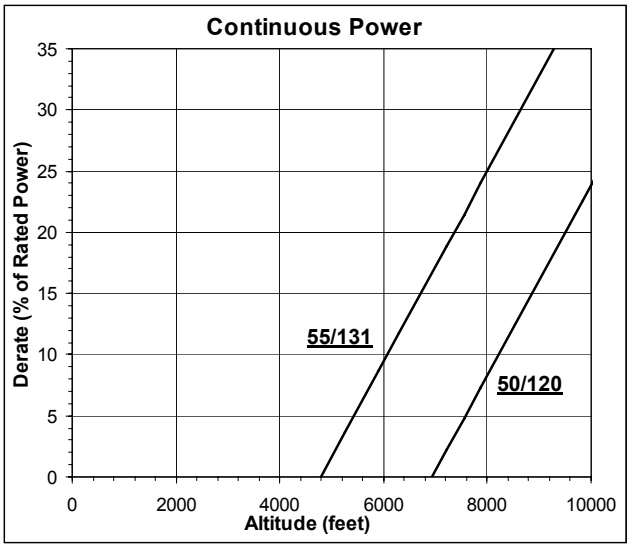
Ambient Temp. ºC/ºF



Ambient Temp. ºC/ºF



Ambient Temp. ºC/ºF



Operation At Elevated Temperature And Altitude:

For **Standby Operation** above these conditions, derate by an additional 8% per 300 m (1000 ft), and 34% per 10º C (18º F).

For **Prime Operation** above these conditions, derate by an additional 9% per 300 m (1000 ft), and 40% per 10º C (18º F).

For **Continuous Operation** above these conditions, derate by an additional 8% per 300 m (1000 ft), and 34% per 10º C (18º F).

Cummins Inc.
Engine Data Sheet

ENGINE MODEL : QSB7-G5 NR3 **CONFIGURATION NUMBER :** D313007GX03

DATA SHEET : DS-92278
DATE : 12Dec07
PERFORMANCE CURVE : FR-92278

INSTALLATION DIAGRAM
• Fan to Flywheel:

CPL NUMBER
• Engine Critical Parts List: 42605

GENERAL ENGINE DATA

Type	4-Cycle; In-line; 6-Cylinder Diesel	
Aspiration	Turbocharged and Charge Air Cooled	
Bore x Stroke — in x in (mm x mm)	4.21 x 4.88 (107 x 124)	
Displacement — in^3 (litre)	408 (6.69)	
Compression Ratio	17.2 : 1	
Dry Weight (Approximate),		
Fan to Flywheel Engine — lb (kg)	1047	(475)
Wet Weight (Approximate),		
Fan to Flywheel Engine — lb (kg)	1069	(485)
Moment of Inertia of Rotating Components		
• with FW 9857 Flywheel — $lb_m \cdot ft^2$ ($kg \cdot m^2$)	24.7	(1.55)
• with FW 9878 Flywheel — $lb_m \cdot ft^2$ ($kg \cdot m^2$)	36.8	(2.47)
Center of Gravity from Rear Face of Block — in (mm)	13.7	(348)
Center of Gravity Above Crankshaft Centerline — in (mm)	5.91	(150)
Maximum Static Loading at Rear Main Bearing — lb (kg)	N/A	(N/A)

ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Block — lb • ft (N • m)	1000	(1356)

EXHAUST SYSTEM

Maximum Back Pressure — in Hg (kPa)	3	(10.2)

AIR INDUCTION SYSTEM

Maximum Intake Air Restriction		
• with Dirty Filter Element — in H_2O (kPa)	25	(6.2)
• with Clean Filter Element — in H_2O (kPa)	15	(3.7)

COOLING SYSTEM

Jacket Water Circuit Requirements

Coolant Capacity — Engine Only — US gal (litre)	2.7	(10.2)
Maximum Static Head of Coolant Above Engine Crank Centerline — ft (m)	60	(18.3)
Standard Thermostat (Modulating) Range — °F (°C)	175-203	(79-95)
Minimum Pressure Cap — psi (kPa)	15	(103)
Maximum Top Tank Temperature for Standby / Prime Power — °F (°C)	233/225	(112/107)
Maximum Coolant Friction Head External to Engine — psi (kPa)	5	(35)

Charge Air Cooler Requirements

Maximum Temp. Rise Between Engine Air Intake and Intake Manifold - 1500/1800 rpm — °F (°C)	45	(25)
Maximum Air Pressure Drop from Turbo Air outlet to Intake Manifold - 1500/1800 rpm . — in Hg (kPa)	2.5/4	(8.5/13.5)
Maximum Intake Manifold Temperature @ 77 °F (25 °C) ambient - 1500/1800 rpm — °F (°C)	122	(50)
Maximum Intake Manifold Temperature for engine protection (Shut Down Threshold) — °F (°C)	203	(95)

LUBRICATION SYSTEM

Oil Pressure @ Idle Speed — psi (kPa)	10	(69)
@ Governed Speed — psi (kPa)	40-60	(276-414)
Maximum Oil Temperature — °F (°C)	280	(138)
Oil Capacity with OP 9457 Oil Pan : Low - High — US gal (litre)	4.0-4.6	(15.1-17.4)
Total System Capacity (Including Filter) — US gal (litre)	5.0	(18.9)

FUEL SYSTEM

Type Injection System		Bosch HPCR	
Maximum Restriction at Lift Pump(clean/dirty filter)	— in Hg (kPa)	5/10	(17/34)
Maximum Allowable Head on Injector Return Line (Consisting of Friction Head and Static Head)	— in Hg (kPa)	6	(20)
Maximum Fuel Flow to Injector Pump	— US gph (litre/hr)	28	(106)
Maximum Return Fuel Flow	— US gph (litre/hr)	27	(103)
Maximum Fuel Inlet Temperature	— °F (°C)	160	(71)

ELECTRICAL SYSTEM

Cranking Motor (Heavy Duty, Positive Engagement)	— volt	12	24
Battery Charging System, Negative Ground	— ampere	100	70
Maximum Allowable Resistance of Cranking Circuit	— ohm	0.001	0.002
Minimum Recommended Battery Capacity			
• Cold Soak @ 0 °F to 32 °F (-18 °C to 0 °C)	— 0°F CCA	1100	(550)

COLD START CAPABILITY

Minimum Ambient Temperature for NFPA 110 Cold Start (90 degree F Coolant Temperature)	— °F (°C)	40	(4)
Minimum Ambient Temperature for Unaided Cold Start	— °F (°C)	10	(-12)

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 (24.6 ft); @1800 rpm	— dBA		88
Exhaust Noise at 1 m Horizontal from Centerline of Exhaust Pipe Outlet Upwards at 45 °	— dBA		95.2

		STANDBY POWER 60 hz		STANDBY POWER 50 hz		PRIME POWER 60 hz		PRIME POWER 50 hz	
Governed Engine Speed	rpm	1800		1500		1800		1500	
Engine Idle Speed	rpm	700 - 900		700 - 900		700 - 900		700 - 900	
Gross Engine Power Output	hp (kW)	324	(242)	285	(213)	279	(208)	244	(182)
Brake Mean Effective Pressure	psi (kPa)	349	(2404)	368	(2537)	300	(2070)	315	(2172)
Piston Speed	ft/min (m/s)	1464	(7.4)	1220	(6.2)	1464	(7.4)	1220	(6.2)
Friction Horsepower	hp (kW)	25	(19)	19	(14)	25	(19)	19	(14)
Engine Water Flow at Stated Friction Head External to Engine:									
• 2.5 psi Friction Head	US gpm (litre/s)	38	(2.4)	32	(2.0)	38	(2.4)	32	(2.0)
• Maximum Friction Head	US gpm (litre/s)	33	(2.1)	26	(1.6)	33	(2.1)	26	(1.6)
Engine Data									
Intake Air Flow	cfm (litre/s)	569	(269)	448	(212)	541	(256)	434	(205)
Exhaust Gas Temperature	°F (°C)	988	(532)	1041	(561)	907	(487)	1011	(544)
Exhaust Gas Flow	cfm (litre/s)	1549	(732)	1265	(597)	1342	(634)	1205	(569)
Air to Fuel Ratio	air : fuel	22.6:1		20.6:1		25.1:1		22.5:1	
Radiated Heat to Ambient	BTU/min (kW)	1342	(24)	1163	(21)	1154	(21)	1032	(19)
Heat Rejection to Jacket Coolant	BTU/min (kW)	4858	(86)	4475	(79)	4231	(75)	3932	(70)
Heat Rejection to Exhaust	BTU/min (kW)	10734	(189)	9261	(163)	9078	(160)	8542	(151)
Heat Rejected to Fuel	BTU/min (kW)	52	(1)	44	(1)	39	(1)	32	(1)
Heat Rejected to Aftercooler	BTU/min (kW)	2786	(49)	2041	(36)	2499	(44)	1893	(34)
Charge Air Flow	lb/min (kg/min)	42	(19)	33	(15)	39	(18)	32	(15)
Turbocharger Compressor Outlet Pressure	psi (kPa)	35	(239)	31	(214)	32	(219)	29	(199)
Turbocharger Compressor Outlet Temperature	°F (°C)	399	(204)	379	(193)	376	(192)	363	(184)

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

ENGINE MODEL : **QSB7-G5 NR3**
DATA SHEET : DS-92278
DATE : 12Dec07
CURVE NO. : FR-92278

Generator Controller Options

Digital End Mount Control Panel

The DGC-2020 digital genset controller provides integrated engine-genset control, protection, and metering. Microprocessor based technology allows for exact measurement, setpoint adjustment, and timing functions. Front panel 3 position controls and indicators enable quick and simple operation. The panel is also equipped with a emergency stop push button and an Alarm Horn with silence button. A wide temperature-range liquid crystal display (LCD) with backlighting can be viewed under a wide range of ambient light and temperature conditions down to 104° F (40° C).

Features SAE J1939 Engine ECU communications, Multilingual capability, Remote RS-485 communications for Optional RDP-110 Remote Annunciator, Extremely rugged, fully encapsulated design with 4 programmable contact inputs and 10 contact outputs (2 Adc rated).

It also features Modbus Communications with RS-485, Battery Backup for Real Time Clock, UL recognized, CSA certified, CE approved, HALT (Highly Accelerated Life Tests) tested, IP 54 Front Panel rating with integrated gasket, and NFPA 110Level 1 Compatible.

Analog End Mount Controller

This Generator control panel has analog instruments to monitor AC voltage, AC frequency, and percent of load. The analog engine instruments monitor oil pressure, water temperature, battery voltage, fuel level, and run time/hour meter. Safety shutdowns provide red LED indication for overspeed, overcrank, low oil pressure, and high coolant temperature. Provide green LED indication of engine running. Control switch is provided for local and remote starting with 3 position run/off/remote switch.

There is also an engine mounted emergency by-pass key switch.

AC Alternator Specifications

STANDARDS

Stamford industrial generators meet the requirements of BS EN 60034 and the relevant section of other international standards such as B55000, VDE 0530, NEMA MG1-32, 1EC34, CSA C22.2-100, A51359.

Other standards and certifications can be considered on request.

VOLTAGE REGULATORS

MX341 AVR

This sophisticated AVR is incorporated into the Stamford Permanent Magnet Generator (PMG) control system.

The PMG provides power via the AVR to the main exciter, giving a source of constant excitation power independent of generator output. The main exciter output is then fed to the main rotor, through a full wave bridge, protected by a surge suppressor. The AVR has in-built protection against sustained over-excitation, caused by internal or external faults. This de-excites the machine after a minimum of 5 seconds.

An engine relief load acceptance feature can enable full load to be applied to the generator in a single step.

If three-phase sensing is required with the PMG system the MX321 AVR must be used.

We recommend three-phase sensing for applications with greatly unbalanced or highly non-linear loads.

(Optional) MX321 AVR

The most sophisticated of all our AVRs combines all the features of the MX341 with, additionally, three-phase rms sensing, for improved regulation and performance. Over voltage protection is built-in and short circuit current level adjustments is an optional facility.

WINDINGS & ELECTRICAL PERFORMANCE

All generator stators are wound to *2/3* pitch. This eliminates triplen (3rd, 9th, 15th **...)** harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads. The *2/3* pitch design avoids excessive neutral currents sometimes seen with higher winding pitches, when in parallel with the mains. A frilly connected damper winding reduces oscillations during paralleling. This winding, with the 2/3 pitch and carefully selected pole and tooth designs, ensures very low waveform distortion.

SHAFT

The generator rotor is dynamically balanced to better than B56861:Part 1 Grade 2.5 for minimum vibration in operation.

INSULATION/IMPREGNATION

The insulation system is class H.

All wound components are impregnated with materials and processes designed specifically to provide the high build required for static windings and the high mechanical strength required for rotating components.

QUALITY ASSURANCE

Generators are manufactured using production procedures having a quality assurance level to BS EN ISO 9001.

Standard Features and Optional Accessories

Standard Features

- **Trailer with integral fuel tank**
- **Weather enclosure**
- **Control Panel**
- **Vibration isolators**
- **Oil drain valve with extension**
- **Battery**
- **Battery rack**
- **Battery cables**
- **Water jacket heater**
- **Owners manual**
- **Flex Fuel Lines**

Optional Accessories

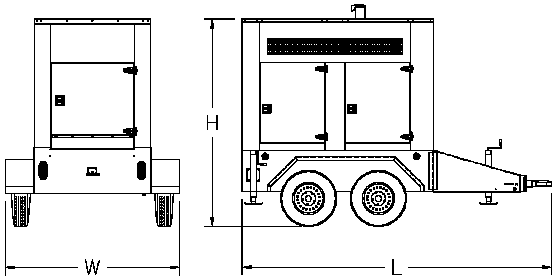
- □ Sound Attenuated Enclosure
- □ Output Power Cable
- □ Line Circuit Breaker
- □ Y-YY-ZZ Mult-voltage selector switch
- □ 20 amp 120vac GFI receptacle
- □ 20 amp 120vac GFI & 30 amp 120/240 vac twist lock receptacle
- □ 30A 120vac RV receptacle
- □ 400A Cam-Loks
- □ 4/0 Diesel Locomotive cable
- □ Extenda-Lites
- □ Hydraulic Brake kit
- □ Pintle ring hitch
- □ Spare tire kit
- □ Lug wrench
- □ Hyd. Jack
- □ Single Point Lift
- □ Oil Pan Heater
- □ Battery Charger
- □ Battery Heaters

Detailed Description of Trailer

These trailers are equipped with dual 5000 pound axles, integral DOT rated 200 gallon fuel tank, electric brakes with safety disconnect and 7 wire connector, torsion axles, front tongue jack, two rear stabilizer jacks, ICC lighting, and license plate bracket. These trailers also come with a lockable storage trunk at front of trailer and a cable storage in the rear.

WEIGHTS AND DIMENSIONS

OVERALL SIZE, L x W x H, in.: 217 in. x 79 in. x 116 in.
WEIGHT (DRY): 7000 lbs.
Note: Dim and weights reflect standard open unit with no options



Note: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

DISTRIBUTED BY:

TAYLOR POWER SYSTEMS

461 Hwy. 49S
Richland, Mississippi 39218
Phone (601)-932-5674
Toll Free 1-800-367-7639
Fax (601)-932-4028
Web Site www.taylorpower.com