



JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power
 Application: Generator
 1800 RPM (60 Hz)

PowerTech 2.9L Engine
 Model: **3029TF270**

59 hp (44 kW) Prime
64 hp (48 kW) Standby

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
59	44	64	48

Generator Efficiency %	Fan Power		Power Factor	Prime Rating		Standby Rating ¹		4 sec Standby Block Load Capability
	hp	kW		kW	kVA	kW	kVA	
88-92	3.2	2.4	0.8	37-38	46-48	40-42	50-52	100%

Note 1: Based on nominal engine power.

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

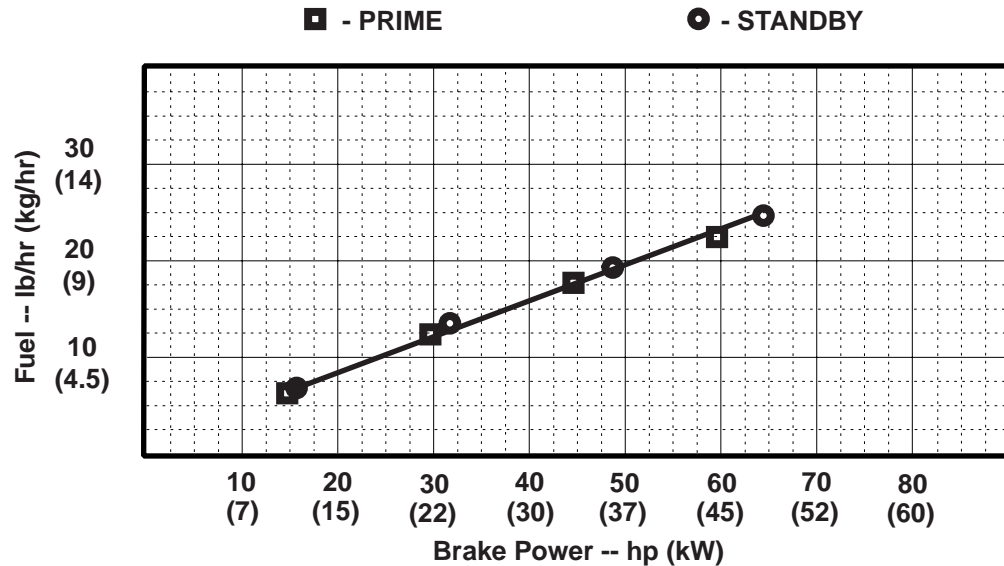
Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:

- 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-2 Emission Certifications:

Certified by:

CARB; EPA

Ref: Engine Emission Label

Brian L. Carlson
 30 OCT 02

* Revised Data
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 October 2002

Engine Specification Data

General Data

Model 3029TF270
 Number of Cylinders 3
 Bore and Stroke--in.(mm)..... 4.20 x 4.33 (106 x 110)
 Displacement--in.³ (L)..... 177 (2.9)
 Compression Ratio 17.2 : 1
 Valves per Cylinder--Intake/Exhaust 1 / 1
 Firing Order 1-2-3
 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) 28.2 (716)
 Width--in.(mm) 20.4 (519)
 Height--in.(mm) 32.2 (819)
 Weight, dry--lb (kg)..... 697 (316)
 (Includes SAE 4 flywheel housing, RE28119 flywheel,
 starter and electrics.)
 Center of Gravity Location
 From Rear Face of Block (X-axis)--in.(mm) 7.8 (198)
 Right of Crankshaft (Y-axis)--in.(mm) 0.4 (10)
 Above Crankshaft (Z-axis)--in.(mm) 4.9 (124)
 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)
 Continuous--lb (N) 500 (2224)
 Intermittent--lb (N)..... 900 (4003)

Air System

Prime Standby

Maximum Allowable Temp Rise--Ambient Air to
 Engine Inlet--°F (°C) 15 (8) 15 (8)
 Maximum Air Intake Restriction
 Dirty Air Cleaner--in.H₂O (kPa).... 25 (6.25) ... 25 (6.25)
 Clean Air Cleaner--in.H₂O (kPa)..... 12 (3) 12 (3)
 Engine Air Flow--ft³/min (m³/min) 131 (3.7) 138 (3.9)
 Intake Manifold Pressure--psi (kPa)..... 12 (83)..... 14 (94)
 Rec'd. Intake Pipe Dia--in.(mm) 2.5 (63.5).... 2.5 (63.5)

Cooling System

Prime Standby

Engine Heat Reject.--BTU/min (kW). 1594 (28) .. 1708 (30)
 Coolant Flow--gal/min (L/min)..... 29 (110) 29 (110)
 Thermostat Start to Open--°F (°C) 180 (82) 180 (82)
 Thermostat Fully Open--°F (°C)..... 201 (94) 201 (94)
 Maximum Water Pump
 Inlet Restriction--in.H₂O (kPa)..... 28 (7) 28 (7)
 Engine Coolant Capacity--qt (L) 6 (5.7) 6 (5.7)
 Recm'd Pressure Cap--psi (kPa) 10 (69) 10 (69)
 Maximum Top Tank Temp--°F (°C) 221 (105) .. 221 (105)
 Min. Coolant Fill Rate--gal/min (L/min) 3 (11) 3 (11)
 Min. Air-to-Boil Temperature--°F (°C) .. 117 (47) 117 (47)

Electrical System

12 Volt 24 Volt

Rec'md. Battery Capacity (CCA)--amp 640 570
 Max. Allow. Starting Circuit Resist.--Ohm0.0012 0.002
 Starter Rolling Current
 At 32 °F (0 °C)--amp 780 600
 At -22 °F (-30 °C)--amp 1000 700
 Maximum Voltage From Engine Crankshaft/
 Generator Shaft to Ground--VAC* 0.15* 0.15*

Exhaust System

Prime Standby

Exhaust Flow--ft³/min (m³/min)..... 336 (9.5) . 364 (10.3)
 Exhaust Temperature--°F (°C) 959(515) . 1013(545)
 Max. Allow. Back Press.--in.H₂O (kPa). 30 (7.5) 30 (7.5)
 Recm'd Exhaust Pipe Dia--in.(mm) ... 2.5 (63.5) .. 2.5 (63.5)

Fuel System

Prime Standby

Fuel Injection Pump (Stanadyne)..... DB4 DB4
 Governor Regulation..... 3-5% 3-5%
 Governor Type Mechanical Mech.
 Total Fuel Flow--lb/hr (kg/hr) 209 (95) 209 (95)
 Fuel Consumption--lb/hr (kg/hr)..... 22.9(10.4) . 24.9(11.3)
 Maximum Fuel Transfer Pump Suction--
 ft (m) fuel..... 3 (0.9) 3 (0.9)
 Max. Fuel Inlet Temp.--°F (°C)..... 212 (100) .. 212 (100)
 Fuel Filter Micron Size @ 98 % Efficiency 8 8

Lubrication System

Prime Standby

Oil Pressure at Rated Speed--psi (kPa)50 (345) ... 50 (345)
 Oil Pressure at Low Idle--psi (kPa) 15 (105) 15 (105)
 In Pan Oil Temperature--°F (°C) 237 (114) .. 241 (116)

Performance Data

Prime Standby

Rated Power--hp (kW) 59 (44) 64 (48)
 Rated Speed--rpm 1800 1800
 Low Idle Speed--rpm 1400 1400
 BMEP--psi (kPa) 145 (1000) .. 158 (1090)
 Friction Power
 @ Rated Speed--hp (kW) 21 (16) 21 (16)
 Altitude Capability--ft (m) 7500 (2285) 5000 (1525)
 Ratio--Air : Fuel..... 25.0:1 23.0:1
 Noise--dB(A) @ 1 m N/A N/A

Fuel Consumption -- lb/hr (kg/h)

Prime Standby

25 % Power 6.4 (2.9) 6.8 (3.1)
 50 % Power 12.3 (5.6) 13.4 (6.1)
 75 % Power 17.6 (8.0) 19.0 (8.6)
 100 % Power 22.5 (10.2) ... 24.9 (11.3)

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

* Revised Data
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