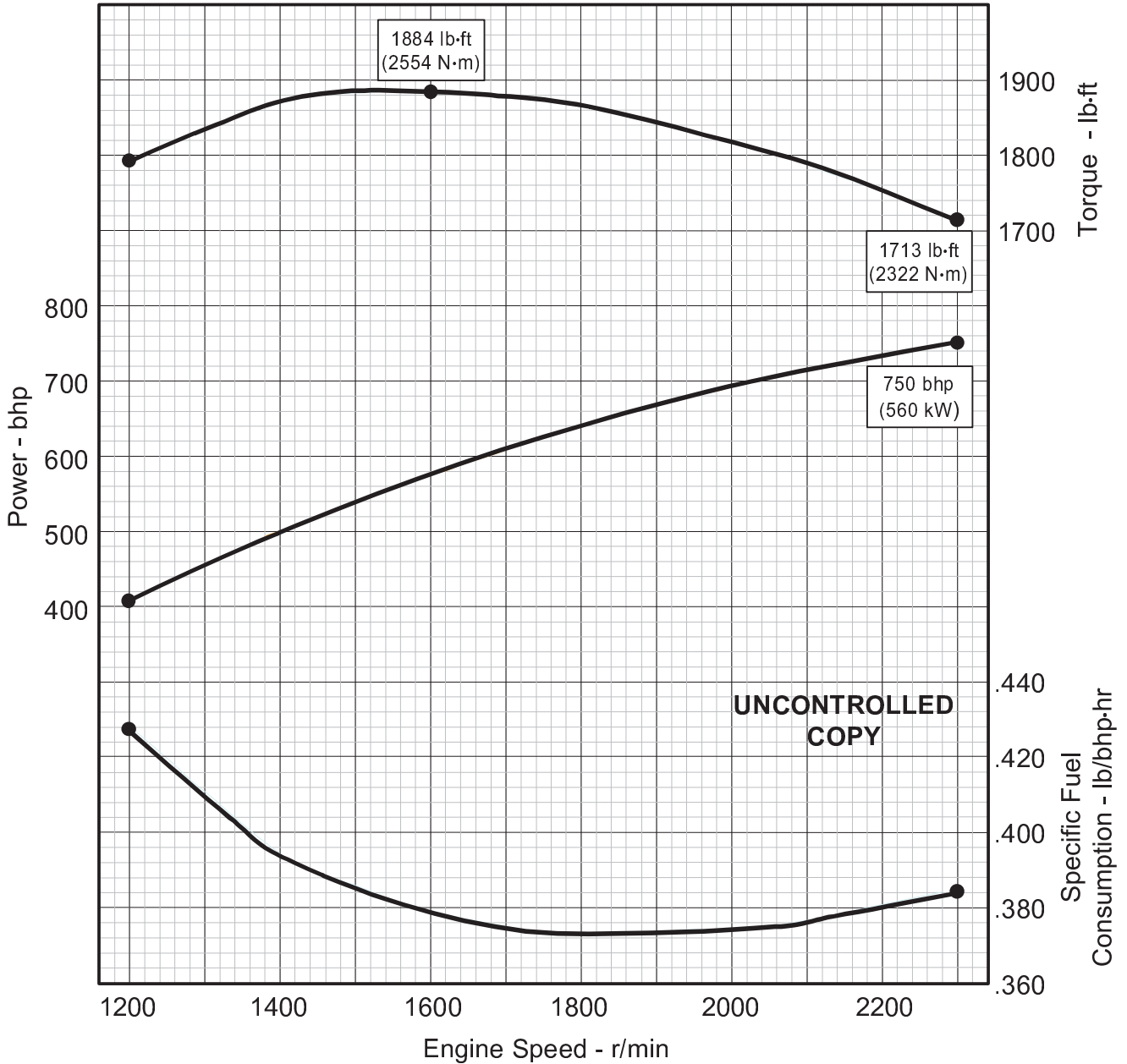




Industrial Power

Model: 12V-71T
Rating: 750 bhp @ 2300 r/min
 1884 lb·ft @ 1600 r/min



| | | |
|--|---|--|
| <p>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. 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: TV8102 (1.23 A/R) Injector: M95</p> |
|--|---|--|

Certified by: *TJ MOORE*

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Performance Curve

CONSTRUCTION AND INDUSTRIAL SPECIFICATION SHEET

General Data

| | |
|--|-------------------------|
| Model..... | 7124-7312 |
| 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..... | 17.1:1 |
| Piston Speed – ft/min (m/min)..... | 1917 (584) |
| Exhaust Valves Per Cylinder..... | 4 |
| Combustion System..... | Direct Injection |
| Engine Type..... | 63.5° Vee 2 Cycle |
| Aspiration..... | Turbocharged |

Configuration

| | |
|-----------------------------------|-------------------|
| Injection Device..... | MUI |
| Turbocharger..... | TV8102 (1.23 A/R) |
| Blower Type..... | Standard |
| Blower Drive Ratio..... | 1.95:1 |
| Charge Air Cooling..... | JWAC |
| Low Idle Speed – r/min..... | 550 |
| High Idle Speed – r/min..... | 2500 |
| Engine Crankcase Vent System..... | Open |

Physical Data

| | |
|--|---------------------|
| Size: | |
| Length – in. (mm)..... | 60.0 (1524) |
| Width – in. (mm)..... | 45.9 (1166) |
| Height – in. (mm)..... | 55.9 (1420) |
| Weight, dry – lb (kg)..... | 3210 (1456) |
| Weight, wet – lb (kg)..... | 3394 (1540) |
| Center of Gravity Distance: | |
| From R.F.O.B. (x axis) – in. (mm)..... | 17.62 (448) |
| Above Crankshaft (y axis) – in. (mm)..... | 9.16 (233) |
| Right of Crankshaft (z axis) – in. (mm)..... | 123 (31.2) |
| Installation Drawing..... | 5143026 (Reference) |

Mechanical Data

| | |
|---|--------------|
| Thrust Bearing Load Limit, Continuous – lb (N)..... | 400 (1780) |
| Thrust Bearing Load Limit, Intermittent – lb (N)..... | 1200 (5340) |
| Maximum Static Bending Moment at Rear | |
| Face of Block – lb-ft (N·m)..... | 500 (678) |
| Maximum Weight on Crankshaft – lb (kg)..... | 600 (272) |
| Additional Mechanical Data..... | E4-7000-32-1 |

Fuel System

| | |
|---|----------------|
| Fuel Injector..... | M95 |
| Injection Timing Height – in. | 1.460 |
| Fuel Consumption – lb/hr (kg/hr)..... | 288.0 (130.6) |
| Fuel Consumption – gal/hr (L/hr)..... | 41.2 (156.0) |
| Fuel Spill – lb/hr (kg/hr)..... | 840.9 (381.4) |
| Fuel Spill – gal/hr (L/hr)..... | 120.3 (455.4) |
| Total Fuel Flow – lb/hr (kg/hr)..... | 1129.4 (512.1) |
| Total Fuel Flow – gal/hr (L/hr)..... | 161.5 (611.4) |
| 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 |
| Smoke Control Device..... | Not Applicable |

Lubrication System

| | |
|--|----------------------|
| Oil Pressure at Rated Speed – lb/in. ² (kPa)..... | 55 (379) |
| Oil Pressure at Low Idle – lb/in. ² (kPa)..... | 5 (34) |
| In Pan Oil Temperature – °F (°C)..... | 200 – 235 (93 – 113) |
| Oil Flow – gal/min (L/min)..... | 64 (242) |
| Oil Pan Capacity: > 24 Hour Operation | |
| High Limit – qt (L)..... | 34 (32) |
| Low Limit – qt (L)..... | 26 (25) |
| Total Engine Oil Capacity with Filters – qt (L)..... | 36 (34) |
| Engine Angularity Limits, Front Up – Degrees..... | 33 |
| Engine Angularity Limits, Front Down – Degrees..... | 20 |
| 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)..... | 25800 (453.7) |
| Engine Radiated Heat – Btu/min (kW)..... | 2470 (43.4) |
| Coolant Flow – gal/min (L/min)..... | 266 (1007) |
| Minimum Coolant Flow – gal/min..... | 239 (903) |
| Thermostat:..... | Full Blocking |
| Start to Open – °F (°C)..... | 173 (78) |
| Fully Open – °F (°C)..... | 186 (86) |
| Minimum Water Pump Inlet Pressure: | |
| Rapid Warmup Radiator – in. Hg (kPa)..... | Positive |
| Conventional Radiator – in. Hg (kPa)..... | -3 (-10.1) |
| Engine Coolant Capacity – qt (L)..... | 55 (52.0) |
| Minimum Pressure Cap – lb/in. ² (kPa)..... | 7 (48.3) |
| Maximum Coolant Pressure | |
| (Exclusive of Pressure Cap – lb/in. ² (kPa)..... | 17 (117.2) |
| Maximum Top Tank Temperature – °F (°C)..... | 210 (99) |
| Minimum Top Tank Temperature – °F (°C)..... | 160 (71) |
| Minimum Coolant Fill Rate – gal/mjn (L/min)..... | 3 (11.4) |
| Air Handling Capacity – ft ³ /min (m ³ /min)..... | 1.2 (0.03) |
| 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)..... | 2680 (75.9) |
| Engine Air Box/Manifold Pressure – in. Hg (kPa)..... | 55.0 (185.7) |
| Recommended Intake Pipe Outer Diameter: | |
| Single – in. (mm)..... | 6.0 (152) |
| Dual – in. (mm)..... | 4.0 (102) |
| Maximum Crankcase Pressure – in. H ₂ O (kPa)..... | 1.9 (0.47) |

Exhaust System

| | |
|--|------------|
| Exhaust Flow – ft ³ /min (m ³ /min)..... | 6040 (171) |
| Exhaust Temperature – °F (°C)..... | 750 (399) |
| Maximum Back Pressure – in. Hg (kPa)..... | 3.0 (10.2) |
| Recommended Exhaust Pipe Diameter: | |
| Single – in. (mm)..... | 6.0 (152) |
| Dual – in. (mm)..... | 4.0 (102) |

Performance Data

| | |
|--|--------------|
| BMEP – lb/in. ² (kPa)..... | 151.7 (1046) |
| Friction Power: | |
| Rated Speed – fhp (kW)..... | 136 (101) |
| Peak Torque Speed – fhp (kW)..... | 74 (55) |
| Altitude Capability – ft (m)..... | 16000 (4880) |
| Torque Available at 800 r/min – lb-ft (N·m)..... | 1250 (1695) |

| Engine Speed r/min | Rated Power bhp (kW) | Rated Torque lb-ft (N·m) | Rated BSFC lb/bhp·hr (g/kW·hr) |
|-----------------------|-------------------------|-----------------------------|-----------------------------------|
| 2300 | 750 (560) | 1713 (2322) | 0.384 (233) |
| 2100 | 714 (533) | 1786 (2421) | 0.376 (229) |
| 2000 | 691 (515) | 1815 (2461) | 0.374 (228) |
| 1800 | 639 (477) | 1865 (2529) | 0.373 (227) |
| 1600 | 574 (428) | 1884 (2554) | 0.379 (231) |
| 1400 | 499 (372) | 1872 (2538) | 0.394 (240) |
| 1200 | 409 (305) | 1790 (2427) | 0.427 (260) |

Emissions Data

| | |
|--|---------------|
| Smoke, Rated Speed – Bosch Number..... | 1.2 |
| Smoke, Peak Torque Speed – Bosch Number..... | 1.1 |
| Noise – dB(A) @ 1..... | 104.2 |
| Additional Noise Data..... | Not Available |
| NO _x – g/hr..... | 9650 |
| CO – g/hr..... | 4600 |
| HC – g/hr..... | 290 |
| SO ₂ – g/hr..... | 1310 |

**UNCONTROLLED
COPY**

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

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