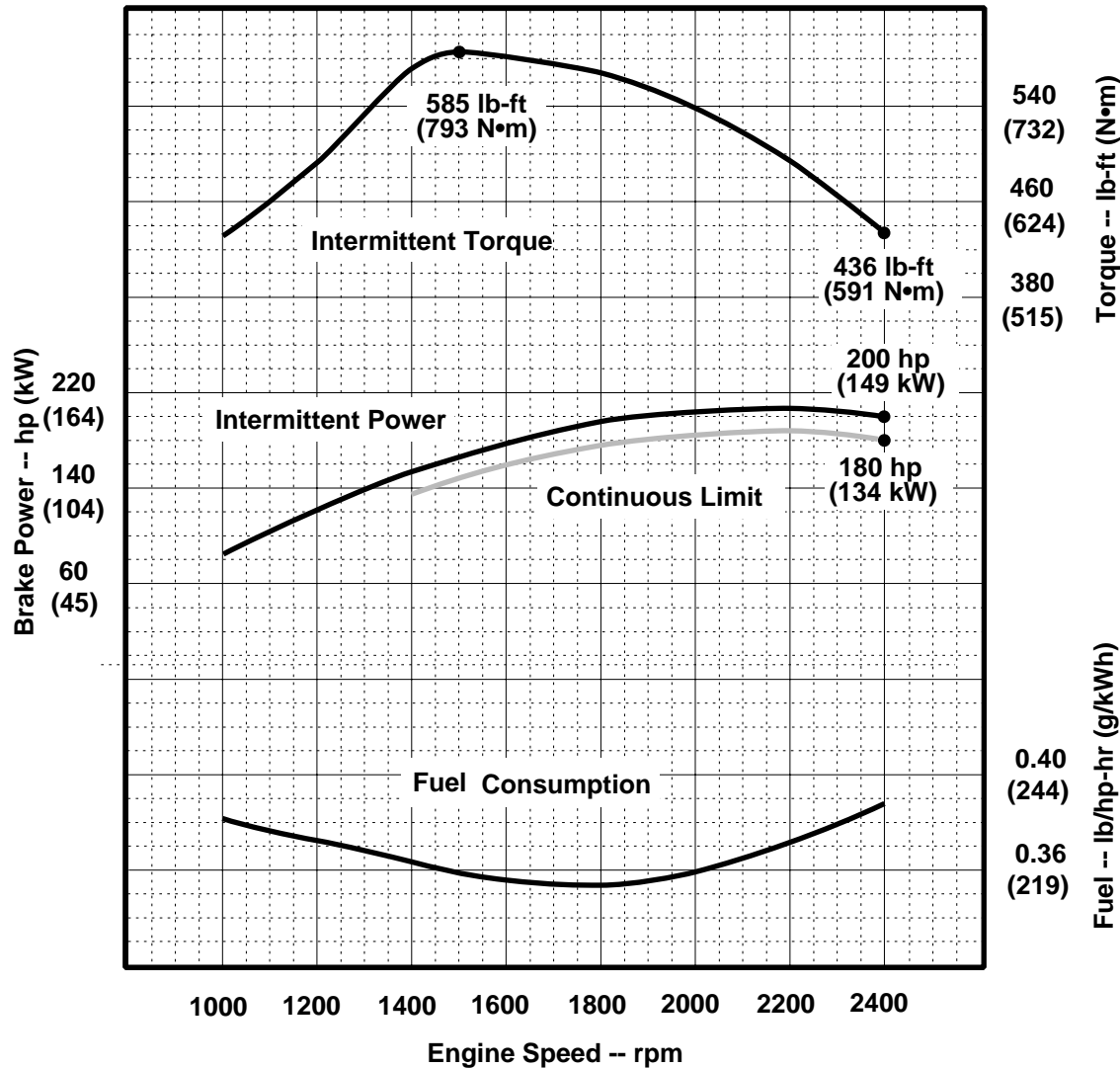




ENGINE PERFORMANCE CURVE

Rating: Gross Power
 Application: Industrial
 Intermittent / Continuous

POWERTECH 6.8L Engine
 Model: **6068TF250**
In-line Fuel Pump
200 hp @ 2400 rpm
149 kW @ 2400 rpm
 [Option 16UG]



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

Brian L. Carlson
 8 DEC 03

* Revised Data

Curve: 6068TF250N2001 Sheet 1 of 2
 December 2003

Common Specifications:

General Data

Model6068TF250
 Number of Cylinders 6
 Bore and Stroke--in. (mm)..... 4.19 x 5.00 (106 x 127)
 Displacement--in.³ (L).....414 (6.8)
 Compression Ratio 17.0:1
 Valves per Cylinder--Intake/Exhaust..... 1/1
 Firing Order..... 1-5-3-6-2-4
 Combustion System..... Direct Injection
 Engine Type..... In-line, 4-Cycle
 Aspiration..... Turbocharged
 Engine Crankcase Vent System Open
 Maximum Crankcase Pressure--in. H₂O (kPa)2 (0.5)

Physical Data

Length--in. (mm) 43.9 (1116)
 Width--in. (mm)24.5 (623)
 Height--in. (mm)39.9 (1012)
 Weight, dry--lb (kg).....1252 (569)
 (Includes flywheel housing, flywheel & electrics)
 Center of Gravity Location
 From Rear Face of Block (X-axis)--in. (mm) ..17.2 (438)
 Right of Crankshaft (Y-axis)--in. (mm)0.05 (1)
 Above Crankshaft (Z-axis)--in. (mm).....6.2 (157)
 Max. Allow. 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)[I] ...900 (4003)
 [C]..500 (2224)

Fuel System

Fuel Injection Pump (In-line) Nippondenso
 Governor Regulation.....7-10 %
 Governor Type Mechanical
 Fuel Consumption--lb/hr (kg/hr)[I]77.4 (35.1)
 [C].....69.7 (31.6)
 Total Fuel Flow--lb/hr (kg/hr)228 (104)
 Maximum Fuel Transfer Pump Suction--ft (m) fuel .10 (3.0)
 Fuel Filter Micron Size @ 98% Efficiency 8

Lubrication System

Oil Pressure at Rated Speed--psi (kPa).....50 (345)
 Oil Pressure at Low Idle--psi (kPa).....15 (105)
 In Pan Oil Temperature--°F (°C).....248 (120)
 Oil Pan Capacity, High--qt (L)20.6 (19.5)
 Oil Pan Capacity, Low--qt (L)18.5 (17.5)
 Total Engine Oil Capacity with Filters--qt (L).....21 (20)
 Engine Angularity Limits, Any Direction--Degrees 35

Engine Specification Data

Air System

Maximum Allowable Temp Rise--Ambient Air to
 Engine Inlet--°F (°C) 15 (8)
 Maximum Air Intake Restriction
 Dirty Air Cleaner--in. H₂O (kPa) 25 (6.25)
 Clean Air Cleaner--in. H₂O (kPa) 12 (3)
 Engine Air Flow--ft³/min (m³/min) [I] 518 (14.7)
 [C]..... 492 (14.0)
 Intake Manifold Pressure--psi (kPa) [I] 24.2 (167)
 [C]..... 21.5 (148)
 Recommended Intake Pipe Diameter--in. (mm) 3 (76.2)

Cooling System

Engine Heat Rejection--BTU/min (kW) [I] 5402 (95)
 [C]..... 5024 (88)
 Coolant Flow--gal/min (L/min)..... 63 (228)
 Thermostat Start to Open--°F (°C) 180 (82)
 Thermostat Fully Open--°F (°C) 202 (94)
 Max. Water Pump Inlet Restriction--in. H₂O (kPa)... 40 (10)
 Engine Coolant Capacity--qt (L) 12 (11.3)
 Recommended Pressure Cap--psi (kPa)..... 10 (69)
 Maximum Top Tank Temp--°F (°C) 221 (105)
 Minimum Coolant Fill Rate--gal/min (L/min) 3 (11)
 Minimum Air-to-Boil Temperature--°F (°C)..... 117 (47)

Exhaust System

Exhaust Flow--ft³/min (m³/min) [I] 1308 (37)
 [C]..... 1230 (35)
 Exhaust Temperature--°F (°C) [I] 968 (520)
 [C]..... 929 (499)
 Max. Allowable Back Pressure--in. H₂O (kPa) 30 (7.5)
 Rec'd. Exhaust Pipe Diameter--in. (mm) 4.0 (102)

Electrical System

Recommended Battery Capacity (CCA)
 12 Volt System--amp 800
 24 Volt System--amp 570
 Maximum Allowable Starting Circuit Resistance
 12 Volt System--Ohm 0.0012
 24 Volt System--Ohm 0.002
 Starter Rolling Current--12 Volt System
 At 32 °F (0 °C)--amp 920
 At -22 °F (-30 °C)--amp 1300
 Starter Rolling Current--24 Volt System
 At 32 °F (0 °C)--amp 600
 At -22 °F (-30 °C)--amp 700

Performance Data

Rated Power--hp (kW) [I] 200 (149)
 [C]..... 180 (134)
 Rated Speed--rpm 2400
 Peak Torque--lb-ft (N•m) [I] 585 (793)
 [C]..... 527 (714)
 Peak Torque Speed--rpm..... 1500
 Low Idle Speed--rpm 925
 BMEP--psi (kPa) [I] 159 (1095)
 [C]..... 143 (985)
 Friction Power @ Rated Speed--hp (kW) 42 (31)
 Altitude Capability -- ft (m) 7500 (2300)
 Ratio--Air : Fuel [I] 28:1
 [C]..... 29.5:1
 Smoke @ Rated Speed--Bosch No.< 2
 Noise--dB(A) @ 1 m [I] 99.0
 [C]..... NA

Engine Speed rpm	Continuous Limit hp (kW)	Intermit. Power hp (kW)	Intermit. Torque lb-ft (N•m)	BSFC lb/hp-hr (g/kWh)
2400	180 (134)	200 (149)	436 (591)	0.388 (236)
2200	187 (139)	208 (155)	497 (673)	0.373 (227)
2000	183 (136)	203 (152)	534 (724)	0.359 (219)
1800	176 (131)	195 (145)	568 (770)	0.355 (217)
1600	159 (118)	177 (132)	581 (788)	0.357 (218)
1500	150 (112)	167 (125)	585 (793)	0.360 (220)
1400	138 (103)	153 (114)	573 (777)	0.364 (222)
1200	----	111 (83)	487 (661)	0.372 (227)
1000	----	82 (61)	429 (582)	0.381 (232)

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

* Revised Data
 Curve: 6068TF250N2001..... Sheet 2 of 2
 December 2003