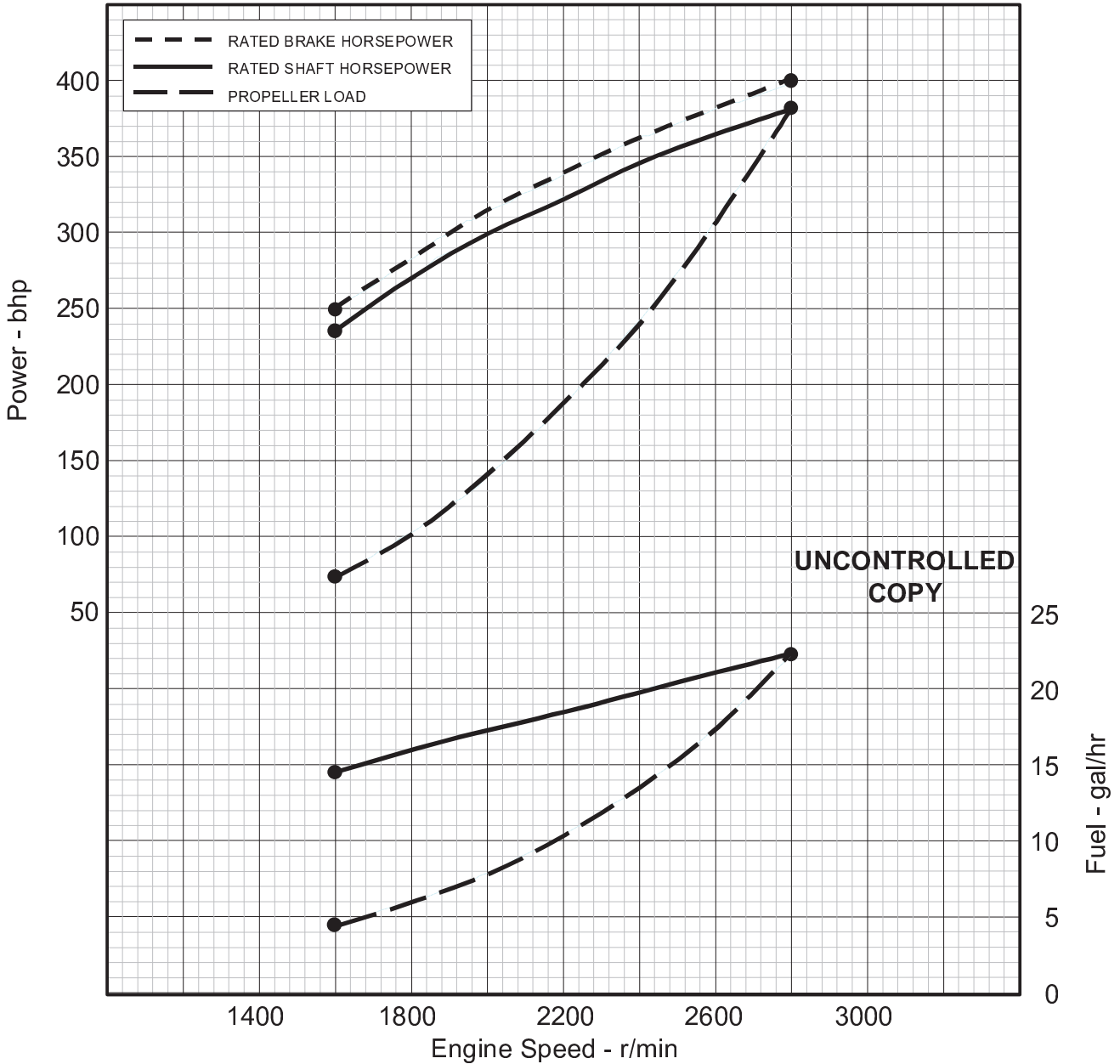




Marine Power

Model: 6V-53TI
Rating: 400 bhp (298 kW) @ 2800 r/min
 382 shp (285 kW) @ 2800 r/min

Maximum
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>Turbo: TW73 (1.03 A/R) Injector: 5655 Accessories: DD-507-1 Gear Alternator: 12V, 42A Raw Water Pump: Included</p>
---	--	--

Certified by:  T.J. MOORE

Curve No. E4-5062-32-6
Rev. / Date: 9 / 11-14-98
Sheet No. 1 of 2

Performance Curve

MARINE SPECIFICATION SHEET

General Data

Model.....	5062-5301
Number of Cylinders.....	6
Bore and Stroke – in. x in. (mm x mm).....	3.875 x 4.5 (98 x 114)
Displacement – in. ³ (L).....	318 (5.22)
Compression Ratio.....	18.0:1
Piston Speed – ft/min (m/min).....	2100 (640)
Exhaust Valves.....	4
Combustion System.....	Direct Injection
Engine Type.....	66.7° VEE 2 Cycle
Aspiration.....	Turbocharged

Configuration

Injection Device.....	MUI
Turbocharger.....	TW73 (1.03 A/R)
Charge Air Cooling System.....	RWIC
Blower Type.....	83% Non-Bypass
Blower Drive Ratio.....	2.49:1
Low Idle Speed – r/min.....	550
Maximum No Load Speed – r/min.....	3050
Engine Crankcase Vent System.....	Open

Physical Data

Size:	WITH GEAR	WITHOUT GEAR
Length – in. (mm).....	50.32 (1278)	53.0 (1346)
Width – in. (mm).....	35.80 (909)	35.80 (909)
Height – in. (mm).....	42.2 (1098)	42.2 (1098)
Weight, dry – lb (kg).....	2325 (1055)	1975 (896)
Weight, wet – lb (kg).....	2382 (1081)	2032 (922)
Center of Gravity Distance:		
From R.F.O.B. (x axis) – in. (mm).....	22.9 (581)	6.92 (176)
Above Crankshaft (y axis) – in. (mm).....	6.4 (162)	7.26 (184)
Right of Crankshaft (z axis) – in. (mm).....	0.9 (23)	1.25 (31.8)
Installation Drawing.....	23502633	

Mechanical Data

Not Available

Marine Gear

Type.....	DD507-1
Reduction Ratio.....	1.5:1
Lube Oil Capacity – qt (L).....	7.4 (7.0)
(marine gear must use straight viscosity oil)	
Gear Weight, Dry – lb (kg).....	350 (159)
Center of Gravity Distance:	
From Mounting Face (x axis) in. (mm).....	6.68 (170)
Above Output Shaft (y axis) in. (mm).....	1.50 (38.1)
Right of Output Shaft (z axis) in. (mm).....	-1.08 (-27.4)

Fuel System

Fuel Injector.....	5655
Injector Timing.....	1.508
Fuel Consumption – lb/hr (kg/hr).....	155.8 (70.7)
Fuel Spill Rate gal/hr (L/hr).....	63.0 (238.5)
Total Fuel Flow gal/hr (L/hr).....	85.3 (322.9)
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).....	0.5 (12.7)

Lubrication System

Oil Pressure at Rated Speed – lb/in. ² (kPa).....	40-60 (275-414)
Oil Pressure at Low Idle – lb/in. ² (kPa).....	5.0 (34)
In Pan Oil Temperature – °F (°C).....	200 – 250 (93 – 121)
Oil Flow – gal/min (L/min).....	34 (129)
Oil Pan Capacity at Installation Angle	0° 17°
High Limit – qt (L).....	25.4 (24.0) 16.5 (15.6)
Low Limit – qt (L).....	23.6 (22.3) 12.5 (11.8)
Total Engine Oil Capacity with Filters – qt (L).....	27.4 (25.9) 18.5 (17.5)
Maximum Installation Angle – Degrees.....	17.0

Electrical System

Recommended Battery Capacity (CCA @ 0°F):	
12 Volt System, Above 32°.....	900
12 Volt System, Below 32°.....	1250
24 Volt System, Above 32°.....	475
24 Volt System, Below 32°.....	625
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).....	16500 (290.0)
Engine Radiated Heat – Btu/min (kW).....	576 (10.1)
Coolant Flow:	
Fresh Water Flow – gal/min (L/min).....	90 (340)
Raw Water Flow – gal/min (L/min).....	53 (200)
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).....	34 (32)
Maximum Coolant Pressure	
(Exclusive of Pressure Cap) – lb/in. ² (kPa).....	18 (124)
Maximum Raw Water Pump Pressure – lb/in. ² (kPa).....	10 (6.9)
Maximum Top Tank Temperature – °F (°C).....	210 (99)
Recommended Raw Water Pipe I.D.	
Inlet – in. (mm).....	2.5 (63.5)
Outlet – in. (mm).....	2.0 (50.8)
Recommended Sea Strainer Size:	
(Max. Screen Opening – 2.0 mm)	
Simplex – in. (mm).....	2.5 (63.5)
Duplex – in. (mm).....	3.0 (76.2)

Air System

Maximum Temperature Rise	
(Outside 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).....	1200 (34.0)
Air Box Pressure – in. Hg (kPa).....	62.2 (211.5)
Recommended Intake Pipe Dia. – in. (mm).....	4.0 (102)
Minimum Net Engine Room Vent Area, – in. ² (cm ²).....	115 (742)
Maximum Crankcase Pressure – in. H ₂ O (kPa).....	4.0 (1.00)

Exhaust System

Exhaust Flow – ft ³ /min (m ³ /min).....	2480 (70.3)
Exhaust Temperature – °F (°C).....	650 (343)
Maximum Back Pressure – in. Hg (kPa).....	2.5 (8.4)
Recommended Exhaust Pipe Diameter:	Dry Wet
Single – in. (mm).....	5.0 (127) 6 (152)
Dual – in. (mm).....	Not Applicable

Performance Data

BMEP – lb/in. ² (kPa).....	178.0 (1227)
Friction Power – fhp (kW).....	75 (56)

Engine Speed r/min	Brake Power bhp (kW)	Shaft Power shp (kW)	Rated Fuel Usage gal/hr (L/hr)	Rated BSFC lb/bhp-hr (g/kW-hr)
2800	400 (298)	382 (285)	22.3 (84.4)	0.389 (237)
2500	374 (280)	357 (268)	20.5 (77.6)	0.384 (233)
2200	340 (253)	325 (242)	18.5 (70.0)	0.381 (232)
1900	300 (224)	286 (214)	16.6 (62.8)	0.387 (235)
1600	248 (185)	236 (177)	14.5 (54.5)	0.407 (248)

Engine Speed r/min	Prop Load shp (kW)	Prop Fuel Usage gal/hr (L/hr)	Prop BSFC lb/bhp-hr (g/kW-hr)
2800	382 (285)	22.3 (84.4)	0.389 (237)
2500	272 (203)	15.4 (67.4)	0.377 (262)
2200	185 (138)	10.4 (48.9)	0.370 (274)
1900	119 (89)	6.8 (35.3)	0.373 (298)
1600	71 (53)	4.5 (24.6)	0.401 (334)

Emissions Data

Smoke, Rated Speed – Bosch Number.....	1.8
Noise – dB(A) @ 1.....	103.4
Additional Noise Data.....	Not Available
NO _x – g/hr.....	4000
CO – g/hr.....	1600
HC – gh/r.....	240
SO ₂ – g/hr.....	710

**UNCONTROLLED
COPY**

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

Curve No. E4-5062-32-6
Rev. / Date: 9 / 11-14-98
Sheet No. 2 of 2

All information subject to change without notice.
Detroit Diesel and Spinning Arrows Design © are registered trademarks of Detroit Diesel Corporation.
© 1998 DETROIT DIESEL CORPORATION