Marine Propulsion Engine

**3306B**

160 bkW (215 bhp) 218 mhp @ 2000 rpm

**SPECIFICATIONS**

I-6, 4-Stroke-Cycle-Diesel

- **Emissions**: IMO compliant
- **Displacement**: 10.5 L (641 cu. in.)
- **Bore**: 121 mm (4.8 in.)
- **Stroke**: 152 mm (6.0 in.)
- **Aspiration**: Turbocharged-Aftercooled
- **Governor**: Hydra-mechanical
- **Engine Weight, Net Dry (approx)**: 1120.9 kg (2469 lb)
- **Cooling System**容

- Lube Oil System (refill): 27.4 L (7.2 U.S. gal)
- Oil Change Interval: 250 hr
- **Caterpillar DEO 10W30 or 15W40**
- **Rotation (from flywheel end)**: Counterclockwise

**STANDARD EQUIPMENT**

- **Air Inlet System**: Dry, regular duty air cleaner
- **Cooling System**: Gear driven centrifugal jacket water pump, engine oil cooler, expansion tank, thermostats and housing, transmission oil cooler
- **Exhaust System**: Watercooled manifold and turbocharger; dry elbow and flange, 152 mm (6 in.)
- **Flywheel and Flywheel Housing**: SAE No. 1 (156 teeth)
- **Fuel System**: Fuel priming pump, fuel transfer pump, fuel filter, flexible fuel lines
- **Instruments**: Fuel pressure gauge, service meter, heavy-duty standard SAE rotation tachometer drive
- **Lube System**: Top-mounted crankcase breather, oil filter, LH oil filler and oil level gauge, oil pan
- **Mounting System**: Front support
- **General**: Vibration damper and guard, Caterpillar yellow paint, lifting eyes

**ACCESSORY EQUIPMENT**

- **Air Cleaner Rain Cap**
- **Air Starting Motor**
- **12V 51 Amp, 24V 35 Amp, 24V 60 Amp Alternator**
- **Auxiliary Drive Pulley**
- **Digital Tachometer**
- **Double Wall Fuel Lines and Drain**
- **Duplex Fuel Filter**
- **Electric Overspeed Shutoff**
- **Electric Starting Motor**
- **Engine-Mounted Instrument Panel**
- **Ether Starting Air**
- **Exhaust Elbow, Pipe, Rain Cap, Flexible Fittings**
- **Front Enclosed Clutch**
- **Fuel Ratio Control**
- **Hydraulic Pump Drive**
- **Magnetic Pickup**
- **Manual Shutoff Lever**
- **Manual Sump Pump**
- **Pilot House Instrument Panel**
- **Primary Fuel Filter/Water Separator**
- **Remote-Mounted Pilot House Controls**
- **Remote Positive Locking Governor Control**
- **RH Oil Level Gauge**
- **Shutoff Solenoid — ETR**
- **Spare Parts Kit**
PERFORMANCE CURVES

A Rating — DM6061-00

IMO Compliant

**Performance Data**

<table>
<thead>
<tr>
<th>Engine Speed (rpm)</th>
<th>Engine Power (kW)</th>
<th>Engine Torque (N·m)</th>
<th>BSFC (g/kW-hr)</th>
</tr>
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<tbody>
<tr>
<td>2000</td>
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<tr>
<td>1900</td>
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<td>229.0</td>
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<tr>
<td>1700</td>
<td>141</td>
<td>794</td>
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<tr>
<td>1600</td>
<td>134</td>
<td>802</td>
<td>230.0</td>
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<tr>
<td>1500</td>
<td>126</td>
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<td>116</td>
<td>802</td>
<td>236.0</td>
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<tr>
<td>1300</td>
<td>111</td>
<td>815</td>
<td>242.0</td>
</tr>
<tr>
<td>1200</td>
<td>108</td>
<td>859</td>
<td>250.0</td>
</tr>
</tbody>
</table>

**Cubic prop demand curve with 3.0 exponent for displacement hulls only.**

Power produced at the flywheel will be within standard tolerances up to 50°C (122°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base.

Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 5% for propeller shaft power.

PD-DM6061-00.pdf Created on 06/19/2001 11:49 © 2001 Caterpillar All Rights Reserved
DIMENSIONS

<table>
<thead>
<tr>
<th>Description</th>
<th>mm</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Length</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length from rear face of block to front of engine</td>
<td>1719.2</td>
<td>67.7</td>
</tr>
<tr>
<td>Length from rear face of block to back of flywheel housing</td>
<td>1285.0</td>
<td>50.6</td>
</tr>
<tr>
<td><strong>Overall Height</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height from crankshaft centerline to top of engine</td>
<td>1141.0</td>
<td>44.9</td>
</tr>
<tr>
<td>Height from crankshaft centerline to bottom of oil pan</td>
<td>827.7</td>
<td>32.6</td>
</tr>
<tr>
<td><strong>Overall Width</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width from crankshaft centerline to port side (left side)</td>
<td>951.1</td>
<td>37.4</td>
</tr>
<tr>
<td>Width from crankshaft centerline to starboard side (right side)</td>
<td>542.8</td>
<td>21.4</td>
</tr>
<tr>
<td>Customer mounting hole diameter</td>
<td>19.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Width from crankshaft centerline to mounting holes</td>
<td>307.8</td>
<td>12.1</td>
</tr>
<tr>
<td>Length from rear face of block to mounting holes</td>
<td>935.7</td>
<td>36.8</td>
</tr>
<tr>
<td></td>
<td>1018.3</td>
<td>40.1</td>
</tr>
</tbody>
</table>

*Ratios and dimensions from drawing: 188-1628

RATING DEFINITIONS AND CONDITIONS

**A Rating**

Typical Application... For heavy-duty service in vessels such as freighters, tugboats, bottom drag trawlers, and deep river towboats where the engine is operated at rated load and speed up to 100% of the time without interruption or load cycling.

Typical Hours Per Year .......... 5000 to 8000

Time at Rated Speed .............. Up to 100%

Load Factor ...................... 80 to 100%

Typical Time at Full Load ........ No limit

**Engine Performance Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>±3%</th>
<th>±5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
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<tr>
<td>Specific Fuel Consumption</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel Rate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Ratings** are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

**Fuel rates** are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/L (7.001 lb/U.S. gal).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.
3306B MARINE PROPULSION — 160 bkW (215 bhp)

Performance data is calculated in accordance with tolerances and conditions stated in this specification sheet and is only intended for purposes of comparison with other manufacturers’ engines. Actual engine performance may vary according to the particular application of the engine and operating conditions beyond Caterpillar’s control.

TMI Reference No.: DM6061-00 (6-19-01)
Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

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Marine Propulsion Engine 3306B

175 bkW (235 bhp) 238 mhp @ 2000 rpm

SPECIFICATIONS
I-6, 4-Stroke-Cycle-Diesel

- Emissions: IMO compliant
- Displacement: 10.5 L (641 cu. in.)
- Bore: 121 mm (4.8 in.)
- Stroke: 152 mm (6.0 in.)
- Aspiration: Turbocharged-Aftercooled
- Governor: Hydra-mechanical
- Engine Weight: 1120.9 kg (2469 lb)

Capacity for Liquids
- Cooling System: 18.2 L (4.8 U.S. gal)
- Lube Oil System (refill): 27.4 L (7.2 U.S. gal)
- Oil Change Interval: 250 hr
- Caterpillar DEO 10W30 or 15W40
- Rotation: Counterclockwise

STANDARD EQUIPMENT

- Air Inlet System: Dry, regular duty air cleaner
- Cooling System: Gear driven centrifugal jacket water pump, engine oil cooler, expansion tank, thermostats and housing, transmission oil cooler
- Exhaust System: Watercooled manifold and turbocharger; dry elbow and flange, 152 mm (6 in.)
- Flywheel and Flywheel Housing: SAE No. 1 (156 teeth)
- Fuel System: Fuel priming pump, fuel transfer pump, fuel filter, flexible fuel lines
- Instruments: Fuel pressure gauge, service meter, heavy-duty standard SAE rotation tachometer drive
- Lube System: Top-mounted crankcase breather, oil filter, LH oil filler and oil level gauge, oil pan
- Mounting System: Front support
- General: Vibration damper and guard, Caterpillar yellow paint, lifting eyes

ACCESSORY EQUIPMENT

- Air Cleaner Rain Cap
- Air Starting Motor
- 12V 51 Amp, 24V 35 Amp, 24V 60 Amp Alternator
- Auxiliary Drive Pulley
- Digital Tachometer
- Double Wall Fuel Lines and Drain
- Duplex Fuel Filter
- Electric Overspeed Shutoff
- Electric Starting Motor
- Engine-Mounted Instrument Panel
- Ether Starting Air
- Exhaust Elbow, Pipe, Rain Cap, Flexible Fittings
- Front Enclosed Clutch
- Fuel Ratio Control
- Hydraulic Pump Drive
- Magnetic Pickup
- Manual Shutoff Lever
- Manual Sump Pump
- Pilot House Instrument Panel
- Primary Fuel Filter/Water Separator
- Remote-Mounted Pilot House Controls
- Remote Positive Locking Governor Control
- RH Oil Level Gauge
- Shutoff Solenoid — ETR
- Spare Parts Kit
**PERFORMANCE CURVES**

**B Rating — DM6060-00**

**IMO Compliant**

---

### Performance Data

<table>
<thead>
<tr>
<th>Engine Speed (rpm)</th>
<th>Engine Power (kW)</th>
<th>Engine Torque (N·m)</th>
<th>BSFC (g/kW-hr)</th>
<th>Fuel Rate (L/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum Power Data</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2000</td>
<td>175</td>
<td>836</td>
<td>231.0</td>
<td>48.2</td>
</tr>
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<td>950</td>
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<tr>
<td>1200</td>
<td>120</td>
<td>956</td>
<td>259.0</td>
<td>37.0</td>
</tr>
</tbody>
</table>

| **Prop Demand Data** |
| 2000               | 175               | 836                  | 231.0          | 48.2            |
| 1900               | 150               | 754                  | 229.0          | 41.0            |
| 1800               | 128               | 677                  | 228.0          | 34.7            |
| 1700               | 108               | 604                  | 228.0          | 29.2            |
| 1600               | 90                | 535                  | 227.0          | 24.3            |
| 1500               | 74                | 470                  | 228.0          | 20.0            |
| 1400               | 60                | 409                  | 230.0          | 16.5            |
| 1300               | 48                | 353                  | 235.0          | 13.5            |
| 1200               | 38                | 301                  | 242.0          | 10.9            |

Cubic prop demand curve with 3.0 exponent for displacement hulls only.

---

**English**

<table>
<thead>
<tr>
<th>Engine Speed (rpm)</th>
<th>Engine Power (hp)</th>
<th>Engine Torque (lb ft)</th>
<th>BSFC (lb/hp-hr)</th>
<th>Fuel Rate (gph)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum Power Data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
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<td>617</td>
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<td>12.7</td>
</tr>
<tr>
<td>1900</td>
<td>231</td>
<td>639</td>
<td>.378</td>
<td>12.5</td>
</tr>
<tr>
<td>1800</td>
<td>224</td>
<td>654</td>
<td>.378</td>
<td>12.1</td>
</tr>
<tr>
<td>1700</td>
<td>212</td>
<td>665</td>
<td>.380</td>
<td>11.7</td>
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<td>1600</td>
<td>205</td>
<td>673</td>
<td>.383</td>
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<td>684</td>
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<td>694</td>
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<td>10.5</td>
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<td>173</td>
<td>701</td>
<td>.409</td>
<td>10.1</td>
</tr>
<tr>
<td>1200</td>
<td>161</td>
<td>705</td>
<td>.426</td>
<td>9.8</td>
</tr>
</tbody>
</table>

| **Prop Demand Data** |
| 2000               | 235               | 617                   | .380            | 12.7            |
| 1900               | 201               | 556                   | .376            | 10.8            |
| 1800               | 171               | 499                   | .375            | 9.2             |
| 1700               | 144               | 445                   | .375            | 7.7             |
| 1600               | 120               | 395                   | .373            | 6.4             |
| 1500               | 99                | 347                   | .375            | 5.3             |
| 1400               | 80                | 302                   | .378            | 4.4             |
| 1300               | 65                | 260                   | .386            | 3.6             |
| 1200               | 51                | 222                   | .398            | 2.9             |

Power produced at the flywheel will be within standard tolerances up to 50°C (122°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.
**DIMENSIONS**

<table>
<thead>
<tr>
<th>Description</th>
<th>mm</th>
<th>in</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Length</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length from rear face of block to front of engine</td>
<td>1719.2</td>
<td>67.7</td>
</tr>
<tr>
<td>Length from rear face of block to back of flywheel housing</td>
<td>1285.0</td>
<td>50.6</td>
</tr>
<tr>
<td><strong>Overall Height</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height from crankshaft centerline to top of engine</td>
<td>1141.0</td>
<td>44.9</td>
</tr>
<tr>
<td>Height from crankshaft centerline to bottom of oil pan</td>
<td>827.7</td>
<td>32.6</td>
</tr>
<tr>
<td><strong>Overall Width</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width from crankshaft centerline to port side (left side)</td>
<td>951.1</td>
<td>37.4</td>
</tr>
<tr>
<td>Width from crankshaft centerline to starboard side (right side)</td>
<td>542.8</td>
<td>21.4</td>
</tr>
<tr>
<td>Customer mounting hole diameter</td>
<td>19.8</td>
<td>0.8</td>
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<td>Width from crankshaft centerline to mounting holes</td>
<td>307.8</td>
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<tr>
<td>Length from rear face of block to mounting holes</td>
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<td>36.8</td>
</tr>
<tr>
<td></td>
<td>1018.3</td>
<td>40.1</td>
</tr>
</tbody>
</table>

*Illustrations and dimensions from drawing: 188-1628

**RATING DEFINITIONS AND CONDITIONS**

**B Rating** –
Typical Application ... Vessels such as midwater trawlers, purse seiners, crew and supply boats, ferries, and towboats where locks, sandbars, and curves dictate frequent slowing, and engine load and speed are constant with some cycling.

Typical Hours Per Year .......... 3000 to 5000
Time at Rated Speed .......... Up to 80%
Load Factor .................. 40 to 80%
Typical Time at Full Load ... 10 out of 12 hours
Rated Speed .................. 2000 rpm
Maximum Cruise Speed ......... 1900 rpm
Maximum Continuous Cruise Speed .... 1800 rpm

**Engine Performance Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>±3%</th>
<th>±5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Fuel Consumption</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel Rate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Ratings** are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

**Fuel rates** are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/L (7.001 lb/U.S. gal).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.
Performance data is calculated in accordance with tolerances and conditions stated in this specification sheet and is only intended for purposes of comparison with other manufacturers’ engines. Actual engine performance may vary according to the particular application of the engine and operating conditions beyond Caterpillar’s control.

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.
Marine Propulsion Engine

3306B

201 bkW (270 bhp) 274 mhp @ 2200 rpm

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Emissions .................................. IMO compliant
Displacement ............................. 10.5 L (641 cu. in.)
Bore ........................................ 121 mm (4.8 in.)
Stroke ..................................... 152 mm (6.0 in.)
Aspiration .............................. Turbocharged-Aftercooled
Governor ............................... Hydra-mechanical
Engine Weight, Net Dry (approx) .... 1120.9 kg (2469 lb)

Capacity for Liquids

Cooling System ....................... 18.2 L (4.8 U.S. gal)
Lube Oil System (refill) .......... 27.4 L (7.2 U.S. gal)
Oil Change Interval ................. 250 hr

Caterpillar DEO 10W30 or 15W40
Rotation (from flywheel end) .... Counterclockwise

STANDARD EQUIPMENT

Air Inlet System
Dry, regular duty air cleaner

Cooling System
Gear driven centrifugal jacket water pump, engine oil cooler, expansion tank, thermostats and housing, transmission oil cooler

Exhaust System
Watercooled manifold and turbocharger; dry elbow and flange, 152 mm (6 in.)

Flywheel and Flywheel Housing
SAE No. 1 (156 teeth)

Fuel System
Fuel priming pump, fuel transfer pump, fuel filter, flexible fuel lines

Instruments
Fuel pressure gauge, service meter, heavy-duty standard SAE rotation tachometer drive

Lube System
Top-mounted crankcase breather, oil filter, LH oil filler and oil level gauge, oil pan

Mounting System
Front support

General
Vibration damper and guard, Caterpillar yellow paint, lifting eyes

ACCESSORY EQUIPMENT

Air Cleaner Rain Cap
Air Starting Motor
12V 51 Amp, 24V 35 Amp, 24V 60 Amp Alternator
Auxiliary Drive Pulley
Digital Tachometer
Double Wall Fuel Lines and Drain
Duplex Fuel Filter
Electric Overspeed Shutoff
Electric Starting Motor
Engine-Mounted Instrument Panel
Ether Starting Air
Exhaust Elbow, Pipe, Rain Cap, Flexible Fittings
Front Enclosed Clutch
Fuel Ratio Control
Hydraulic Pump Drive
Magnetic Pickup
Manual Shutoff Lever
Manual Sump Pump
Pilot House Instrument Panel
Primary Fuel Filter/Water Separator
Remote-Mounted Pilot House Controls
Remote Positive Locking Governor Control
RH Oil Level Gauge
Shutoff Solenoid — ETR
Spare Parts Kit
Cubic prop demand curve with 3.0 exponent for displacement hulls only.

Power produced at the flywheel will be within standard tolerances up to 50°C (122°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base.

Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.
### RATING DEFINITIONS AND CONDITIONS

**C Rating –**

Typical Application . . . Vessels such as ferries, harbor tugs, fishing boats moving at higher speeds out and back (e.g., lobster, crayfish, and tuna), offshore service boats, and also displacement hull yachts and short trip coastal freighters where engine load and speed are cyclical.

Typical Hours Per Year ........... 2000 to 4000

Time at Rated Speed ................ Up to 50%

Load Factor .......................... 20 to 80%

Typical Time at Full Load ..... 6 out of 12 hours

Rated Speed .......................... 2200 rpm

Maximum Cruise Speed .......... 2100 rpm

Maximum Continuous Cruise Speed . 2000 rpm

**Engine Performance Parameters**

- Power: ........................................ ........................................... ±3%
- Specific Fuel Consumption: .................. ±3%
- Fuel Rate: ........................................... ±5%

**Ratings** are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

**Fuel rates** are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/L (7.001 lb/U.S. gal).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.

### DIMENSIONS

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<thead>
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<th>Dimension</th>
<th>mm</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
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<td>149.8</td>
<td>5.9</td>
</tr>
<tr>
<td>Overall Height</td>
<td>1141.0</td>
<td>44.9</td>
</tr>
<tr>
<td>Height from crankshaft centerline to top of engine</td>
<td>827.7</td>
<td>32.6</td>
</tr>
<tr>
<td>Height from crankshaft centerline to bottom of oil pan</td>
<td>313.3</td>
<td>12.3</td>
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<tr>
<td>Overall Width</td>
<td>951.1</td>
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<tr>
<td>Width from crankshaft centerline to port side (left side)</td>
<td>372.0</td>
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<td>Width from crankshaft centerline to starboard side (right side)</td>
<td>542.8</td>
<td>21.4</td>
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<tr>
<td>Customer mounting hole diameter</td>
<td>19.8</td>
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<td>Width from crankshaft centerline to mounting holes</td>
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<td>Length from rear face of block to mounting holes</td>
<td>935.7</td>
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<tr>
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</table>

*Illustrations and dimensions from drawing: 188-1628*
**Marine Propulsion Engine**

**3306B**

**175 bkW (235 bhp) 238 mhp @ 2000 rpm**

**SPECIFICATIONS**

I-6, 4-Stroke-Cycle-Diesel

- **Emissions** ........................................... IMO compliant
- **Displacement** ............................... 10.5 L (641 cu in.)
- **Bore** ........................................... 121 mm (4.8 in.)
- **Stroke** ........................................... 152 mm (6.0 in.)
- **Aspiration** ................................. Turbocharged-Aftercooled
- **Governor** ........................................ Hydra-mechanical
- **Engine Weight, Net Dry (approx)** ........ 1120.9 kg (2469 lb)
- **Cooling System** ......................... 18.2 L (4.8 U.S. gal)
- **Lube Oil System (refill)** .......... 27.4 L (7.2 U.S. gal)
- **Oil Change Interval** ..................... 250 hr
  - Caterpillar DEO 10W30 or 15W40
- **Rotation (from flywheel end)** ......... Counterclockwise

**STANDARD EQUIPMENT**

- **Air Inlet System**
  - Dry, regular duty air cleaner
- **Cooling System**
  - Gear driven, self-priming auxiliary sea water pump with rotary rubber impeller; gear driven centrifugal jacket water pump; engine oil cooler; expansion tank; engine mounted heat exchanger with removable tube bundle and replaceable copper-nickel tubes; thermostats and housing
- **Exhaust System**
  - Watercooled manifold and turbocharger; dry elbow and flange, 152 mm (6 in.)
- **Flywheel and Flywheel Housing**
  - SAE No. 1 (156 teeth)
- **Fuel System**
  - Fuel priming pump, fuel transfer pump, fuel filter, flexible fuel lines
- **Instruments**
  - Fuel pressure gauge, service meter, heavy-duty standard SAE rotation tachometer drive
- **Lube System**
  - Top-mounted crankcase breather, oil filter, LH oil filler and oil level gauge, oil pan
- **Mounting System**
  - Front support
- **General**
  - Vibration damper and guard, Caterpillar yellow paint, lifting eyes

**ACCESSORY EQUIPMENT**

- **Air Cleaner Rain Cap**
- **Air Starting Motor**
- **12V 51 Amp, 24V 35 Amp, 24V 60 Amp Alternator**
- **Auxiliary Drive Pulley**
- **Digital Tachometer**
- **Double Wall Fuel Lines and Drain**
- **Duplex Fuel Filter**
- **Electric Overspeed Shutoff**
- **Electric Starting Motor**
- **Engine-Mounted Instrument Panel**
- **Ether Starting Aid**
- **Exhaust Elbow, Pipe, Rain Cap, Flexible Fittings**
- **Front Enclosed Clutch**
- **Fuel Ratio Control**
- **Hydraulic Pump Drive**
- **Magnetic Pickup**
- **Manual Shutoff Lever**
- **Manual Sump Pump**
- **Pilot House Instrument Panel**
- **Primary Fuel Filter/Water Separator**
- **Remote-Mounted Pilot House Controls**
- **Remote Positive Locking Governor Control**
- **RH Oil Level Gauge**
- **Shutoff Solenoid — ETR**
- **Spare Parts Kit**
PERFORMANCE CURVES

A Rating — DM6056-00

IMO Compliant

**Metric**

<table>
<thead>
<tr>
<th>Engine Speed rpm</th>
<th>Engine Power kW</th>
<th>Engine Torque Nm</th>
<th>BSFC g/kW-hr</th>
<th>Fuel Rate L/hr</th>
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**English**

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<th>BSFC lb/hp-hr</th>
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**Prop Demand Data**

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<th>Engine Torque Nm</th>
<th>BSFC g/kW-hr</th>
<th>Fuel Rate L/hr</th>
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<td>1200</td>
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<td>301</td>
<td>250.0</td>
<td>11.3</td>
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</table>

Cubic prop demand curve with 3.0 exponent for displacement hulls only.

Power produced at the flywheel will be within standard tolerances up to 50°C (122°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base.

Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.
A Rating

Typical Application . . . For heavy-duty service in vessels such as freighters, tugboats, bottom drag trawlers, and deep river towboats where the engine is operated at rated load and speed up to 100% of the time without interruption or load cycling.

Typical Hours Per Year ........... 5000 to 8000
Time at Rated Speed ............... Up to 100%
Load Factor .................. 80 to 100%
Typical Time at Full Load .......... No limit

Ratings are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

Fuel rates are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/L (7.001 lb/U.S. gal).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.
Performance data is calculated in accordance with tolerances and conditions stated in this specification sheet and is only intended for purposes of comparison with other manufacturers’ engines. Actual engine performance may vary according to the particular application of the engine and operating conditions beyond Caterpillar’s control.

TMI Reference No.: DM6056-00 (6-19-01)
Materials and specifications are subject to change without notice.

The International System of Units (SI) is used in this publication.

LEHM1239-00 (6-01)
Supersedes LEHM7240-01
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Marine Propulsion Engine

3306B

187 bkW (250 bhp) 254 mhp @ 2000 rpm

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Emissions ..................... IMO compliant
Displacement ................... 10.5 L (641 cu. in.)
Bore .......................... 121 mm (4.8 in.)
Stroke .......................... 152 mm (6.0 in.)
Aspiration ...................... Turbocharged-Aftercooled
Governor ....................... Hydra-mechanical
Engine Weight, Net Dry (approx) .. 1120.9 kg (2469 lb)

Capacity for Liquids

Cooling System ............... 18.2 L (4.8 U.S. gal)
Lube Oil System (refill) ........ 27.4 L (7.2 U.S. gal)

Oil Change Interval .................. 250 hr
Caterpillar DEO 10W30 or 15W40
Rotation (from flywheel end) ..... Counterclockwise

STANDARD EQUIPMENT

Air Inlet System
Dry, regular duty air cleaner

Cooling System
Gear driven, self-priming auxiliary sea water pump with rotary rubber impeller; gear driven centrifugal jacket water pump; engine oil cooler; expansion tank; engine mounted heat exchanger with removable tube bundle and replaceable copper-nickel tubes; thermostats and housing

Exhaust System
Watercooled manifold and turbocharger; dry elbow and flange, 152 mm (6 in.)

Flywheel and Flywheel Housing
SAE No. 1 (156 teeth)

Fuel System
Fuel priming pump, fuel transfer pump, fuel filter, flexible fuel lines

Instruments
Fuel pressure gauge, service meter, heavy-duty standard SAE rotation tachometer drive

Lube System
Top-mounted crankcase breather, oil filter, LH oil filler and oil level gauge, oil pan

Mounting System
Front support

General
Vibration damper and guard, Caterpillar yellow paint, lifting eyes

ACCESSORY EQUIPMENT

Air Cleaner Rain Cap
Air Starting Motor
12V 51 Amp, 24V 35 Amp, 24V 60 Amp Alternator
Auxiliary Drive Pulley
Digital Tachometer
Double Wall Fuel Lines and Drain
Duplex Fuel Filter
Electric Overspeed Shutoff
Electric Starting Motor
Engine-Mounted Instrument Panel
Ether Starting Aid
Exhaust Elbow, Pipe, Rain Cap, Flexible Fittings
Front Enclosed Clutch
Fuel Ratio Control
Hydraulic Pump Drive
Magnetic Pickup
Manual Shutoff Lever
Manual Sump Pump
Pilot House Instrument Panel
Primary Fuel Filter/Water Separator
Remote-Mounted Pilot House Controls
Remote Positive Locking Governor Control
RH Oil Level Gauge
Shutoff Solenoid — ETR
Spare Parts Kit
PERFORMANCE CURVES

B Rating — DM6055-00

IMO Compliant

<table>
<thead>
<tr>
<th>Engine Speed (rpm)</th>
<th>Engine Power (kW)</th>
<th>Engine Torque (N·m)</th>
<th>BSFC (g/kW-hr)</th>
<th>Fuel Rate (L/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Power Data</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
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<td>891</td>
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<tr>
<td>1900</td>
<td>184</td>
<td>924</td>
<td>227.0</td>
<td>49.8</td>
</tr>
<tr>
<td>1800</td>
<td>178</td>
<td>946</td>
<td>226.0</td>
<td>48.1</td>
</tr>
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<td>171</td>
<td>962</td>
<td>226.0</td>
<td>46.1</td>
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<td>164</td>
<td>976</td>
<td>226.0</td>
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<tr>
<td>1500</td>
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<td>993</td>
<td>225.0</td>
<td>41.9</td>
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<td>1400</td>
<td>148</td>
<td>1007</td>
<td>225.0</td>
<td>39.5</td>
</tr>
</tbody>
</table>

| Prop Demand Data |
|------------------|------------------|-------------------|----------------|-----------------|
| 2000             | 187              | 890                | 229.0          | 50.9            |
| 1900             | 180              | 804                | 227.0          | 43.2            |
| 1800             | 173              | 721                | 226.0          | 36.6            |
| 1700             | 165              | 643                | 226.0          | 30.8            |
| 1600             | 96               | 570                | 227.0          | 25.8            |
| 1500             | 79               | 501                | 229.0          | 21.4            |
| 1400             | 64               | 436                | 232.0          | 17.7            |
| 1200             | 40               | 321                | 246.0          | 11.8            |

Cubic prop demand curve with 3.0 exponent for displacement hulls only.

Power produced at the flywheel will be within standard tolerances up to 50°C (122°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.
**3306B MARINE PROPULSION — 187 bkW (250 bhp)**

**RATING DEFINITIONS AND CONDITIONS**

**B Rating —**

Typical Application . . . Vessels such as midwater trawlers, purse seiners, crew and supply boats, ferries, and towboats where locks, sandbars, and curves dictate frequent slowing, and engine load and speed are constant with some cycling.

Typical Hours Per Year ............ 3000 to 5000

Time at Rated Speed .... Up to 80%

Load Factor ..................... 40 to 80%

Typical Time at Full Load . . . 10 out of 12 hours

Rated Speed .................... 2000 rpm

Maximum Cruise Speed ......... 1900 rpm

Maximum Continuous Cruise Speed .... 1800 rpm

**Engine Performance Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>±3%</td>
</tr>
<tr>
<td>Specific Fuel Consumption</td>
<td>±3%</td>
</tr>
<tr>
<td>Fuel Rate</td>
<td>±5%</td>
</tr>
</tbody>
</table>

**Ratings** are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

**Fuel rates** are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/L (7.001 lb/U.S. gal).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.
Performance data is calculated in accordance with tolerances and conditions stated in this specification sheet and is only intended for purposes of comparison with other manufacturers’ engines. Actual engine performance may vary according to the particular application of the engine and operating conditions beyond Caterpillar’s control.

TMI Reference No.: DM6055-00 (6-19-01)
Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

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Marine Propulsion Engine
3306B
235 bkW (315 bhp) 319 mhp @ 2200 rpm

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Emissions ...................... IMO compliant
Displacement .............. 10.5 L (641 cu. in.)
Bore .................. 121 mm (4.8 in.)
Stroke .................. 152 mm (6.0 in.)
Aspiration ............... Turbocharged-Aftercooled
Governor ................. Hydra-mechanical
Engine Weight, Net Dry (approx) .... 1120.9 kg (2469 lb)
Capacity for Liquids
  Cooling System ............ 18.2 L (4.8 U.S. gal)
  Lube Oil System (refill) .... 27.4 L (7.2 U.S. gal)
Oil Change Interval .................. 250 hr
  Caterpillar DEO 10W30 or 15W40
Rotation (from flywheel end) ........ Counterclockwise

STANDARD EQUIPMENT

Air Inlet System
  Dry, regular duty air cleaner

Cooling System
  Gear driven centrifugal jacket water pump, engine
  oil cooler, expansion tank, thermostats and
  housing, transmission oil cooler

Exhaust System
  Watercooled manifold and turbocharger; dry elbow
  and flange, 152 mm (6 in.)

Flywheel and Flywheel Housing
  SAE No. 1 (156 teeth)

Fuel System
  Fuel priming pump, fuel transfer pump, fuel filter,
  flexible fuel lines

Instruments
  Fuel pressure gauge, service meter, heavy-duty
  standard SAE rotation tachometer drive

Lube System
  Top-mounted crankcase breather, oil filter, LH oil
  filler and oil level gauge, oil pan

Mounting System
  Front support

General
  Vibration damper and guard, Caterpillar yellow
  paint, lifting eyes

ACCESSORY EQUIPMENT

Air Cleaner Rain Cap
Air Starting Motor
12V 51 Amp, 24V 35 Amp, 24V 60 Amp Alternator
Auxiliary Drive Pulley
Digital Tachometer
Double Wall Fuel Lines and Drain
Duplex Fuel Filter
Electric Overspeed Shutoff
Electric Starting Motor
Engine-Mounted Instrument Panel
Ether Starting Air
Exhaust Elbow, Pipe, Rain Cap, Flexible Fittings
Front Enclosed Clutch
Fuel Ratio Control
Hydraulic Pump Drive
Magnetic Pickup
Manual Shutoff Lever
Manual Sump Pump
Pilot House Instrument Panel
Primary Fuel Filter/Water Separator
Remote-Mounted Pilot House Controls
Remote Positive Locking Governor Control
RH Oil Level Gauge
Shutoff Solenoid — ETR
Spare Parts Kit
PERFORMANCE CURVES

D Rating — DM6058-00

IMO Compliant

Cubic prop demand curve with 3.0 exponent for displacement hulls only.

Power produced at the flywheel will be within standard tolerances up to 50°C (122°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base.

Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.

**Metric Performance Data**

<table>
<thead>
<tr>
<th>Engine Speed rpm</th>
<th>Engine Power kW</th>
<th>Engine Torque N•m</th>
<th>BSFC g/kW-hr</th>
<th>Fuel Rate L/hr</th>
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**English Performance Data**

<table>
<thead>
<tr>
<th>Engine Speed rpm</th>
<th>Engine Power hp</th>
<th>Engine Torque lb ft</th>
<th>BSFC lb/hp-hr</th>
<th>Fuel Rate gph</th>
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<td>827</td>
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PD-DM6058-00.pdf Created on 06/19/2001 11:49 © 2001 Caterpillar All Rights Reserved
**DIMENSIONS***

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<tr>
<th>Overall Length</th>
<th>mm</th>
<th>in.</th>
</tr>
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<tbody>
<tr>
<td>Length from rear face of block to front of engine</td>
<td>1719.2</td>
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<td>Length from rear face of block to back of flywheel housing</td>
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<tr>
<th>Overall Height</th>
<th>mm</th>
<th>in.</th>
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</thead>
<tbody>
<tr>
<td>Height from crankshaft centerline to top of engine</td>
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<td>Height from crankshaft centerline to bottom of oil pan</td>
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<table>
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<tr>
<th>Overall Width</th>
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<th>in.</th>
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</thead>
<tbody>
<tr>
<td>Width from crankshaft centerline to port side (left side)</td>
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<td>Width from crankshaft centerline to starboard side (right side)</td>
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<td>Width from crankshaft centerline to starboard side (right side)</td>
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Customer mounting hole diameter

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<td>Length from rear face of block to mounting holes</td>
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<td>40.1</td>
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</table>

*Illustrations and dimensions from drawing: 188-1628

**RATING DEFINITIONS AND CONDITIONS**

**D Rating –**

Typical Application . . . Planing hull vessels such as offshore patrol boats, customs, police, and some fire and fishing boats. Also used for bow and stern thrusters.

Typical Hours Per Year ........... 1000 to 3000

Time at Rated Speed ................ U p t o  1 6 %

Load Factor ........................ U p t o  5 0 %

Typical Time at Full Load ..... 2 o u t  o f  12 hours

Rated Speed ........................ 2200 rpm

Maximum Cruise Speed .............. 2050 rpm

Maximum Continuous Cruise Speed . . . 1900 rpm

**Engine Performance Parameters**

- Power: ........................................... ±3%
- Specific Fuel Consumption: ............. ±3%
- Fuel Rate: ..................................... ±5%

**Ratings** are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

**Fuel rates** are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/L (7.001 lb/U.S. gal).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.
Performance data is calculated in accordance with tolerances and conditions stated in this specification sheet and is only intended for purposes of comparison with other manufacturers’ engines. Actual engine performance may vary according to the particular application of the engine and operating conditions beyond Caterpillar’s control.
Marine Propulsion Engine

3306B

261 bkW (350 bhp) 355 mhp @ 2200 rpm

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Emissions ...................................... IMO compliant
Displacement .............................. 10.5 L (641 cu. in.)
Bore ........................................... 121 mm (4.8 in.)
Stroke ........................................... 152 mm (6.0 in.)
Aspiration ................................. Turbocharged-Aftercooled
Governor ................................... Hydra-mechanical
Engine Weight, Net Dry (approx) ...... 1120.9 kg (2469 lb)

Capacity for Liquids

Cooling System ......................... 18.2 L (4.8 U.S. gal)
Lube Oil System (refill) ............... 27.4 L (7.2 U.S. gal)
Oil Change Interval ..................... 250 hr

Caterpillar DEO 10W30 or 15W40

Rotation (from flywheel end) .... Counterclockwise

STANDARD EQUIPMENT

Air Inlet System

Dry, regular duty air cleaner

Cooling System

Gear driven centrifugal jacket water pump, engine oil cooler, expansion tank, thermostats and housing, transmission oil cooler

Exhaust System

Watercooled manifold and turbocharger; dry elbow and flange, 152 mm (6 in.)

Flywheel and Flywheel Housing

SAE No. 1 (156 teeth)

Fuel System

Fuel priming pump, fuel transfer pump, fuel filter, flexible fuel lines

Instruments

Fuel pressure gauge, service meter, heavy-duty standard SAE rotation tachometer drive

Lube System

Top-mounted crankcase breather, oil filter, LH oil filler and oil level gauge, oil pan

Mounting System

Front support

General

Vibration damper and guard, Caterpillar yellow paint, lifting eyes

ACCESSORY EQUIPMENT

Air Cleaner Rain Cap

Air Starting Motor

12V 51 Amp, 24V 35 Amp, 24V 60 Amp Alternator

Auxiliary Drive Pulley

Digital Tachometer

Double Wall Fuel Lines and Drain

Duplex Fuel Filter

Electric Overspeed Shutoff

Electric Starting Motor

Engine-Mounted Instrument Panel

Ether Starting Air

Exhaust Elbow, Pipe, Rain Cap, Flexible Fittings

Front Enclosed Clutch

Fuel Ratio Control

Hydraulic Pump Drive

Magnetic Pickup

Manual Shutoff Lever

Manual Sump Pump

Pilot House Instrument Panel

Primary Fuel Filter/Water Separator

Remote-Mounted Pilot House Controls

Remote Positive Locking Governor Control

RH Oil Level Gauge

Shutoff Solenoid — ETR

Spare Parts Kit
**Performance Curves**

**E Rating — DM6057-00**

**IMO Compliant**

**Performance Data**

<table>
<thead>
<tr>
<th>Engine Speed rpm</th>
<th>Engine Power kW</th>
<th>Engine Torque N•m</th>
<th>BSFC g/kW-hr</th>
<th>Fuel Rate L/hr</th>
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**Prop Demand Data**

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<th>Engine Power kW</th>
<th>Engine Torque lb ft</th>
<th>BSFC lb/hp-hr</th>
<th>Fuel Rate gph</th>
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<td>836</td>
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<td>10.9</td>
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</table>

Cubic prop demand curve with 3.0 exponent for displacement hulls only.

**Power produced at the flywheel will be within standard tolerances up to 50°C (122°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base.**

Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.
### DIMENSIONS*

<table>
<thead>
<tr>
<th></th>
<th>mm</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Length</td>
<td>1719.2</td>
<td>67.7</td>
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<tr>
<td>Length from rear face of block to front of engine</td>
<td>1285.0</td>
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<tr>
<td>Length from rear face of block to back of flywheel housing</td>
<td>149.8</td>
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<tr>
<td>Overall Height</td>
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<td>44.9</td>
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<tr>
<td>Height from crankshaft centerline to top of engine</td>
<td>827.7</td>
<td>32.6</td>
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<tr>
<td>Height from crankshaft centerline to bottom of oil pan</td>
<td>313.3</td>
<td>12.3</td>
</tr>
<tr>
<td>Overall Width</td>
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<td>37.4</td>
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<tr>
<td>Width from crankshaft centerline to port side (left side)</td>
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<td>14.7</td>
</tr>
<tr>
<td>Width from crankshaft centerline to starboard side (right side)</td>
<td>542.8</td>
<td>21.4</td>
</tr>
</tbody>
</table>

*Illustrations and dimensions from drawing:188-1628

### RATING DEFINITIONS AND CONDITIONS

**E Rating** –

Typical Application: Planing hull vessels such as pleasure craft, harbor patrol, harbor master, and some fishing and pilot boats.

Typical Hours Per Year: 250 to 1000

Time at Rated Speed: Up to 8%

Load Factor: Up to 30%

Typical Time at Full Load: 1/2 out of 6 hours

Rated Speed: 2200 rpm

Maximum Cruise Speed: 2050 rpm

Maximum Continuous Cruise Speed: 1900 rpm

**Engine Performance Parameters**

- Power: ±3%
- Specific Fuel Consumption: ±3%
- Fuel Rate: ±5%

**Ratings** are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

**Fuel rates** are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/L (7.001 lb/U.S. gal).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.
Performance data is calculated in accordance with tolerances and conditions stated in this specification sheet and is only intended for purposes of comparison with other manufacturers' engines. Actual engine performance may vary according to the particular application of the engine and operating conditions beyond Caterpillar's control.

TMI Reference No.: DM6057-00 (6-19-01)
Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

LEHM1236-00 (6-01) Printed in U.S.A. ©2001 Caterpillar
Supersedes LEHM7240-01 All rights reserved.
Marine Propulsion Engine
3306B
216 bkW (290 bhp) 294 mhp @ 2200 rpm

SPECIFICATIONS
I-6, 4-Stroke-Cycle-Diesel
Emissions ...................... IMO compliant
Displacement ................. 10.5 L (641 cu. in.)
Bore .......................... 121 mm (4.8 in.)
Stroke .......................... 152 mm (6.0 in.)
Aspiration .................. Turbocharged-Aftercooled
Governor .................. Hydra-mechanical
Engine Weight, Net Dry (approx) .... 1,120.9 kg (2,469 lb)
Capacity for Liquids
Cooling System ............... 18.2 L (4.8 U.S. gal)
Lube Oil System (refill) .......... 27.4 L (7.2 U.S. gal)
Oil Change Interval .......................... 250 hr
Caterpillar DEO 10W30 or 15W40
Rotation (from flywheel end) .... Counterclockwise

STANDARD EQUIPMENT

Air Inlet System
Dry, regular duty air cleaner

Cooling System
Gear driven, self-priming auxiliary sea water pump with rotary rubber impeller; gear driven centrifugal jacket water pump; engine oil cooler; expansion tank; engine mounted heat exchanger with removable tube bundle and replaceable copper-nickel tubes; thermostats and housing

Exhaust System
Watercooled manifold and turbocharger; dry elbow and flange, 152 mm (6 in.)

Flywheel and Flywheel Housing
SAE No. 1 (156 teeth)

Fuel System
Fuel priming pump, fuel transfer pump, fuel filter, flexible fuel lines

Instruments
Fuel pressure gauge, service meter, heavy-duty standard SAE rotation tachometer drive

Lube System
Top-mounted crankcase breather, oil filter, LH oil filler and oil level gauge, oil pan

Mounting System
Front support

General
Vibration damper and guard, Caterpillar yellow paint, lifting eyes

ACCESSORY EQUIPMENT

Air Cleaner Rain Cap
Air Starting Motor
12V 51 Amp, 24V 35 Amp, 24V 60 Amp Alternator
Auxiliary Drive Pulley
Digital Tachometer
Double Wall Fuel Lines and Drain
Duplex Fuel Filter
Electric Overspeed Shutoff
Electric Starting Motor
Engine-Mounted Instrument Panel
Ether Starting Aid
Exhaust Elbow, Pipe, Rain Cap, Flexible Fittings
Front Enclosed Clutch
Fuel Ratio Control
Hydraulic Pump Drive
Magnetic Pickup
Manual Shutoff Lever
Manual Sump Pump
Pilot House Instrument Panel
Primary Fuel Filter/Water Separator
Remote-Mounted Pilot House Controls
Remote Positive Locking Governor Control
RH Oil Level Gauge
Shutoff Solenoid — ETR
Spare Parts Kit
**PERFORMANCE CURVES**

C Rating — DM6054-00

IMO Compliant

### BSFC

<table>
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<tr>
<th>Engine Speed - rpm</th>
<th>Engine Power kW</th>
<th>Engine Torque N•m</th>
<th>BSFC g/kW-hr</th>
<th>Fuel Rate L/hr</th>
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<td>1059</td>
<td>213.0</td>
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</table>

### Cubic prop demand curve with 3.0 exponent for displacement hulls only.

### Power produced at the flywheel will be within standard tolerances up to 50°C (122°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base.

### Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.
**3306B MARINE PROPULSION — 216 kW (290 bhp)**

**Engine Performance Parameters**
- **Power** .................................................. ±3%
- **Specific Fuel Consumption** ......................... ±3%
- **Fuel Rate** ............................................. ±5%

**Ratings** are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

**Fuel rates** are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/L (7.001 lb/U.S. gal).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.
## STANDARD EQUIPMENT

**Air Inlet System**  
Dry, regular duty air cleaner

**Cooling System**  
- Gear driven, self-priming auxiliary sea water pump with rotary rubber impeller; gear driven centrifugal jacket water pump; engine oil cooler; expansion tank; engine mounted heat exchanger with removable tube bundle and replaceable copper-nickel tubes; thermostats and housing

**Exhaust System**  
Watercooled manifold and turbocharger; dry elbow and flange, 152 mm (6 in.)

**Flywheel and Flywheel Housing**  
SAE No. 1 (156 teeth)

**Fuel System**  
Fuel priming pump, fuel transfer pump, fuel filter, flexible fuel lines

**Instruments**  
Fuel pressure gauge, service meter, heavy-duty standard SAE rotation tachometer drive

**Lube System**  
Top-mounted crankcase breather, oil filter, LH oil filler and oil level gauge, oil pan

**Mounting System**  
Front support

**General**  
Vibration damper and guard, Caterpillar yellow paint, lifting eyes

## ACCESSORY EQUIPMENT

- **Air Cleaner Rain Cap**
- **Air Starting Motor**  
  12V 51 Amp, 24V 35 Amp, 24V 60 Amp Alternator
- **Auxiliary Drive Pulley**
- **Digital Tachometer**
- **Double Wall Fuel Lines and Drain**
- **Duplex Fuel Filter**
- **Electric Overspeed Shutoff**
- **Electric Starting Motor**
- **Engine-Mounted Instrument Panel**
- **Ether Starting Aid**
- **Exhaust Elbow, Pipe, Rain Cap, Flexible Fittings**
- **Front Enclosed Clutch**
- **Fuel Ratio Control**
- **Hydraulic Pump Drive**
- **Magnetic Pickup**
- **Manual Shutoff Lever**
- **Manual Sump Pump**
- **Pilot House Instrument Panel**
- **Primary Fuel Filter/Water Separator**
- **Remote-Mounted Pilot House Controls**
- **Remote Positive Locking Governor Control**
- **RH Oil Level Gauge**
- **Shutoff Solenoid — ETR**
- **Spare Parts Kit**

---

**Marine Propulsion Engine**  
**3306B**

- **250 bkW (335 bhp) 340 mhp @ 2200 rpm**

## SPECIFICATIONS

**I-6, 4-Stroke-Cycle-Diesel**

**Emissions**  
IMO compliant

**Displacement**  
10.5 L (641 cu. in.)

**Bore**  
121 mm (4.8 in.)

**Stroke**  
152 mm (6.0 in.)

**Aspiration**  
Turbocharged-Aftercooled

**Governor**  
Hydra-mechanical

**Engine Weight, Net Dry (approx)**  
1120.9 kg (2469 lb)

**Capacity for Liquids**

- **Cooling System**  
  18.2 L (4.8 U.S. gal)
- **Lube Oil System (refill)**  
  27.4 L (7.2 U.S. gal)

**Oil Change Interval**  
250 hr

- Caterpillar DEO 10W30 or 15W40

**Rotation (from flywheel end)**  
Counterclockwise
### Performance Data

#### Metric

<table>
<thead>
<tr>
<th>Engine Speed (rpm)</th>
<th>Engine Power (kW)</th>
<th>Engine Torque (N·m)</th>
<th>BSFC (g/kW-hr)</th>
<th>Fuel Rate (L/hr)</th>
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<td>1204</td>
<td>211.0</td>
<td>53.8</td>
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<tr>
<td>1600</td>
<td>202</td>
<td>1204</td>
<td>210.0</td>
<td>50.5</td>
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<tr>
<td>1500</td>
<td>189</td>
<td>1204</td>
<td>212.0</td>
<td>47.7</td>
</tr>
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<td>1400</td>
<td>177</td>
<td>1205</td>
<td>215.0</td>
<td>45.2</td>
</tr>
</tbody>
</table>

#### English

<table>
<thead>
<tr>
<th>Engine Speed (rpm)</th>
<th>Engine Power (hp)</th>
<th>Engine Torque (lb ft)</th>
<th>BSFC (lb/hp-hr)</th>
<th>Fuel Rate (gph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2200</td>
<td>335</td>
<td>800</td>
<td>.380</td>
<td>18.1</td>
</tr>
<tr>
<td>2100</td>
<td>329</td>
<td>822</td>
<td>.375</td>
<td>17.6</td>
</tr>
<tr>
<td>2000</td>
<td>322</td>
<td>844</td>
<td>.368</td>
<td>16.9</td>
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<tr>
<td>1900</td>
<td>315</td>
<td>871</td>
<td>.360</td>
<td>16.2</td>
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<tr>
<td>1800</td>
<td>304</td>
<td>888</td>
<td>.352</td>
<td>15.3</td>
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<tr>
<td>1700</td>
<td>288</td>
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<td>271</td>
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<tr>
<td>1500</td>
<td>254</td>
<td>888</td>
<td>.349</td>
<td>12.6</td>
</tr>
<tr>
<td>1400</td>
<td>237</td>
<td>889</td>
<td>.353</td>
<td>11.9</td>
</tr>
</tbody>
</table>

Cubic prop demand curve with 3.0 exponent for displacement hulls only.

Power produced at the flywheel will be within standard tolerances up to 50°C (122°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.
**3306B MARINE PROPULSION — 250 bkW (335 bhp)**

**D Rating**

Typical Application ... Planing hull vessels such as offshore patrol boats, customs, police, and some fire and fishing boats. Also used for bow and stern thrusters.

Typical Hours Per Year ........... 1000 to 3000
Time at Rated Speed .............. Up to 16%
Load Factor ....................... Up to 50%
Typical Time at Full Load ....... 2 out of 12 hours

Rated Speed ....................... 2200 rpm
Maximum Cruise Speed .......... 2050 rpm
Maximum Continuous Cruise Speed .... 1900 rpm

**Engine Performance Parameters**

- Power ........................................... ±3%
- Specific Fuel Consumption .......... ±3%
- Fuel Rate ..................................... ±5%

**Ratings**

Are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

**Fuel rates**

Are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/L (7.001 lb/U.S. gal).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.

**DIMENSIONS**

<table>
<thead>
<tr>
<th>Dimension Description</th>
<th>mm</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Length</td>
<td>1719.2</td>
<td>67.7</td>
</tr>
<tr>
<td>Length from rear face of block to front of engine</td>
<td>1285.0</td>
<td>50.6</td>
</tr>
<tr>
<td>Length from rear face of block to back of flywheel housing</td>
<td>149.8</td>
<td>5.9</td>
</tr>
<tr>
<td>Overall Height</td>
<td>1141.0</td>
<td>44.9</td>
</tr>
<tr>
<td>Height from crankshaft centerline to top of engine</td>
<td>827.7</td>
<td>32.6</td>
</tr>
<tr>
<td>Height from crankshaft centerline to bottom of oil pan</td>
<td>313.3</td>
<td>12.3</td>
</tr>
<tr>
<td>Overall Width</td>
<td>977.6</td>
<td>38.5</td>
</tr>
<tr>
<td>Width from crankshaft centerline to port side (left side)</td>
<td>434.8</td>
<td>17.1</td>
</tr>
<tr>
<td>Width from crankshaft centerline to starboard side (right side)</td>
<td>542.8</td>
<td>21.4</td>
</tr>
<tr>
<td>Customer mounting hole diameter</td>
<td>19.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Width from crankshaft centerline to mounting holes</td>
<td>307.8</td>
<td>12.1</td>
</tr>
<tr>
<td>Length from rear face of block to mounting holes</td>
<td>935.7</td>
<td>36.8</td>
</tr>
<tr>
<td></td>
<td>1018.3</td>
<td>40.1</td>
</tr>
</tbody>
</table>

*Illustrations and dimensions from drawing: 118-7821*
Marine Propulsion Engine 3306B

265 bkW (355 bhp) 360 mhp @ 2200 rpm

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Emissions ...................... IMO compliant
Displacement .................. 10.5 L (641 cu. in.)
Bore .......................... 121 mm (4.8 in.)
Stroke .......................... 152 mm (6.0 in.)
Aspiration .................... Turbocharged-Aftercooled
Governor ...................... Hydra-mechanical
Engine Weight, Net Dry (approx) . 1120.9 kg (2469 lb)

Capacity for Liquids

Cooling System ............... 18.2 L (4.8 U.S. gal)
Lube Oil System (refill) ........ 27.4 L (7.2 U.S. gal)
Oil Change Interval .................. 250 hr

Caterpillar DEO 10W30 or 15W40
Rotation (from flywheel end) .... Counter clockwise

STANDARD EQUIPMENT

Air Inlet System
Dry, regular duty air cleaner

Cooling System
Gear driven, self-priming auxiliary sea water pump with rotary rubber impeller; gear driven centrifugal jacket water pump; engine oil cooler; expansion tank; engine mounted heat exchanger with removable tube bundle and replaceable copper-nickel tubes; thermostats and housing

Exhaust System
Watercooled manifold and turbocharger; dry elbow and flange, 152 mm (6 in.)

Flywheel and Flywheel Housing
SAE No. 1 (156 teeth)

Fuel System
Fuel priming pump, fuel transfer pump, fuel filter, flexible fuel lines

Instruments
Fuel pressure gauge, service meter, heavy-duty standard SAE rotation tachometer drive

Lube System
Top-mounted crankcase breather, oil filter, LH oil filler and oil level gauge, oil pan

Mounting System
Front support

General
Vibration damper and guard, Caterpillar yellow paint, lifting eyes

ACCESSORY EQUIPMENT

Air Cleaner Rain Cap
Air Starting Motor
12V 51 Amp, 24V 35 Amp, 24V 60 Amp Alternator
Auxiliary Drive Pulley
Digital Tachometer
Double Wall Fuel Lines and Drain
Duplex Fuel Filter
Electric Overspeed Shutoff
Electric Starting Motor
Engine-Mounted Instrument Panel
Ether Starting Aid
Exhaust Elbow, Pipe, Rain Cap, Flexible Fittings
Front Enclosed Clutch
Fuel Ratio Control
Hydraulic Pump Drive
Magnetic Pickup
Manual Shutoff Lever
Manual Sump Pump
Pilot House Instrument Panel
Primary Fuel Filter/Water Separator
Remote-Mounted Pilot House Controls
Remote Positive Locking Governor Control
RH Oil Level Gauge
Shutoff Solenoid — ETR
Spare Parts Kit
### PERFORMANCE CURVES

**E Rating — DM6052-00**

#### IMO Compliant

<table>
<thead>
<tr>
<th>Engine Speed (rpm)</th>
<th>Engine Power (kW)</th>
<th>Engine Torque (N·m)</th>
<th>BSFC (g/kW-hr)</th>
<th>Fuel Rate (L/hr)</th>
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<tbody>
<tr>
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<td>216.0</td>
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<td>1900</td>
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<tr>
<td>2000</td>
<td>220</td>
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<td>211.0</td>
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<td>1311</td>
<td>216.0</td>
<td>49.5</td>
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</tbody>
</table>

**Cubic prop demand curve with 3.0 exponent for displacement hulls only.**

<table>
<thead>
<tr>
<th>Engine Speed (rpm)</th>
<th>Engine Power (hp)</th>
<th>Engine Torque (lb ft)</th>
<th>BSFC (lb/hp-hr)</th>
<th>Fuel Rate (gph)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1500</td>
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<td>19.2</td>
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<tr>
<td>1600</td>
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Power produced at the flywheel will be within standard tolerances up to 50°C (122°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.
**3306B MARINE PROPULSION — 265 bkW (355 bhp)**

**Right Side**

**Front**

**Footprint**

---

**DIMENSIONS***

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Customer mounting hole diameter

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</thead>
<tbody>
<tr>
<td>19.8</td>
<td>0.8</td>
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</tbody>
</table>

Length from rear face of block to mounting holes

<table>
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<tr>
<th>mm</th>
<th>in.</th>
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<tbody>
<tr>
<td>307.8</td>
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<tr>
<td>1018.3</td>
<td>40.1</td>
</tr>
</tbody>
</table>

*Illustrations and dimensions from drawing: 118-7821

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**RATING DEFINITIONS AND CONDITIONS**

**E Rating –**

Typical Application . . . Planing hull vessels such as pleasure craft, harbor patrol, harbor master, and some fishing and pilot boats.

Typical Hours Per Year ............ 250 to 1000

Time at Rated Speed ..................... Up to 8%

Load Factor .......................... Up to 30%

Typical Time at Full Load .... 1/2 out of 6 hours

Rated Speed .......................... 2200 rpm

Maximum Cruise Speed .............. 2050 rpm

Maximum Continuous Cruise Speed . 1900 rpm

**Engine Performance Parameters**

- Power ........................................... ±3%
- Specific Fuel Consumption ........... ±3%
- Fuel Rate ...................................... ±5%

**Ratings** are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

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Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.
Performance data is calculated in accordance with tolerances and conditions stated in this specification sheet and is only intended for purposes of comparison with other manufacturers’ engines. Actual engine performance may vary according to the particular application of the engine and operating conditions beyond Caterpillar’s control.

TMI Reference No.: DM6052-00 (6-19-01)
Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

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