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|  | CUMMINS ENGINE COMPANY, INC Columbus, Indiana 47201 | Basic Engine Model: QSL9-G5 | Curve Number: FR-91545 FR-92129 | <i>G-DRIVE</i> QSL 1 |
| | EXHAUST EMISSIONS DATA SHEET | Engine Critical Parts List: CPL: 8693 CPL: 1793 | Date: 2Apr07 | |
| Displacement : 8.84 litre (540 in³) | | Bore : 114 mm (4.48 in) Stroke : 145 mm (5.69 in) | | |
| No. of Cylinders : 6 | | Aspiration : Turbocharged and Aftercooled | | |

| Engine Speed RPM | Standby Power | | Prime Power | | Continuous Power | |
|---------------------|---------------|-----|-------------|-----|------------------|-----|
| | kWm | BHP | kWm | BHP | kWm | BHP |
| 1500 | 310 | 415 | 268 | 359 | 228 | 305 |
| 1800 | 355 | 476 | 307 | 412 | 261 | 350 |

Exhaust Emissions Data @ 1500 RPM

| Component | Standby Power | | | Prime Power | | | Continuous Power | | |
|---|---------------|-------------------|------|-------------|-------------------|------|------------------|-------------------|------|
| | g/BHP-h | mg/m ³ | PPM | g/BHP-h | mg/m ³ | PPM | g/BHP-h | mg/m ³ | PPM |
| HC (Total Unburned Hydrocarbons) | 0.07 | 30 | 40 | 0.07 | 30 | 40 | 0.08 | 35 | 45 |
| NOx (Oxides of Nitrogen as NO ₂) | 8.3 | 3740 | 1665 | 7.9 | 3690 | 1485 | 7.5 | 3575 | 1350 |
| CO (Carbon Monoxide) | 0.62 | 280 | 205 | 0.29 | 135 | 90 | 0.29 | 135 | 85 |
| PM (Particulate Matter) | 0.05 | 21 | N/A | 0.04 | 17 | N/A | 0.06 | 25 | N/A |
| SO₂ (Sulfur Dioxide) | 0.13 | 54 | 18 | 0.12 | 55 | 16 | 0.12 | 55 | 15 |

Exhaust Emissions Data @ 1800 RPM

| Component | Standby Power | | | Prime Power | | | Continuous Power | | |
|---|---------------|-------------------|------|-------------|-------------------|-----|------------------|-------------------|-----|
| | g/BHP-h | mg/m ³ | PPM | g/BHP-h | mg/m ³ | PPM | g/BHP-h | mg/m ³ | PPM |
| HC (Total Unburned Hydrocarbons) | 0.05 | 25 | 30 | 0.05 | 25 | 30 | 0.08 | 35 | 40 |
| NOx (Oxides of Nitrogen as NO ₂) | 6.1 | 2625 | 1135 | 5.8 | 2600 | 995 | 5.6 | 2570 | 885 |
| CO (Carbon Monoxide) | 0.85 | 370 | 265 | 0.46 | 210 | 130 | 0.35 | 160 | 95 |
| PM (Particulate Matter) | 0.08 | 31 | N/A | 0.05 | 21 | N/A | 0.06 | 23 | N/A |
| SO₂ (Sulfur Dioxide) | 0.13 | 55 | 17 | 0.13 | 55 | 16 | 0.12 | 55 | 14 |

CONVERSIONS: (g/kWm·h = g/BHP·h x 1.34)

Test Methods and Conditions

Steady-State emissions recorded per ISO8179-1 during operation at rated engine speed (± 2%) and stated constant load (± 2%) with engine temperatures, pressures and emission rates stabilized.

Fuel Specifications:

46.5 Cetane Number, 0.035 Wt.% Sulfur: Reference ISO8178-5, 40CFR86.1313-98 Type 2D and ASTM D975 No. 2-D.

Reference Conditions:

25°C (77°F) Air Inlet Temperature, 40°C (104°F) Fuel Inlet Temperature, 100 kPa (29.53 in Hg) Barometric Pressure; 10.7 g/kg (75 grains H₂O/lb) of dry air Humidity (required for NO_x correction); Intake Restriction set to maximum allowable limit for clean filter; Exhaust Back Pressure set to maximum allowable limit.

Data was taken for a single engine test with the Test Method, Fuel Specification and Reference Conditions state above. Field tests using alternate Test Methods, Fuel or Reference Conditions may yield different results.

Data Subject to Change Without Notice.