



# Application and Engineering Data

<b>Basic Technical Data</b>		<b>Lubrication System</b>	
<b>Manufacturer</b>	General Motors	<b>Type</b>	Full Pressure
<b>Model</b>	Vortec 8.1 L	<b>Oil pan capacity</b>	8.5 qt (8.0 L)
<b>Number of cylinders</b>	8	<b>Oil pan capacity with filter</b>	9.0 qt (8.5L)
<b>Cylinder arrangement</b>	Vertical in-line	<b>Oil filter: qty and type</b>	1, Cartridge
<b>Cycle</b>	4	<b>Electrical System</b>	
<b>Induction system</b>	Turbocharged and Charge Cooled	<b>Ignition system</b>	Individual Coil, Near Plug Ignition
<b>Compression ratio</b>	9.1:1	<b>Battery charging alternator:</b>	
<b>Bore</b>	4.25 in (108 mm)	<b>Ground</b>	negative
<b>Stroke</b>	4.37 in (111 mm)	<b>Volts</b>	12
<b>Cubic capacity</b>	496 cu in (8.1 L)	<b>Ampere rating</b>	70
<b>Piston speed</b>	1311 ft/min (399 m/min)	<b>Starter motor rated voltage</b>	12
<b>Main bearings: qty and type</b>	Alum. Lead Silicon Alloy	<b>Battery, recommended cold cranking amps (CCA):</b>	
<b>Governor type</b>	Electronic	<b>Qty rating for -18 °C (0 °F)</b>	1,630
<b>Rated rpm</b>	1800	<b>Battery voltage</b>	12
<b>Max power at rated rpm</b>	228 hp (170 kW)	<b>Operation Requirements</b>	
<b>Engine power at Standby rating</b>	N/A	<b>Radiator-cooled cooling air, m<sup>3</sup>/min (scfm) ‡</b>	10800 scfm (306 m <sup>3</sup> /min)
<b>Frequency regulation, no-load to full-load</b>	Isochronous	<b>Combustion air</b>	312 cfm (8.8 m <sup>3</sup> /min)
<b>Frequency regulation, steady state</b>	± 0.5%	<b>Heat rejected to ambient air:</b>	
<b>Frequency</b>	Fixed	<b>Engine</b>	4100 Btu/min (72 kW)
<b>Air cleaner type</b>	Dry	<b>Alternator</b>	780 Btu/min (13.7 kW)
<b>Exhaust System</b>		<b>Fuel System</b>	
<b>Exhaust manifold type</b>	Dry	<b>Fuel Type</b>	Natural Gas
<b>Exhaust flow at rated kW</b>	1063 cfm (30.1 m <sup>3</sup> /min)	<b>Fuel Consumption</b>	
<b>Exhaust temperature at rated kW</b>	1200 °F (649 °C)	<b><u>Natural Gas</u></b>	
<b>Maximum allowable back pressure</b>	3.0 in (10.2 kPa)	<b>100% Load</b>	1930 cfh (54.7 m <sup>3</sup> /hr)
<b>Exhaust outlet size at engine hookup</b>	N/A	<b>75% Load</b>	1512 cfh (42.9 m <sup>3</sup> /hr)
<b>Cooling System</b>		<b>50% Load</b>	1112 cfh (31.5 m <sup>3</sup> /hr)
<b>Ambient temperature</b>	122 °F (50 °C)	<b>25% Load</b>	707 cfh (20.0 m <sup>3</sup> /hr)
<b>Engine jacket water capacity</b>	2.6 gal (10 L)		
<b>Radiator system capacity, including engine</b>	6.4 gal (24.2 L)		
<b>Engine jacket water flow</b>	33 gpm (125 Lpm)		
<b>Heat rejected to cooling water at rated</b>	7320 Btu/min (129 kW)		
<b>Max restriction of cooling air, intake and discharge side of radiator</b>	0.5 H <sub>2</sub> O (0.125 kPa)		



