

DETROIT DIESEL

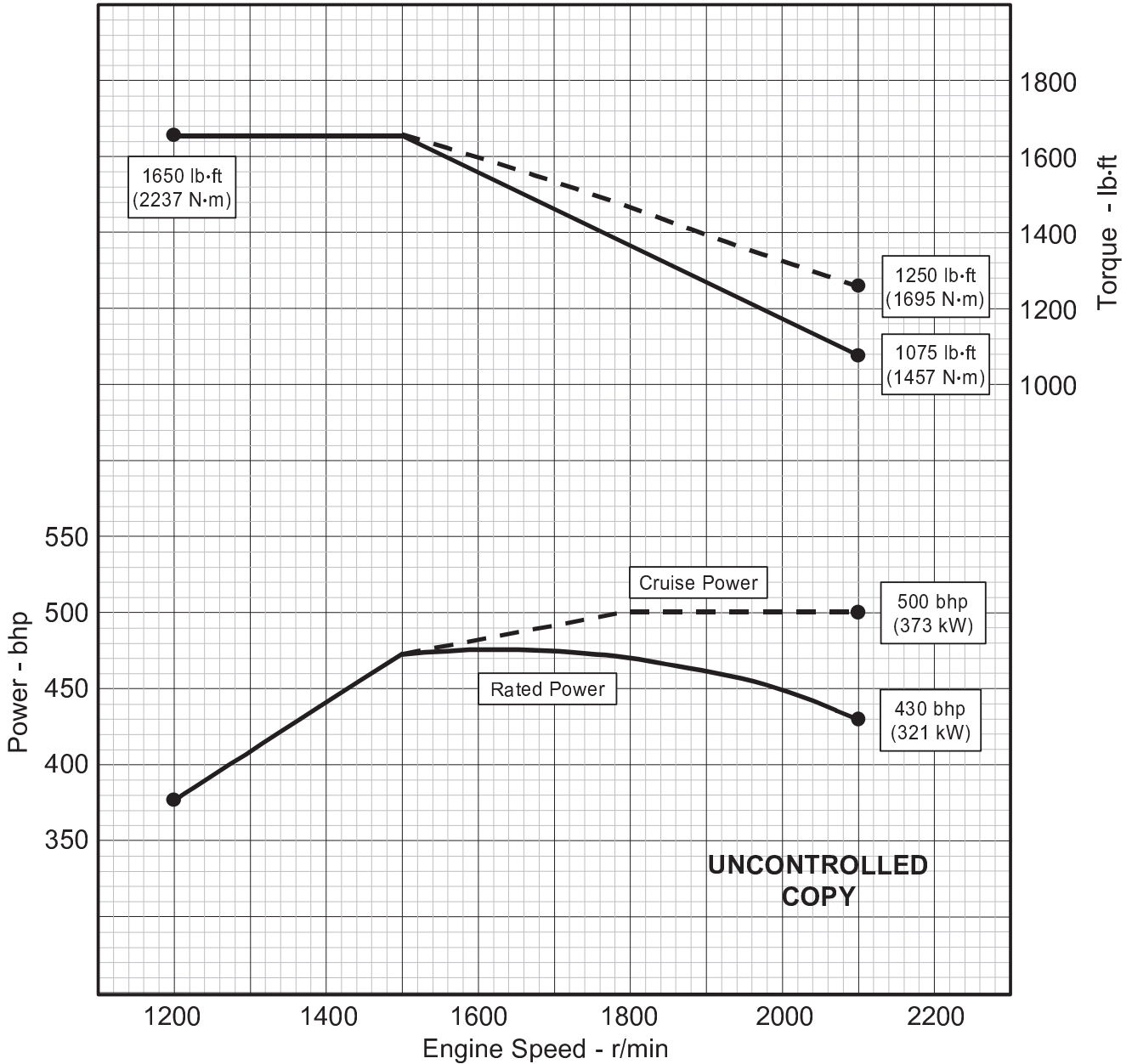


On-highway Power

Model: Series 60[®] - Truck

Rating: 500 bhp @ 2100 r/min, 1650 lb-ft @ 1200 r/min (Cruise)
430 bhp @ 2100 r/min, 1650 lb-ft @ 1200 r/min (Rated)

Certification:
1999 Line Haul



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<p>Power output guaranteed within 5% at SAE J1995 conditions: 77°F (25°C) air inlet temperature; 29.31 in. Hg (99kPa) dry barometer; 100°F (38°F) fuel inlet temperature; .653 specific gravity at 60°F (15°C) Charge air cooler system pressure drop: 16 in. H₂O (4 kPa) Charge air cooler system temperature out: 97°F (36°C) Air intake restriction: 10 in. H₂O (2.5 kPa) Exhaust Back Pressure: 15 in. H₂O (3.7 kPa)</p>	<p><i>Conversion Factors:</i> Power: kW = bhp x 0.746 Torque: N · m = lb · ft x 1.356</p>	<p>6N04M - 7092 Catalytic Device - (not required)</p>
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Certified by: *Paul Rimmer*

Curve No. E4-6067-32-641
Rev. / Date: New / 2-05-99
Sheet No. 1 of 2

Performance Curve

On-highway Specification Sheet

General Data

Model.....	6067-BK60
Number of Cylinders.....	6
Bore and Stroke – in. x in. (mm x mm).....	5.12 x 6.30 (130 x 160)
Displacement – in. ³ (L).....	778 (12.7L)
Compression Ratio.....	16.5:1

Configuration

Turbocharger.....	GT4202 (1.15 A/R)
Camshaft (92J/16E/44N).....	23524292
Charge Air Cooling.....	Air to Air

Physical Data

Size:	
Length – in. (mm).....	56.9 (1448)
Width – in. (mm).....	36.3 (923)
Height – in. (mm).....	50.4 (1279)
Weight, Dry – lb (kg).....	2610 (1184)
Weight, Wet – lb (kg).....	2732 (1239)
Center of Gravity Distance:	
From R.F.O.B. (x axis) – in. (mm).....	22.3 (566)
Above Crankshaft (y axis) – in. (mm).....	8.6 (218)
Right of Crankshaft (z axis) – in. (mm).....	-1.4 (-35.6)
Installation Drawing.....	2SA-948

Mechanical Data

Thrust Bearing Load Limit, Continuous – lb (N).....	900 (4000)
Thrust Bearing Load Limit, Intermittent – lb (N).....	1800 (8000)
Maximum Static Bending Moment at Rear	
Face of Block – lb-ft (N·m).....	1000 (1356)
Additional Mechanical Data.....	E4-6040-32-1

Fuel System

Fuel Injector.....	5236952
Injection Timing Height – mm.....	81.0
Maximum Fuel Inlet Temperature – °F (°C).....	140 (60)
Fuel Temperature Rise @ Rated – °F (°C).....	76 (42.2)
Maximum Fuel Pump Suction:	
Clean System – in. Hg (kPa).....	6 (20.3)
Dirty System – in. Hg (kPa).....	12 (41)
Fuel Filter Size, Primary – microns.....	25
Fuel Filter Size, Secondary – microns.....	8
Fuel Spill Restrictive Fitting – in. (mm).....	0.08 (2.0)

	Rated Speed gal/hr (L/hr)	(1500 r/min) gal/hr (L/hr)	(1200 r/min) gal/hr (L/hr)
Fuel Consumption	25.0 (94.8)	22.1 (83.7)	16.6 (62.9)
Spill Flow	63.8 (240)	—	—
Total Flow	88.6 (335)	—	—

Lubrication System

Oil Pressure at Rated Speed – lb/in. ² (kPa).....	50 (345)
Oil Pressure at Low Idle – lb/in. ² (kPa).....	12 (83)
In Pan Oil Temperature – °F (°C).....	235 (113)
Oil Flow – gal/min (L/min).....	36 (136)
Oil Pan Capacity, High Limit – qt (L).....	32 (30)
Oil Pan Capacity, Low Limit – qt (L).....	26 (25)
Total Engine Oil Capacity with Filters – qt (L).....	38 (36)
Two Full Flow Filters – microns.....	30

Electrical System (Engine Only w/out Parasitic Loads)

Recommended Battery Capacity (CCA @ 0°F):	
12 Volt System.....	1875
Maximum Resistance of Starting Circuit:	
12 Volt System – ohms.....	0.0012

Certification Information

Certification Approval – Line Haul.....	1999
(CWC) Certification Word Code.....	1047

Cooling System

Engine Heat Rejection to Coolant:	
Rated Speed – Btu/min (kW).....	8400 (148)
(1500 r/min) – Btu/min (kW).....	7900 (139)
(1200 r/min) – Btu/min (kW).....	6200 (109)
Idle Speed (600 r/min) – Btu/min (kW).....	N/A
Charge Air Cooler Heat Rejection:	
Rated Speed – Btu/min (kW).....	4700 (83)
(1500 r/min) – Btu/min (kW).....	4050 (71)
(1200 r/min) – Btu/min (kW).....	2550 (45)
Engine Radiated Heat:	
Rated Speed – Btu/min (kW).....	3100 (54)
(1500 r/min) – Btu/min (kW).....	2800 (49)
(1200 r/min) – Btu/min (kW).....	2150 (38)

Cooling System (Continued)

Coolant Flow (Minimum 90% of Rated Required)	
Rated Speed – gal/min (L/min).....	113 (428)
(1500 r/min) – gal/min (L/min).....	79 (300)
(1200 r/min) – gal/min (L/min).....	63 (238)
External Restriction @ 90% Flow – lb/in. ² (kPa).....	9.5 (65)
Thermostat:	
Start to Open – °F (°C).....	190 (86)
Fully Open – °F (°C).....	205 (96)
Minimum Water Pump Inlet Pressure – lb/in. ² (kPa).....	0 (0)
Engine Coolant Capacity – qt (L).....	24 (23)
Minimum Pressure Cap – lb/in. ² (kPa).....	9 (62)
Maximum Pressure	
(Exclusive of Pressure Cap) – lb/in. ² (kPa).....	21 (145)
Maximum Top Tank Temperature – °F (°C).....	214 (101)
Minimum Top Tank Temperature – °F (°C).....	160 (71)
Minimum Fill Rate – gal/min (L/min).....	3 (11.4)
Cooling Index (100 °F Ambient w/H ₂ O @ Sea Level):	
Max Air to Water Diff. @ Rated Speed – °F (°C).....	104 (58)
Max Air to Water Diff. @ 1200-1500 r/min – °F (°C).....	114 (63)
Ram Air Flow – miles/hr (km/hr).....	30 (48)
Deaeration Time – Minute.....	30
Minimum Drawdown Requirement – % of total system.....	10

Air System

Maximum Ambient to Turbo Compressor Inlet	
Temperature Rise – °F (°C).....	30 (16.7)
Maximum Air Intake Restriction:	
Dirty Air Cleaner – in. H ₂ O (kPa).....	20 (5)
Clean Air Cleaner – in. H ₂ O (kPa).....	12 (3)
Engine Air Flow:	
Rated Speed – ft ³ /min (m ³ /min).....	1170 (33.1)
(1500 r/min) – ft ³ /min (m ³ /min).....	960 (27.2)
Turbocharger Compressor Out Temperature	
Rated Speed – °F (°C).....	355 (179)
(1500 r/min) – °F (°C).....	357 (181)
Manifold Pressure – in. Hg (kPa).....	58 (196)
Recommended Intake Pipe Diameter – in. (mm).....	5 (127)
Maximum Charge Air Cooler System Total	
Pressure Drop – in. Hg (kPa).....	4.0 (13.5)
Max. Ambient to Intake Manifold Temp. Diff. – °F (°C).....	50 (28)
Maximum Crankcase Pressure – in. H ₂ O (kPa).....	3.0 (0.75)

Exhaust System

Exhaust Flow:	
Rated Speed – ft ³ /min (m ³ /min).....	2860 (81.0)
(1500 r/min) – ft ³ /min (m ³ /min).....	2310 (65.4)
Exhaust Temperature	
Rated Speed – °F (°C).....	825 (441)
(1500 r/min) – °F (°C).....	800 (427)
Maximum Back Pressure – in. Hg (kPa).....	3.0 (10.1)
Recommended Exhaust Pipe Diameter:	
Single – in. (mm).....	5 (127)
Dual – in. (mm).....	4 (102)
Max. Exhaust Brake Back Pressure – in. Hg (kPa).....	80 (270)

Performance Data

Friction Power:	
Rated Speed – hp (kW).....	77 (57)
(1500 r/min) – hp (kW).....	41 (31)
Altitude Capability – ft (m).....	12000 (3660)
Torque Available at 800 r/min – lb-ft (N·m).....	870 (1175)
Low Idle Speed – r/min.....	600
High Idle Speed – r/min.....	2225
Engine Crankcase Vent System.....	Open

Engine Speed r/min	Cruise Power bhp (kW)	Cruise Torque lb-ft (N·m)
2100	500 (373)	1250 (1695)
1950	500 (373)	1347 (1826)
1800	500 (373)	1459 (1978)
1650	473 (353)	1506 (2041)
1500	471 (352)	1650 (2237)
1350	424 (316)	1650 (2237)
1200	377 (281)	1650 (2237)

* Estimated

N/A – Not Available

All values are at rated speed and power at SAE J1995 with standard engine hardware, unless otherwise noted.

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Sheet No. 2 of 2