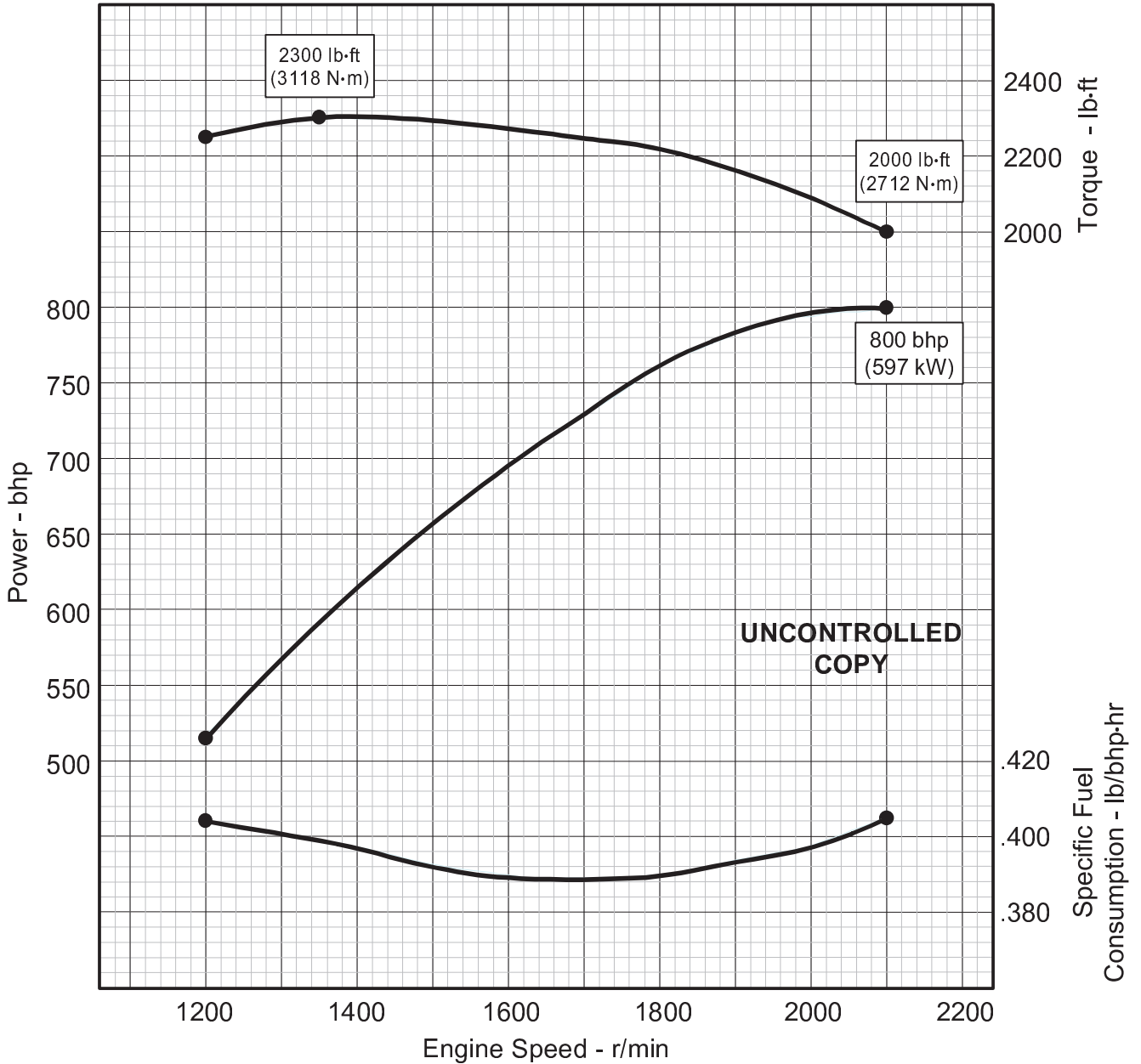




Industrial Power

Model: 12V-92TA DDEC®
Rating: 800 bhp @ 2100 r/min
 2300 lb-ft @ 1350 r/min



| | | |
|---|--|---------------------------------|
| Power output guaranteed within 5% 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. Air intake restriction: 10 in. H ₂ O (2.5 kPa) Exhaust Back Pressure: 15 in. H ₂ O (3.7 kPa) | Conversion Factors: Power: kW = bhp x 0.746 | Turbo: TV8403 (1.39 A/R) |
| | Fuel: kg/kW · hr = lb/bhp · hr x 0.608 | Injector: 5236674 |
| | Torque: N · m = lb · ft x 1.356 | |
| | | |

Certified by: *JR Schringer*

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Performance Curve

CONSTRUCTION AND INDUSTRIAL SPECIFICATION SHEET

General Data

| | |
|---------------------------------------|-------------------------|
| Model | 8123-7K45 |
| Number of Cylinders | 12 |
| Bore and Stroke – in. x in. (mm x mm) | 4.84 x 5.00 (123 x 127) |
| Displacement – in. ³ (L) | 1104 (18.1) |
| Compression Ratio | 15.0:1 |
| 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 | TV8403 (1.39 A/R) |
| Blower Type | Dual MidI Bypass |
| Blower Drive Ratio | 2.60:1 |
| 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) | 68 (1727) |
| Width – in. (mm) | 47 (1194) |
| Height – in. (mm) | 54 (1372) |
| Weight, dry – lb (kg) | 4280 (1941) |
| Weight, wet – lb (kg) | 4459(2023) |
| Center of Gravity Distance: | |
| From R.F.O.B. (x axis) – in. (mm) | 20.4 (518) |
| Above Crankshaft (y axis) – in. (mm) | 7.9 (201) |
| Right of Crankshaft (z axis) – in. (mm) | 1.2 (30.5) |
| Installation Drawing | 8928843 |

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 | 5236674 |
| Injection Timing Height – in. | 1.520 |
| Fuel Consumption – lb/hr (kg/hr) | 302.4 (137.2) |
| Fuel Consumption – gal/hr (L/hr) | 43.3 (163.8) |
| Fuel Spill – lb/hr (kg/hr) | 734 (333) |
| Fuel Spill – gal/hr (L/hr) | 105 (397) |
| Total Fuel Flow – lb/hr (kg/hr) | 1036 (470) |
| Total Fuel Flow – gal/hr (L/hr) | 148 (561) |
| 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 |
| Smoke Control Device | Not Applicable |

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) | 60 (227) |
| Oil Pan Capacity: > 24 Hour Operation | |
| High Limit – qt (L) | 36 (34) |
| Low Limit – qt (L) | 28 (26) |
| Total Engine Oil Capacity with Filters – qt (L) | 38 (36) |
| Engine Angularity Limits, Front Up – degrees | 30 |
| Engine Angularity Limits, Front Down – degrees | 16 |
| Engine Angularity Limits, Side Tilt – degrees | Not Available |

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) | 29000 (509.9) |
| Engine Radiated Heat – Btu/min (kW) | 4075 (71.7) |
| Coolant Flow – gal/min (L/min) | 270 (1022) |
| Minimum Coolant Flow – gal/min | 243 (920) |
| Thermostat: | Full Blocking |
| Start to Open – °F (°C) | 167 (75) |
| Fully Open – °F (°C) | 189 (87) |
| Minimum Water Pump Inlet Pressure: | |
| Rapid Warmup Radiator – in. Hg (kPa) | POSITIVE |
| Conventional Radiator – in. Hg (kPa) | -3 (-21) |
| Engine Coolant Capacity – qt (L) | 51 (48) |
| Minimum Pressure Cap – lb/in. ² (kPa) | 9 (62) |
| Maximum Coolant Pressure | |
| (Exclusive of Pressure Cap – lb/in. ² (kPa)) | 23 (159) |
| 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) | 1.2 (0.034) |
| Minimum Drawdown Requirement – qt (L) | 5.1 (4.8) |
| 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) | 2135 (60.5) |
| Engine Air Box/Manifold Pressure – in. Hg (kPa) | 58.0 (196) |
| Recommended Intake Pipe Outer Diameter: | |
| Single – in. (mm) | 8.0 (203) |
| Dual – in. (mm) | 6.0 (152) |
| Maximum Crankcase Pressure – in. H ₂ O (kPa) | 3.0 (0.75) |

Exhaust System

| | |
|---|--------------|
| Exhaust Flow – ft ³ /min (m ³ /min) | 5020 (142.2) |
| Exhaust Temperature – °F (°C) | 775 (413) |
| Maximum Back Pressure – in. Hg (kPa) | 2.5 (8.0) |
| Recommended Exhaust Pipe Diameter: | |
| Single – in. (mm) | 8.0 (203) |
| Dual – in. (mm) | 6.0 (152) |

Performance Data

| | |
|---|----------------|
| BMEP – lb/in. ² (kPa) | 137.0 (942) |
| Friction Power: | |
| Rated Speed – fhp (kW) | 158 (118) |
| Peak Torque Speed – fhp (kW) | 67 (50) |
| Altitude Capability – ft (m) | 10000 (3050) |
| Torque Available at 800 r/min – lb-ft (N-m) | Not Applicable |

| Engine Speed r/min | Rated Power bhp (kW) | Rated Torque lb-ft (N-m) | Rated BSFC lb/bhp-hr (g/kW-hr) |
|-----------------------|-------------------------|-----------------------------|-----------------------------------|
| 2100 | 800 (597) | 2000 (2712) | 0.405 (246) |
| 1950 | 790 (589) | 2127 (2884) | 0.395 (240) |
| 1800 | 760 (567) | 2218 (3007) | 0.389 (237) |
| 1650 | 711 (530) | 2263 (3068) | 0.388 (236) |
| 1500 | 655 (489) | 2293 (3109) | 0.392 (239) |
| 1350 | 591 (441) | 2300 (3118) | 0.399 (242) |
| 1200 | 515 (384) | 2254 (3056) | 0.404 (246) |

Emissions Data

| | |
|---|---------------|
| Smoke, Rated Speed – Bosch Number | 0.9 |
| Smoke, Peak Torque Speed – Bosch Number | 1.6 |
| Noise – dB(A) @ 1 | 103 |
| Additional Noise Data | Not Available |
| NO _x – g/hr | Not Available |
| CO – g/hr | Not Available |
| HC – g/hr | Not Available |
| SO ₂ – g/hr | 1470 |

**UNCONTROLLED
COPY**

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

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