



# Cummins Inc.

Columbus, Indiana 47201

## Engine Data Sheet

Basic Engine Model:  
**QSK60-G5**

Curve Number:  
**FR-6321**

G-DRIVE  
**QSK**  
**1**

Engine Critical Parts List:  
**CPL: 2667**

Date:  
**7Feb03**

Displacement : **60.2 litre (3673 in<sup>3</sup>)**

Bore : **159 mm (6.25 in.)** Stroke : **190 mm (7.48 in.)**

No. of Cylinders : **16**

Aspiration : **Turbocharged and Jacket Water Aftercooled**

Emissions: **Refer to Emission Data Sheet for Details.**

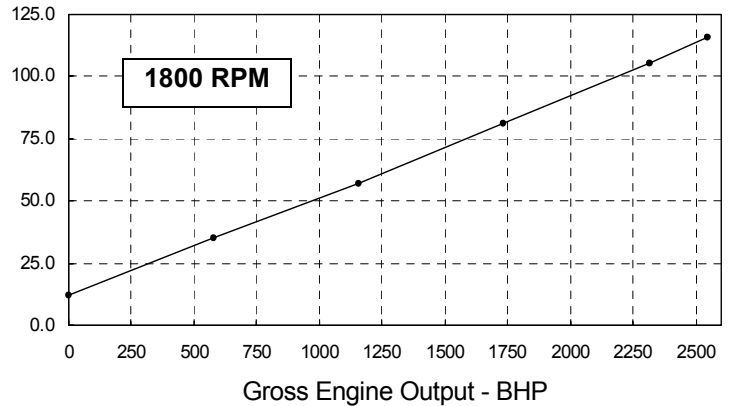
### Engine Ratings:

Engine Speed RPM	Standby Power		Prime Power		Continuous Power	
	kWm	BHP	kWm	BHP	kWm	BHP
1800	1900	2547	1725	2312	1570	2105

### Engine Fuel Consumption @ 1800 RPM

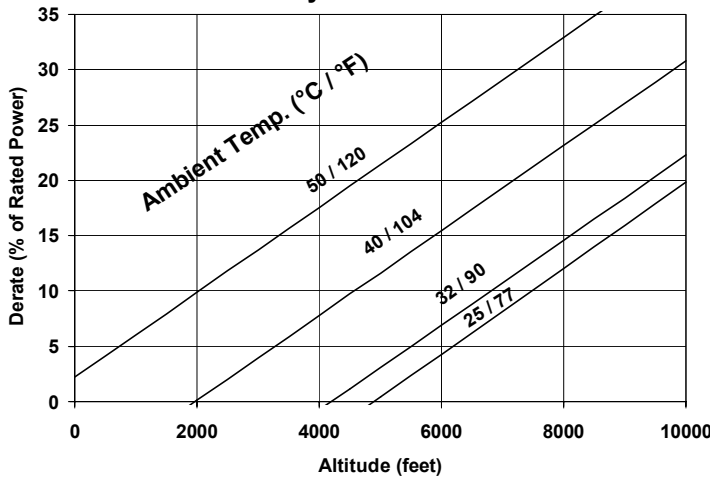
OUTPUT POWER			FUEL CONSUMPTION			
%	kWm	BHP	kg/ kWm-h	lb/ BHP-h	litre/ hour	U.S. Gal/ hour
<b>STANDBY POWER</b>						
100	1900	2547	0.196	0.322	438	115.5
<b>PRIME POWER</b>						
100	1725	2312	0.197	0.324	400	105.5
75	1294	1734	0.202	0.332	307	81.1
50	863	1156	0.214	0.352	217	57.3
25	431	578	0.261	0.430	133	35.0
<b>CONTINUOUS POWER</b>						
100	1570	2105	0.197	0.324	364	96.0

### U.S. gallon / hour

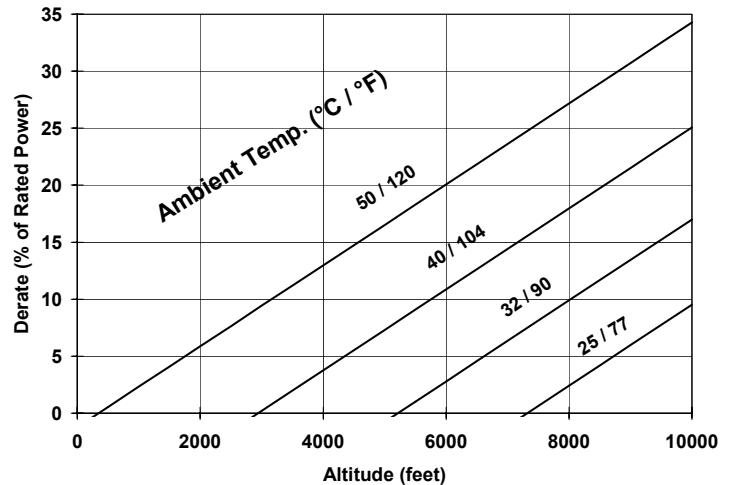


### Power Derate Curves:

#### Standby / Prime Power



#### Continuous Power



### Operation At Elevated Temperature And Altitude:

For sustained operation above these conditions, derate by an additional 4.1% per 300 m (1000 ft), and 9% per 10° C (18° F).

### CONVERSIONS: (litres = U.S. Gal x 3.785) (U.S. Gal = litres x 0.2642)

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.

### Data Subject to Change Without Notice

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<sub>2</sub>O 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/U.S. 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:  
*D.K. Trueblood*

# Cummins Inc.

## Engine Data Sheet

**ENGINE MODEL : QSK60-G5**

**CONFIGURATION NUMBER : D593002GX03**

**DATA SHEET : DS-6321-LP**

**DATE : 7Feb03**

**PERFORMANCE CURVE : FR-6321**

**INSTALLATION DIAGRAM**

• Fan to Flywheel : 3170436

**CPL NUMBER**

• Engine Critical Parts List : 2667

### GENERAL ENGINE DATA

Type.....	4-Cycle; 60° Vee; 16-Cylinder Diesel	
Aspiration.....	Turbocharged and Jacket Water Aftercooled	
Bore x Stroke.....	— mm x mm (in x in)	159 x 190 (6.25 x 7.48)
Displacement.....	— litre (in <sup>3</sup> )	60.2 (3673)
Compression Ratio.....		14.5 : 1
Dry Weight		
Fan to Flywheel Engine (with SAE 0 Flywheel and Flywheel Housing).....	— kg (lb)	7185 (15835)
Wet Weight		
Fan to Flywheel Engine.....	— kg (lb)	7540 (16620)
Moment of Inertia of Rotating Components		
• with FW 6043 Flywheel (SAE 0).....	— kg • m <sup>2</sup> (lb <sub>m</sub> • ft <sup>2</sup> )	15.77 (375.5)
• with FW 6037 Flywheel (SAE 00).....	— kg • m <sup>2</sup> (lb <sub>m</sub> • ft <sup>2</sup> )	26.23 (622.4)
Center of Gravity from Front Face of Block.....	— mm (in)	1001 (39.4)
Center of Gravity Above Crankshaft Centerline.....	— mm (in)	219 (8.6)
Maximum Static Loading at Rear Main Bearing.....	— kg (lb)	1134 2500

### ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Block.....	— N • m (lb • ft)	10350 (7634)
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### EXHAUST SYSTEM

Maximum Back Pressure at 1800 RPM (Standby Power).....	— mm Hg (in Hg)	51 (2)
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### AIR INDUCTION SYSTEM

Maximum Intake Air Restriction		
• with Dirty Filter Element.....	— kPa (in H <sub>2</sub> O)	6.2 (25)
• with Clean Filter Element.....	— kPa (in H <sub>2</sub> O)	3.7 (15)

### COOLING SYSTEM

Coolant Capacity — Engine.....	— litre (US gal)	157 (42)
Maximum Coolant Friction Head External to Engine — 1800 rpm.....	— kPa (psi)	69 (10)
Maximum Static Head of Coolant Above Engine Crank Centerline.....	— m (ft)	18.3 (60)
Thermostat Modulating Range.....	°C (°F)	82 - 93 (180 - 200)
Minimum Pressure Cap (For Cooling Systems with less than 2 m [6 ft] Static Head).....	— kPa (psi)	69 (10)
Maximum Top Tank Temperature for Standby / Prime Power.....	— °C (°F)	104 / 100 (220 / 212)

### LUBRICATION SYSTEM

Oil Pressure @ Idle Speed.....	— kPa (psi)	138 (20)
@ Governed Speed.....	— kPa (psi)	345-483 (50-70)
Maximum Oil Temperature.....	— °C (°F)	121 (250)
Oil Capacity with OP6073 Oil Pan: Low-High.....	— litre (US gal)	231-261 (61-69)
Total System Capacity (with Combo Filter).....	— litre (US gal)	280 (74)

