

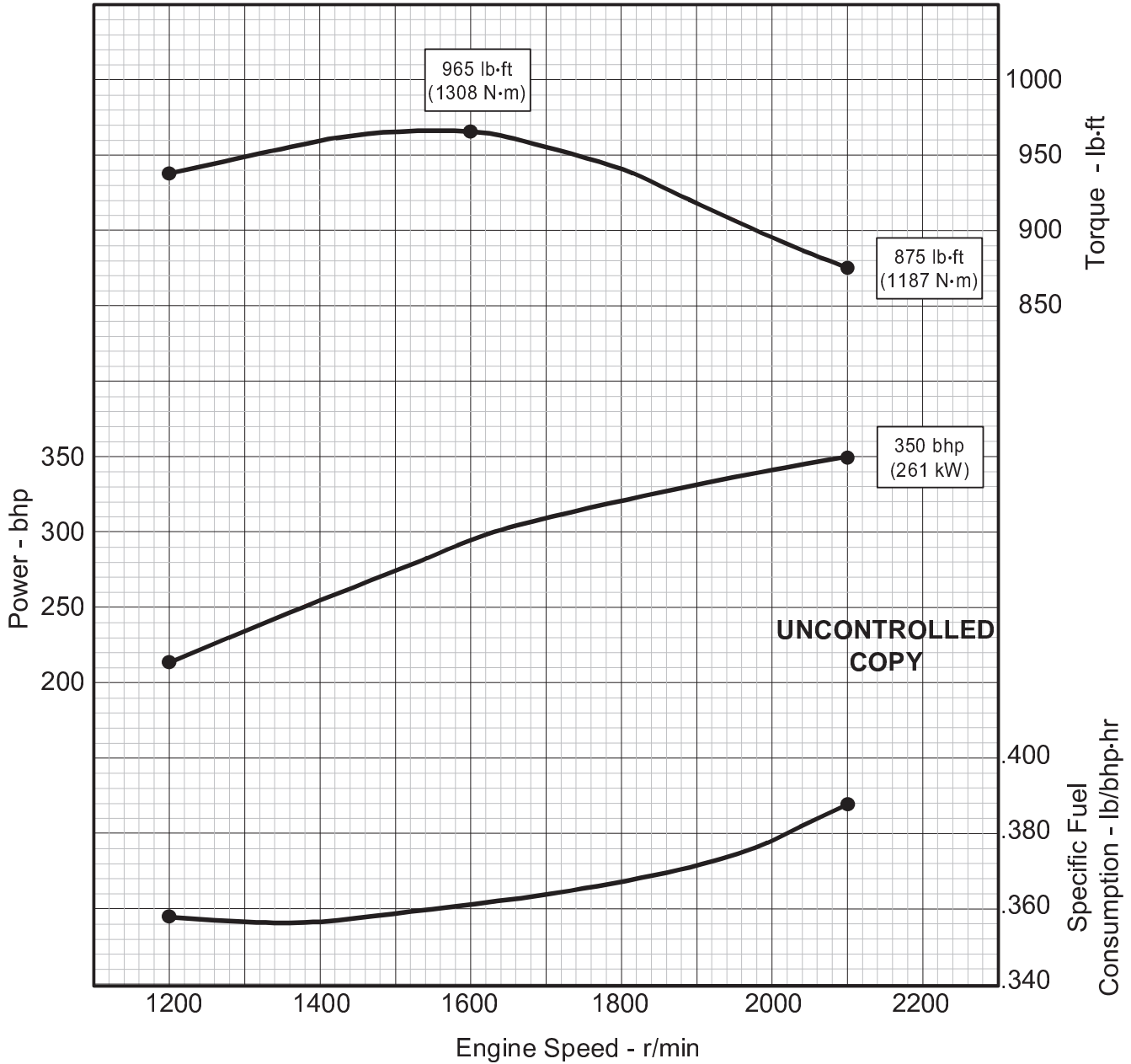


Industrial Power

Model: 8V-92TA

Rating: 350 bhp @ 2100 r/min
965 lb-ft @ 1600 r/min

Certification:
1996 Nonroad



<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°C) fuel inlet temperature; .853 specific gravity at 60°F (15°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 Fuel: kg/kW · hr = lb/bhp · hr x 0.608 Torque: N · m = lb · ft x 1.356</p>	<p>Turbo: Tv8513 (1.03 A/R) Injector: 5234915</p>
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Certified by: *JR Hebringer*

Curve No. E4-8083-32-49
Rev. / Date: 2 / 12-23-97
Sheet No 1 of 2

Performance Curve

CONSTRUCTION AND INDUSTRIAL SPECIFICATION SHEET

General Data

Model	8083-7K33
Number of Cylinders.....	8
Bore and Stroke – in. x in. (mm x mm).....	4.84 x 5.00 (123 x 127)
Displacement – in. ³ (L)	736 (12.1)
Compression Ratio	18.0:1
Piston Speed – ft/min (m/min).....	1750 (533)
Exhaust Valves Per Cylinder.....	4
Combustion System	DIRECT INJECTION
Engine Type.....	63.5 DEG VEE 2 CYCLE
Aspiration.....	TURBOCHARGED

Configuration

Injection Device	EUI
Turbocharger	TV8513 (1.23 A/R)
Blower Type.....	Bypass
Blower Drive Ratio.....	2.05
Charge Air Cooling.....	JWAC
Low Idle Speed – r/min.....	600
High Idle Speed – r/min.....	2250
Engine Crankcase Vent System.....	OPEN

Physical Data

Size:	
Length – in. (mm).....	43.3 (1100)
Width – in. (mm).....	37.5 (953)
Height – in. (mm).....	49.4 (1255)
Weight, dry – lb (kg).....	2420 (1098)
Weight, wet – lb (kg).....	2528 (1147)
Center of Gravity Distance:	
From R.F.O.B. (x axis) – in. (mm).....	13.3 (338)
Above Crankshaft (y axis) – in. (mm).....	11.4 (290)
Right of Crankshaft (z axis) – in. (mm).....	0.0 (0.0)
Installation Drawing	SK-10547

Mechanical Data

Thrust Bearing Load Limit, Continuous – lb (N).....	600 (2670)
Thrust Bearing Load Limit, Intermittent – lb (N).....	1800 (8007)
Maximum Static Bending Moment at Rear	
Face of Block – lb-ft (N·m)	1000 (1356)
Maximum Weight on Crankshaft – lb (kg)	800 (363)
Additional Mechanical Data.....	E4-8000-32-1

Fuel System

Fuel Injector	5234915
Injection Timing Height – in.	1.520
Certification Code.....	5047
Fuel Consumption – lb/hr (kg/hr).....	135.5 (61.5)
Fuel Consumption – gal/hr (L/hr).....	19.4 (73.4)
Fuel Spill – lb/hr (kg/hr).....	391 (177)
Fuel Spill – gal/hr (L/hr).....	55.9 (212)
Total Fuel Flow – lb/hr (kg/hr).....	527 (239)
Total Fuel Flow – gal/hr (L/hr).....	75.3 (285)
Maximum Fuel Inlet Temperature – °F (°C).....	140 (60)
Maximum Fuel Pump Suction:	
Clean System – in. Hg (kPa).....	6 (20.3)
Dirty System – in. Hg (kPa).....	12 (41)
Fuel Filter Size, Primary – microns.....	30
Fuel Filter Size, Secondary – microns.....	12

Lubrication System

Oil Pressure at Rated Speed – lb/in. ² (kPa).....	49-70 (338-483)
Oil Pressure at Low Idle – lb/in. ² (kPa).....	5 (34)
In Pan Oil Temperature – °F (°C).....	200 – 250 (93 – 121)
Oil Flow – gal/min (L/min).....	37 (140)
Oil Pan Capacity: > 24 Hour Operation	
High Limit – qt (L).....	23 (22)
Low Limit – qt (L).....	17 (16)
Total Engine Oil Capacity with Filters – qt (L).....	25 (24)
Engine Angularity Limits, Front Up – degrees.....	20
Engine Angularity Limits, Front Down – degrees.....	30
Engine Angularity Limits, Side Tilt – degrees.....	5

Electrical System

Recommended Battery Capacity (CCA @ 0°F):	
12 Volt System, Above 32°.....	1900
12 Volt System, Below 32°.....	2500
24 Volt System, Above 32°.....	950
24 Volt System, Below 32°.....	1250
Maximum Resistance of Starting Circuit:	
12 Volt System – ohms.....	0.0012
24 Volt System – ohms.....	0.002

Cooling System

Engine Heat Rejection – Btu/min (kW).....	11550 (203.1)
Engine Radiated Heat – Btu/min (kW).....	2070 (36.4)
Coolant Flow – gal/min (L/min).....	187 (708)
Minimum Coolant Flow – gal/min.....	168 (637)
Thermostat:	Full Blocking
Start to Open – °F (°C).....	177 (81)
Fully Open – °F (°C).....	197 (92)
Minimum Water Pump Inlet Pressure:	
Rapid Warmup Radiator – in. Hg (kPa)	POSITIVE
Conventional Radiator – in. Hg (kPa)	-3 (-21)
Engine Coolant Capacity – qt (L).....	29 (27)
Minimum Pressure Cap – lb/in. ² (kPa).....	9 (62)
Maximum Coolant Pressure	
(Exclusive of Pressure Cap – lb/in. ² (kPa)	14 (97)
Maximum Top Tank Temperature – °F (°C).....	210 (99)
Minimum Top Tank Temperature – °F (°C).....	160 (71)
Minimum Coolant Fill Rate – gal/min (L/min).....	3 (11.4)
Air Handling Capacity – ft ³ /min (m ³ /min).....	0.8 (0.023)
Minimum Drawdown Requirement – qt (L).....	4 (3.8)
Deaeration Time – minutes.....	30

Air System

Maximum Temperature Rise	
(Ambient Air to Engine Inlet) – °F (°C)	30 (16.7)
Maximum Air Intake Restriction:	
Clean Air Cleaner – in. H ₂ O (kPa).....	12 (3.0)
Dirty Air Cleaner – in. H ₂ O (kPa).....	20 (5.0)
Engine Air Flow – ft ³ /min (m ³ /min).....	1385 (39.2)
Engine Air Box/Manifold Pressure – in. Hg (kPa).....	52.4 (177)
Recommended Intake Pipe Outer Diameter:	
Single – in. (mm)	6.0 (152)
Dual – in. (mm).....	Not Applicable
Maximum Crankcase Pressure – in. H ₂ O (kPa)	3.5 (0.87)

Exhaust System

Exhaust Flow – ft ³ /min (m ³ /min).....	2690 (76.2)
Exhaust Temperature – °F (°C).....	560 (293)
Maximum Back Pressure – in. Hg (kPa).....	2.5 (8.5)
Recommended Exhaust Pipe Diameter:	
Single – in. (mm)	6.0 (152)
Dual – in. (mm).....	Not Applicable

Performance Data

BMEP – lb/in. ² (kPa).....	90 (621)
Friction Power:	
Rated Speed – fhp (kW).....	106 (79)
Peak Torque Speed – fhp (kW).....	64 (48)
Altitude Capability – ft (m).....	12000 (3660)
Torque Available at 800 r/min – lb-ft (N·m).....	Not Applicable

Engine Speed	Rated Power	Rated Torque	Rated BSFC
r/min	bhp (kW)	lb-ft (N·m)	lb/bhp·hr (g/kW·hr)
2100	350 (261)	875 (1187)	0.387 (235)
1950	337 (251)	907 (1230)	0.374 (227)
1800	322 (240)	940 (1274)	0.367 (223)
1600	294 (219)	965 (1308)	0.361 (220)
1500	276 (206)	965 (1308)	0.359 (218)
1350	245 (183)	953 (1292)	0.356 (217)
1200	214 (160)	937 (1270)	0.358 (218)

Emissions Data

Certification.....	1996 Nonroad
Smoke, Rated Speed – Bosch Number.....	0.2
Smoke, Peak Torque Speed – Bosch Number.....	0.2
Noise – dB(A) @ 1	96.9
Additional Noise Data.....	Not Available

	2100 r/min	8 Mode Cycle
	g/hr	g/bhp·hr
NO _x	2320	6.305
CO	125	0.512
HC.....	90	0.440
Particulates.....	30	0.119

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

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