

DETROIT DIESEL

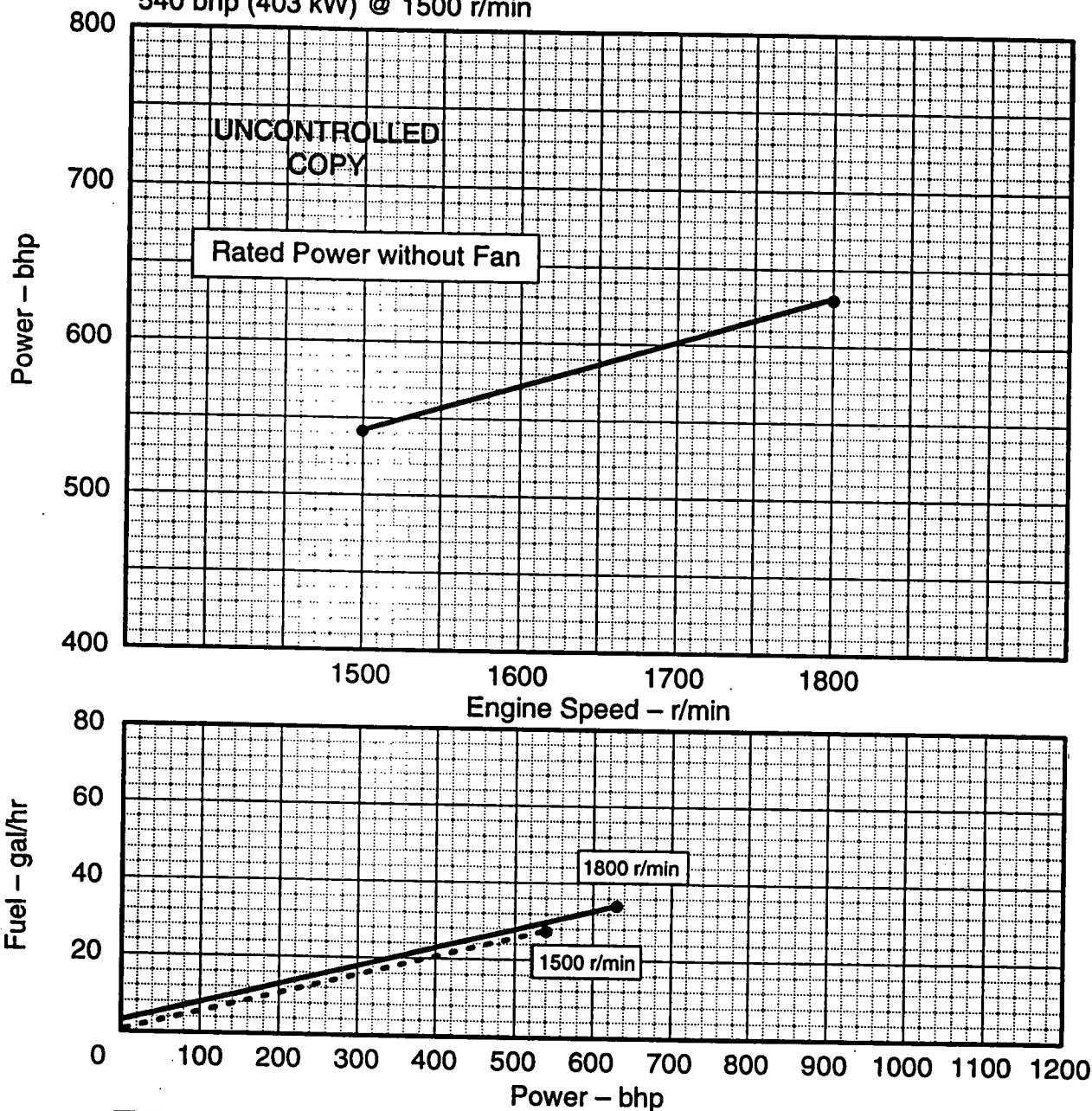


Generator Set Power

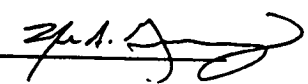
Model: 12V-71T

Rating: 630 bhp (470 kW) @ 1800 r/min
540 bhp (403 kW) @ 1500 r/min

Standby Power



Power output guaranteed within 5% at SAE J1995 conditions: 77°F (25°C) air inlet temperature; 29.31 in. Hg (99kPa) dry barometer; Fuel consumption data is based on diesel fuel No.2 with a fuel weight of 7.11 lb/U.S. gal (.85kg/litre) Performance is based on minimum intake and exhaust restrictions Values derived are from currently available data and subject to change without notice.	Conversion Factors: Power: kW = bhp x 0.746 Fuel: L/hr = gal/hr x 3.785	Turbo: TV7101 (1.39 A/R) Injector: M95
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Certified by: 

Curve No. E4-7125-32-5
Rev./Date: 6/4-17-95
Sheet No. 1 of 3

Performance Curve

GENERATOR SPECIFICATION SHEET

STANDBY POWER – 1800 r/min

General Data

Model	7123-7305
Number of Cylinders	12
Bore and Stroke – in. x in. (mm x mm)	4.25 x 5.00 (108 x 127)
Displacement – in. ³ (L)	852 (13.97)
Compression Ratio	17.0:1
Piston Speed – ft/min (m/min)	1500 (457)
Exhaust Valves Per Cylinder	4
Combustion System	DIRECT INJECTION
Engine Type	63.5 Deg Vee 2 CYCLE
Aspiration	TURBOCHARGED

Configuration

Injection Device	M95
Turbocharger	TV7101 (1.39 A/R)
Charge Air Cooling System	NONE
Blower Type	STANDARD
Blower Drive Ratio	2.0:1
Engine Crankcase Vent System	Open

Physical Data

Size:	
Length – in. (mm)	61.9 (1572)
Width – in. (mm)	45.5 (1156)
Height – in. (mm)	51 (1295)
Weight, dry – lb (kg)	3550 (1610)
Weight, wet – lb (kg)	3734 (1694)
Center of Gravity Distance:	
From R. F. O. B. (x axis) – in. (mm)	1650 (419)
Above Crankshaft (y axis) – in. (mm)	9.62 (244)
Right of Crankshaft (z axis) – in. (mm)	1.25 (31.8)
Installation Drawing	5137800

Mechanical Data

Thrust Bearing Load Limit, Continuous – lb (N)	600 (2669)
Thrust Bearing Load Limit, Intermittent – lb (N)	1800 (8007)
Maximum Static Bending Moment at Rear	
Face of Crank – lb-ft (N-m)	1000 (1355.8)
Maximum Vertical Load at Rear Face of	
Flywheel – lb (N)	Not Available
Additional Mechanical Data	E4-8000-32-1

Fuel System

Fuel Injector	M95
Injection Timing Height	1.460
Fuel Consumption – lb/hr (kg/hr)	240.6 (109.1)
Fuel Consumption – gal/hr (L/hr)	33.8 (128.1)
Fuel Spill – lb/hr (kg/hr)	897.1 (406.9)
Fuel Spill – gal/hr (L/hr)	126.2 (477.6)
Total Fuel Flow – lb/hr (kg/hr)	1138 (516.1)
Total Fuel Flow – gal/hr (L/hr)	160.0 (605.7)
Maximum Fuel Inlet Temperature – °F (°C)	140 (60)
Maximum Fuel Pump Suction:	
Clean System – in. Hg (kPa)	6 (20)
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 Speed – lb/in. ² (kPa)	5 (34)
Maximum In Pan Oil Temperature – °F (°C)	200–250 (93–121)
Oil Flow – gal/min (L/min)	53 (201)
Oil Pan:	
High Limit – qt (L)	34 (32.2)
Low Limit – qt (L)	26 (24.6)
Total Engine Oil Capacity With Filters – qt (L)	36 (34.1)
Bypass Oil Filter Orifice – in. (mm)	0.125 (3.18)
Engine Angularity Limits, Front Up – degrees	15
Engine Angularity Limits, Front Down – degrees	18
Engine Angularity Limits, Side Tilt – degrees	Not Available

Electrical System

Recommended Battery Capacity (CCA @ 0°F):	
12 Volt System, Above 32 deg F	Not Recommended
12 Volt System, Below 32 deg F	Not Recommended
24 Volt System Above 32 deg F	950
24 Volt System Below 32 deg F	1250
Maximum Resistance of Starting Circuit:	
12 Volt System – ohms	0.0012
24 Volt System – ohms	0.002

Cooling System

Engine Heat Rejection to Coolant – Btu/min (kW)	19530 (343.4)
Engine Radiated Heat – Btu/min (kW)	2630 (48.2)
Generator Radiated Heat – Btu/min (kW)	1496 (28.3)
Coolant Flow – gal/min (L/min)	220 (833)
Minimum Coolant Flow – gal/min (L/min)	198 (750)
Thermostat:	Full-Blocking
Start to Open – °F (°C)	170 (77)
Fully Open – °F (°C)	187 (86)
Maximum Water Pump Inlet Restriction:	3.0
Engine Coolant Capacity – qt (L)	55 (52.0)
Minimum Pressure Cap – lb/in. ² (kPa)	9 (62.1)
Maximum Coolant Pressure (Exclusive of Pressure Cap) – lb/in. ² (kPa)	20 (137.9)
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)
Cooling Index (@ 110° F Ambient w/H ₂ O @ Sea Level):	
Maximum Air to Water Differential – °F (°C)	100 (56)
Deaeration, Air Injection Capacity – ft ³ /min (m ³ /min)	0.8 (0.023)
Minimum Drawdown Requirement – qt (L)	4.0 (3.8)
Deaeration Time – min.	

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 (5.0)
Clean Air Cleaner – in. H ₂ O (kPa)	12 (3.0)
Engine Air Flow – ft ³ /min (m ³ /min)	1920 (54.4)
Fan Air Flow – ft ³ /min (m ³ /min)	29900 (846.8)
Engine Air Box/Manifold Pressure – in. Hg (kPa)	40.5 (106.8) 39.5
Recommended Intake Pipe Outer Diameter	
Single – in. (mm)	6 (152)
Double – in. (mm)	4 (109)
Maximum Crankcase Pressure – in. H ₂ O (kPa)	1.9 (0.47)

Exhaust System

Exhaust Flow – ft ³ /min (m ³ /min)	4520 (128.0)
Exhaust Temperature – °F (°C)	780 (416)
Maximum Back Pressure – in. Hg (kPa)	2.0 (6.8)
Recommended Exhaust Pipe Outer Diameter:	
Single – in. (mm)	6 (152)
Dual – in. (mm)	4 (102)

Performance Data

Rated Power – bhp (kW)	630 (470)
Rated Speed – r/min	1800
BMEP – lb/in. ² (kPa)	162.7 (1122)
Friction Power – fhp (kW)	90 (67.1)
Altitude Capability – ft (m)	10000 (3048)

Part Load Fuel Consumption

Fuel – gal/hr (L/hr) – 0% Power	3.38 (12.79)
25% Power	10.1 (38.3)
50% Power	17.1 (64.9)
75% Power	24.9 (94.3)
100% Power	33.8 (128.1)

Emissions Data

Noise – dB(A) @ 1m	103.5				
Additional Noise Data	Not Available				
Smoke – Bosch Number	0.8				
Load	0%	25%	50%	75%	100%
NO-g/hr	1070	2305	4993	8656	10130
CO-g/hr	34	33	59	752	6300
HC-g/hr	150	155	178	171	124
SO ₂ -g/hr	109	326	553	804	1091

UNCONTROLLED
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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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Rev./ Date: 6/4-17-95
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All information subject to change without notice.
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