

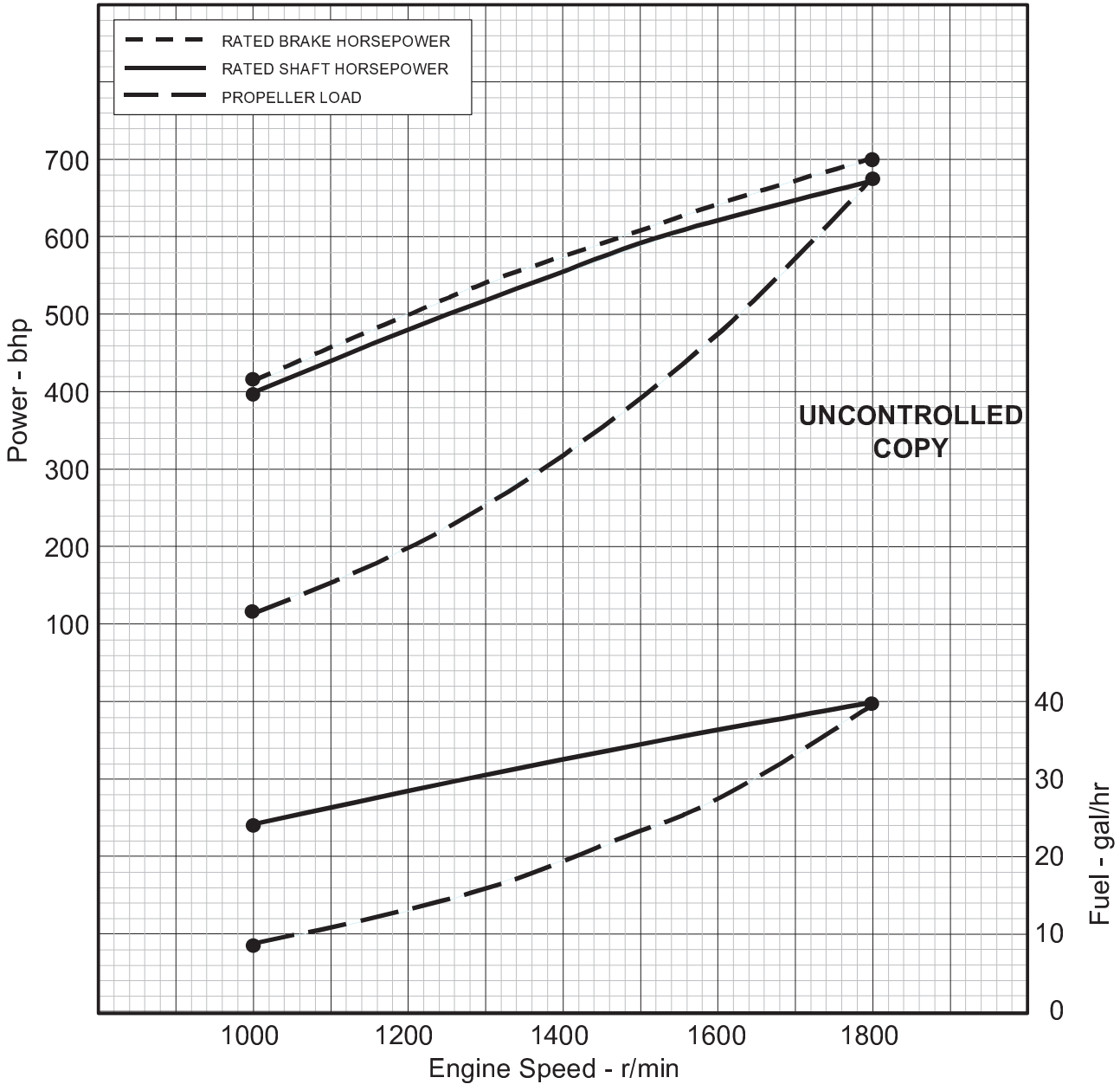


Marine Power

Model: 12V-149

Rating: 700 bhp (522 kW) @ 1800 r/min
675 shp (504 kW) @ 1800 r/min

Continuous
Net Power



<p>Power output guaranteed within 5% SAE J1228 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. Power rated in accordance with NMMA Procedure 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 = hp x 0.746 Fuel: L/hr = gal/hr x 3.785</p>	<p>Injector: 7190 Accessories: DD-520-1v Gear Alternator: 24V, 70A Raw Water Pump: Not Included</p>
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Certified by: T.J. MOORE

Curve No. E4-9122-12-1
Rev. / Date: 1 / 8-18-98
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Performance Curve

MARINE SPECIFICATION SHEET

General Data

Model	9122-7000
Number of Cylinders	12
Bore and Stroke – in. x in. (mm x mm)	5.75 x 5.75 (146 x 146)
Displacement – in. ³ (L)	1792 (2939)
Compression Ratio	18.0:1
Piston Speed – ft/min (m/min)	1725 (526)
Exhaust Valves	4
Combustion System	DIRECT INJECTION
Engine Type	63.5° VEE 2 Cycle
Aspiration	NATURAL ASPIRATED

Configuration

Injection Device	MUI
Turbocharger	NONE
Charge Air Cooling System	NONE
Blower Type	Standard
Blower Drive Ratio	2.06:1
Low Idle Speed – r/min	550
Maximum No Load Speed – r/min	1950
Engine Crankcase Vent System	Closed

Physical Data

Size:	WITH GEAR	WITHOUT GEAR
Length – in. (mm)	Not Avail	93.0 (2362)
Width – in. (mm)	59.0 (1499)	59.0 (1499)
Height – in. (mm)	61.0 (1549)	61.0 (1549)
Weight, Dry – lb (kg)	11926 (5410)	8490 (3851)
Weight, Wet – lb (kg)	12637 (5732)	9059 (4109)
Center of Gravity Distance:		
From R.F.O.B. (x axis) – in. (mm)	Not Avail	31.6 (802.6)
Above Crankshaft (y axis) – in. (mm)	Not Avail	11.0 (279.4)
Right of Crankshaft (z axis) – in. (mm)	Not Avail	1.2 (30.5)
Installation Drawing	5139423	

Mechanical Data

Marine Gear

Type	DD-520-1V
Reduction Ratio	6.11:1
Lube Oil Capacity – qt (L)	76 (71.9)
(marine gear must use straight viscosity oil)	
Gear Weight, dry – lb (kg)	3436 (1559)
Center of Gravity Distance:	
From Mounting Face (x axis) – in. (mm)	13.97 (355)
Above Output Shaft (y axis) – in. (mm)	6.54 (166)
Right of Output Shaft (z axis) – in. (mm)	4.18 (106.2)

Fuel System

Fuel Injector Part Number	7190
Injector Timing – in.	2.175
Fuel Consumption – lb/hr (kg/hr)	278.2 (216.2)
Fuel Spill Rate gal/hr (L/hr)	274.7 (1040)
Total Fuel Flow gal/hr (L/hr)	314.5 (1191)
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
Recommended Supply Line I.D. – in. (mm)	1.0 (25.4)

Lubrication System

Oil Pressure at Rated Speed – lb/in. ² (kPa)	60-80 (414-552)
Oil Pressure at Low Idle – lb/in. ² (kPa)	10 (69)
In Pan Oil Temperature – °F (°C)	200 – 250 (93 – 121)
Oil Flow – gal/min (L/min)	115 (435)
Oil Pan Capacity at Installation Angle	0° 15°
High Limit – qt (L)	120 (114) 120 (114)
Low Limit – qt (L)	88 (83.3) 88 (83.3)
Total Engine Oil Capacity with Filters – qt (L)	136 (129) 136 (129)
Maximum Installation Angle – Degrees	15.0

Electrical System

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

Cooling System

Engine Heat Rejection – Btu/min (kW)	19600 (344.7)	
Engine Radiated Heat – Btu/min (kW)	4310 (75.8)	
Coolant Flow:		
Fresh Water Flow – gal/min (L/min)	335 (1268)	
Raw Water Flow – gal/min (L/min)	330 (1249)	
Maximum Water Pump:	Fresh Water	Raw Water
Inlet Restriction – in. Hg (kPa)	3.0 (10.2)	5.0 (17.0)
Fresh Water Capacity – qt (L)	148 (140)	
Maximum Coolant Pressure		
(Exclusive of Pressure Cap) – lb/in. ² (kPa)	25 (172.4)	
Maximum Raw Water Pump Pressure – lb/in. ² (kPa)	10 (69)	
Maximum Top Tank Temperature – °F (°C)	200 (93)	
Recommended Raw Water Pipe I.D.		
Inlet – in. (mm)	4.0 (152)	
Outlet – in. (mm)	3.0 (76)	
Recommended Sea Strainer Size:		
(Max. Screen Opening – 2.0 mm)		
Simplex – in. (mm)	3.0 (76)	
Duplex – in. (mm)	4.0 (102)	

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)	2370 (67.1)
Air Box Pressure – in. Hg (kPa)	4.6 (15.5)
Recommended Intake Pipe Dia. – in. (mm)	10.0 (254)
Minimum Net Engine Room Vent Area, – in. ² (cm ²)	228 (1471)
Maximum Crankcase Pressure – in. H ₂ O (kPa)	0.8 (0.2)

Exhaust System

Exhaust Flow – ft ³ /min (m ³ /min)	5310 (150.4)	
Exhaust Temperature – °F (°C)	725 (385)	
Maximum Back Pressure – in. Hg (kPa)	3.6 (12.2)	
Recommended Exhaust Pipe Diameter:	Dry	Wet
Single – in. (mm)	12 (305)	14 (356)
Dual – in. (mm)	8.0 (203)	10 (25.4)

Performance Data

BMEP – lb/in. ² (kPa)	86 (593)
Friction Power – fhp (kW)	242 (181)

Engine Speed	Brake Power	Shaft Power	Rated Fuel Usage	Rated BSFC
r/min	bhp (kW)	shp (kW)	gal/hr (L/hr)	lb/bhp-hr (g/kW-hr)
1800	700 (522)	675 (504)	39.8 (150.7)	0.397 (242)
1600	643 (479)	619 (462)	36.2 (136.9)	0.393 (239)
1400	577 (430)	555 (414)	32.4 (122.8)	0.393 (239)
1200	501 (374)	482 (360)	28.3 (107.2)	0.395 (240)
1000	415 (310)	399 (297)	24.1 (91.3)	0.406 (247)

Engine Speed	Prop Load	Prop Fuel Usage	Prop BSFC
r/min	shp (kW)	gal/hr (L/hr)	lb/bhp-hr (g/kW-hr)
1800	675 (504)	39.8 (150.7)	0.397 (242)
1600	474 (354)	27.3 (103.2)	0.386 (235)
1400	318 (237)	19.3 (72.9)	0.406 (247)
1200	200 (149)	12.8 (48.3)	0.424 (258)
1000	116 (86)	8.3(31.4)	0.470 (286)

Emissions Data

Smoke, Rated Speed – Bosch Number	0.2
Noise – dB(A) @ 1	105.0
Additional Noise Data	877
NO _x – g/hr	10400
CO – g/hr	1387
HC – gh/r	876
SO ₂ – g/hr	1262

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All values are at rated speed and power at SAE J1228 with standard engine hardware, unless otherwise noted.

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