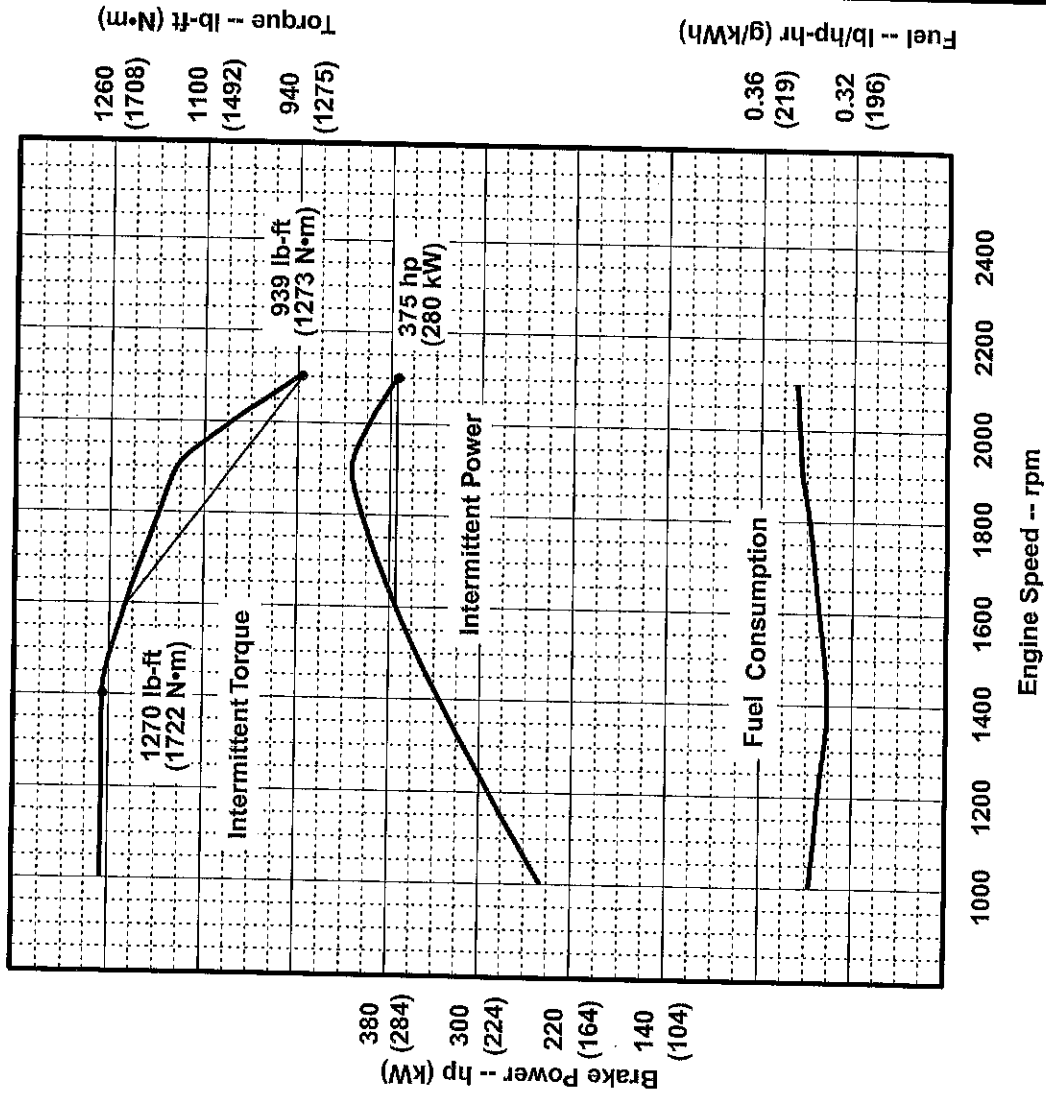




ENGINE PERFORMANCE CURVE

POWERTECH 12.5L Engine
Model: 6125AF001
JD Electronic Control
375 hp @ 2100 rpm
280 kW @ 2100 rpm
 [See Option Code Table]

Rating: Gross Power
 Application: **Curve 1**
10% Power Bulge
 Industrial - Intermittent



Air Intake Restriction 12 in.H₂O (3 kPa)
 Exhaust Back Pressure 30 in.H₂O (7.5 kPa)

Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:
 77 °F (25 °C) air inlet temperature
 29.31 in.Hg (99 kPa) barometer
 104 °F (40 °C) fuel inlet temperature
 0.853 fuel specific gravity @ 60 °F (15.5 °C)

Conversion factors:
 Power: kW = hp x 0.746
 Fuel: 1 gal = 7.1 lb, 1 L = 0.85 kg
 Torque: N·m = lb-ft x 1.356

All values are from currently available data and are subject to change without notice.

Notes:

Tier-1 Emission Certifications: Certified by:

CARB; EPA; EU*
 Ref: Engine Emission Label
Kevin J Bailey
5 Nov 99

* Revised Data
 Curve: 6125AF001375E Sheet 1 of 4
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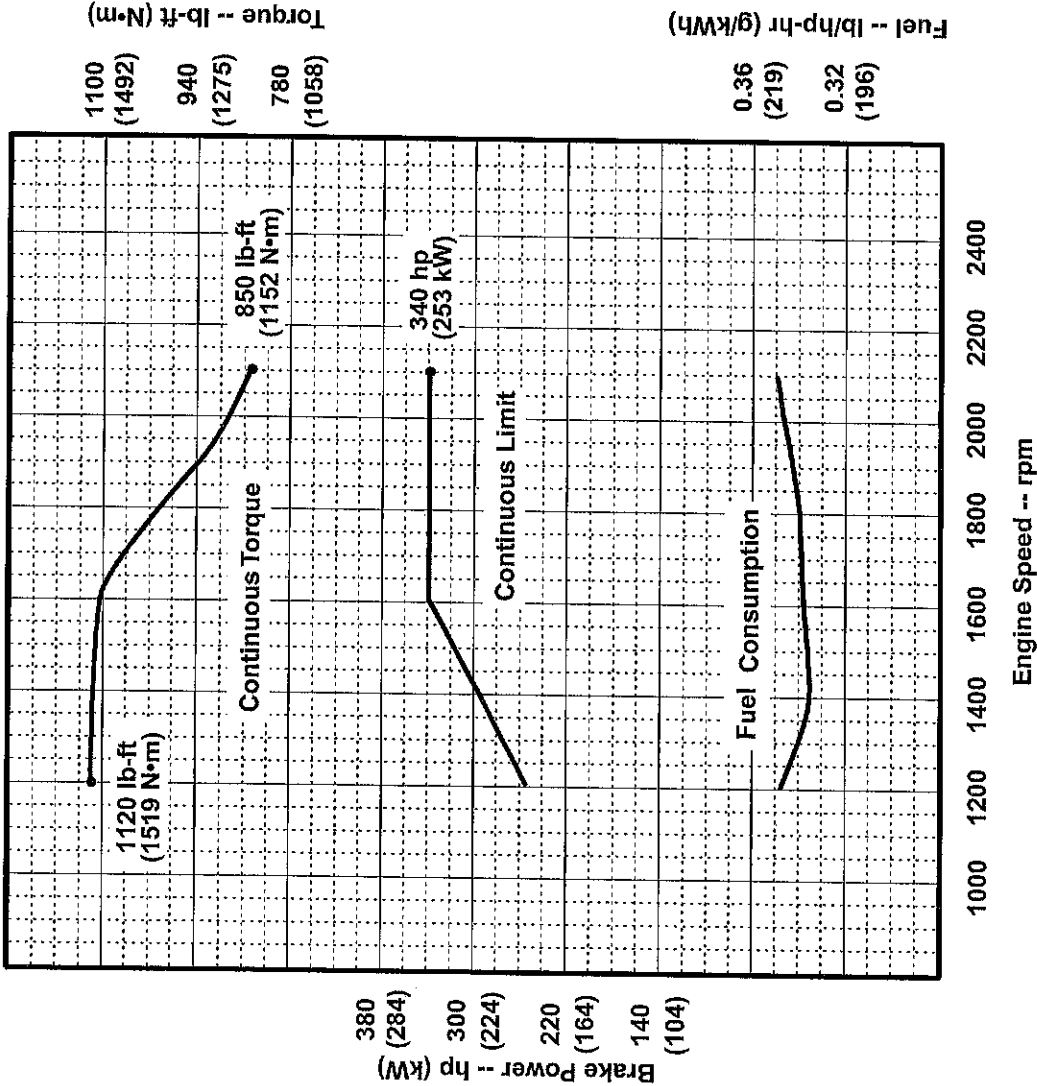


ENGINE PERFORMANCE CURVE

Rating: Gross Power
Application: **Curve 2**

Industrial - Continuous

POWERTECH 12.5L Engine
Model: **6125AF001**
JD Electronic Control
340 hp @ 2100 rpm
253 kW @ 2100 rpm
[See Option Code Table]



Air Intake Restriction 12 in.H₂O (3 kPa)
Exhaust Back Pressure 30 in.H₂O (7.5 kPa)

Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:
77 °F (25 °C) air inlet temperature
29.31 in.Hg (99 kPa) barometer
104 °F (40 °C) fuel inlet temperature
0.853 fuel specific gravity @ 60 °F (15.5 °C)

Conversion factors:
Power: kW = hp x 0.746
Fuel: 1 gal = 7.1 lb, 1 L = 0.85 kg
Torque: N·m = lb-ft x 1.356

All values are from currently available data and are subject to change without notice.

Notes:

Tier-1 Emission Certifications: Certified by:

CARB; EPA; EU*
Ref: Engine Emission Label
Kevin J Bailey
5 Nov 99

* Revised Data
Curve: 6125AF001375E Sheet 2 of 4
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Common Specifications:

General Data

Model	6125AF001
Number of Cylinders	6
Bore and Stroke-in. (mm)	5.00 (127) x 6.50 (165)
Displacement-in. ³ (L)	766 (12.5)
Compression Ratio	16:1
Valves per Cylinder-Intake/Exhaust	2/2
Firing Order	1-5-3-6-2-4
Combustion System	Unit Injection
Engine Type	In-line, 4-Cycle
Aspiration	Turbocharged
Charge Air Cooling System	Water-to-Air
Engine Crankcase Vent System	Open
Maximum Crankcase Pressure-in. H ₂ O (kPa)	2 (0.5)

Physical Data

Length-in. (mm)	52.2 (1326)
Width-in. (mm)	29.2 (741)
Height-in. (mm)	48.2 (1224)
Weight, dry-lb (kg)	2675 (1216)
Center of Gravity Location (Includes flywheel housing, flywheel & electrics)	
From Rear Face of Block (X-axis)-in. (mm)	21.3 (540)
Right of Crankshaft (Y-axis)-in. (mm)	0.5 (14)
Above Crankshaft (Z-axis)-in. (mm)	8.7 (220)
Maximum Allowable Static Bending Moment at Rear Face of Flywhl Hsg w/ 5-G Load-lb-ft (N·m)	600 (814)
Thrust Bearing Load Limit (Forward)-lb (N)	
Intermittent	1835 (8162)
Continuous	1225 (5449)

Fuel System

Fuel Injection Pump	Unit w/ Electronic Control
Governor Type	Electronic
Fuel Consumption-lb/hr (kg/hr)	See Next Sheet ††
Fuel Spill Rate-lb/hr (kg/hr)	See Next Sheet ††
Maximum Fuel Transfer Pump Suction-ft (m) fuel	10 (3.0)
Fuel Filter Micron Size @ 98% Efficiency	2

†† Unique Intermittent / Continuous data is on next sheet.

Engine Performance Curves

6125 - Industrial

June 2000

Engine Specification Data

Lubrication System

Oil Pressure at Rated Speed-psi (kPa)	45 (310)
Oil Pressure at Low Idle-psi (kPa)	20 (138)
In Pan Oil Temperature-°F (°C)	240 (115)
Oil Pan Capacity, High-qt (L)	42 (40)
Oil Pan Capacity, Low-qt (L)	40 (38)
Total Engine Oil Capacity with Filters-qt (L)	44 (42)
Engine Angularity Limits Any Direction-degrees	
Intermittent	45
Continuous	20

Exhaust System

Exhaust Flow-ft ³ /min (m ³ /min)	See Next Sheet ††
Exhaust Temperature-°F (°C)	See Next Sheet ††
Maximum Allowable Back Pressure-in. H ₂ O (kPa)	30 (7.5)
Recommended Exhaust Pipe Diameter-in. (mm)	5 (127)

Electrical System

Rec'd. Battery Capacity (CCA)-amp	12 Volt 24 Volt	1800	900
Max. Allow. Starting Circuit Resist.-Ohm	0.0012	0.002	0.002
Starter Rolling Current			
At 32 °F (0 °C)-amp	1280	600	
At -22 °F (-30 °C)-amp	1500	970	

Air System

Maximum Allowable Temp Rise-Ambient Air to Engine Inlet-°F (°C)	15 (8)
Maximum Air Intake Restriction	
Dirty Air Cleaner-in. H ₂ O (kPa)	25 (6.25)
Clean Air Cleaner-in. H ₂ O (kPa)	12 (3)
Engine Air Flow-ft ³ /min (m ³ /min)	See Next Sheet ††
Intake Manifold Pressure-psi (kPa)	See Next Sheet ††
Recommended Intake Pipe Diameter-in. (mm)	5.5 (140)

Cooling System

Engine Heat Rejection-BTU/min (kW)	See Next Sheet ††
Coolant Flow-gal/min (L/min)	85 (330)
Thermostat Start to Open-°F (°C)	180 (82)
Thermostat Fully Open-°F (°C)	202 (94)
Max. Water Pump Inlet Restriction-in. H ₂ O (kPa)	40 (10)
Engine Coolant Capacity-qt (L)	19.2 (18.2)
Recommended Pressure Cap-psi (kPa)	7 (48)
Maximum Top Tank Temp-°F (°C)	212 (100)
Minimum Coolant Fill Rate-gal/min (L/min)	3 (11)
Minimum Air-to-Boil Temperature-°F (°C)	117 (47)

Electronic Engine Controls (JDEC & Lucas)

Torque Curve Option (Pins "A" and "B")	
Curve 1	375 hp (280 kW) intermittent power
Curve 2	340 hp (253 kW) continuous power
Default Power Curves 3 and 4-	
Curve 3	90% continuous
Curve 4	90% intermittent
Governor Droop (Pin "E")	
Droop	6%
Isosynchronous	0%
Pins "C" and "D"	Not used

OPTION CODE TABLE

JDEC ECU FEATURE PROGRAMMING		
Option Code	ECU Voltage	Engine Protection
1602	12	Yes Derate only
1623	12	Yes Derate w/shutdown
1612	24	Yes Derate only
1633	24	Yes Derate w/shutdown

NOTE: Torque curves include Power Bulge Control.

All values at rated speed and power with standard options unless otherwise noted.

* Revised Data

Curve: 6125AF001375E

Sheet 3 of 4

November 1999

Engine Specification Data

Curve #1 Specifications:

**375 hp (280 kW) Intermittent
with 10% Power Bulge**

Air System

Engine Air Flow--ft³/min (m³/min) [I] 1030 (29.2)
Intake Manifold Pressure--psi (kPa) [I] 24.8 (171)

Exhaust System

Exhaust Flow--ft³/min (m³/min) [I] 2348 (66.5)
Exhaust Temperature--°F (°C) [I] 810 (432)

Cooling System

Engine Heat Rejection--BTU/min (kW) [I] 9780 (172)

Fuel System

Fuel Consumption--lb/hr (kg/hr) [I] 129.4 (58.8)
Max Fuel Spill Rate--lb/hr (kg/hr) [I] 132.3 (60)

Performance Data

Rated Power--hp (kW) [I] 375 (280)
Rated Speed--rpm 2100
Peak Torque--lb-ft (N·m) [I] 1270 (1722)
Peak Torque Speed--rpm 1400
Low Idle Speed--rpm 900
BMEP--psi (kPa) [I] 185 (1275)
Friction Power @ Rated Speed--hp (kW) 42 (36)
Altitude Capability--ft (m) 11,000 (3300)*
Ratio--Air : Fuel [I] 33.9:1
Smoke @ Rated Speed--Bosch No. [I] < 1
Noise--dB(A) @ 1 m [I] 99.0

Engine Speed rpm	Intermit. Power hp(kW)	Intermit. Torque lb-ft(N·m)	BSFC lb/hp-hr (g/kWh)
2100	375 (280)	939 (1273)	0.345 (210)
2000	398 (297)	1046 (1418)	0.344 (209)
1900	414 (309)	1145 (1553)	0.342 (208)
1800	401 (299)	1170 (1586)	0.339 (206)
1600	373 (278)	1224 (1659)	0.335 (204)
1400	338 (252)	1270 (1722)	0.330 (201)
1200	290 (216)	1270 (1722)	0.335 (204)
1000	242 (180)	1270 (1722)	0.339 (206)

Curve #2 Specifications:

340 hp (253 kW) Continuous

Air System

Engine Air Flow--ft³/min (m³/min) [C] 932 (26.4)
Intake Manifold Pressure--psi (kPa) [C] 23 (146)

Exhaust System

Exhaust Flow--ft³/min (m³/min) [C] 2125 (60.2)
Exhaust Temperature--°F (°C) [C] 811 (433)

Cooling System

Engine Heat Rejection--BTU/min (kW) [C] 8590 (151)

Fuel System

Fuel Consumption--lb/hr (kg/hr) [C] 118.6 (53.9)
Fuel Spill Rate--lb/hr (kg/hr) [C] 132.3 (60)

Performance Data

Rated Power--hp (kW) [C] 340 (253)
Rated Speed--rpm 2100
Peak Torque--lb-ft (N·m) [C] 1120 (1519)
Peak Torque Speed--rpm 1200
Low Idle Speed--rpm 900
BMEP--psi (kPa) [C] 167 (1150)
Friction Power @ Rated Speed--hp (kW) 42 (36)
Altitude Capability--ft (m) 14,000 (4300)*
Ratio--Air : Fuel [C] 34.2:1
Smoke @ Rated Speed--Bosch No. [C] < 1
Noise--dB(A) @ 1 m [C] 98.5

Engine Speed rpm	Continuous Power hp(kW)	Continuous Torque lb-ft(N·m)	BSFC lb/hp-hr (g/kWh)
2100	340 (253)	850 (1152)	0.350 (213)
2000	340 (253)	892 (1210)	0.347 (211)
1900	340 (253)	939 (1274)	0.342 (208)
1800	340 (253)	992 (1344)	0.340 (207)
1600	340 (253)	1112 (1507)	0.339 (206)
1400	297 (222)	1116 (1513)	0.335 (204)
1200	256 (191)	1120 (1519)	0.348 (212)

All values at rated speed and power with standard options unless otherwise noted.

[I] = Intermittent Data [C] = Continuous Data
Unless noted, all other values pertain to both.

* Revised Data

Curve: 6125AF001375E Sheet 4 of 4
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