# Cummins Engine Company, Inc.
## Marine Engine General Data Sheet

**Engine Model:** 6CTA-M (JW), (SW)  
**Data Sheet:** DS-4961  
**Date:** 22Jun04

### General Engine Data

| Metric [U.S. Customary] |  
|-------------------------|---|
| **Type** | 4 cycle, Inline, 6 cylinder  
| **Bore & Stroke** | 114 [4.49] x 135 [5.32] mm [in.]  
| **Displacement** | 8.3 [504.5] litre [in.³]  

### Engine Mounting

- **Maximum Allowable Bending Moment at Rear Face of Block** | 1356 [1000] N•m [lb-ft]  
- **Minimum/Maximum Static Installation Angle for In-line Drives (Front Up)** | 0 / 12 Degrees  
- **Minimum/Maximum Static Installation Angle for V drives (Front Up)** | 3 / 12 Degrees  

*Note: Front up refers to front of engines. In V-Drives it faces the back of the boat.*

### Fuel System

- **Maximum Allowable Restriction to Fuel Pump - With Clean Filter** | 63.5 [2.5] mm Hg [in. Hg]  
- **Maximum Allowable Restriction to Fuel Pump - With Dirty Filter** | 100 [4] mm Hg [in. Hg]  
- **Maximum Allowable Return Line Pressure** | 518 [20.4] mm Hg [in. Hg]

### Exhaust System

- **Maximum Allowable Back Pressure** | 75 [3] mm Hg [in. Hg]

### Air Induction System

- **Maximum Allowable Intake Restriction Clean/Dirty Element** | 380 / 635 [15 / 25] mm H₂O [in. H₂O]  
- **Maximum Allowable Engine Intake ∆T** | 17 [30] °C [°F]  

### Lubrication System

- **Oil Pressure**  
  - **At Idle Speed-Minimum** | 69 [10] kPa [PSI]  
  - **Normal Operating Range** | 205 - 517 [30 - 75] kPa [PSI]  
- **Maximum Allowable Oil Temperature (Sump)** | 120 [250] °C [°F]  
- **Oil Pan Capacity High/Low** | 17 / 13 [18 / 14] litre [U.S. qts]  
- **Total System Capacity (Excluding By-pass Filter)** | 21.9 [23.2] litre [U.S. qts]  
- **Maximum Operational Angularity of Oil Pan (See Engine Mounting)**  
  - **Front Down** | 35 Degrees  
  - **Front Up** | 45 Degrees  
  - **Side-to-Side** | 45 Degrees

### Cooling System

- **Coolant Capacity - Engine Only** | 12.3 [13] litre [U.S. qts]  
- **Coolant Capacity - Engine with Heat Exchanger** | 28.9 [30.5] litre [U.S. qts]  
- **Maximum External Pressure Loss in Cooling System** | 35 [5] kPa [PSI]  
- **Maximum Static Pressure of Coolant (exclusive of Pressure Cap)** | 103 [15] kPa [PSI]  
- **Standard Thermostat (modulating) Range** | 71 - 83 [160 - 182] °C [°F]  
- **Maximum Coolant Temperature** | 96 [205] °C [°F]  
- **Minimum Allowable Coolant Expansion Space** | 5 % of System Capacity  
- **Minimum Coolant Makeup Capacity** | 2.5 [2.6] litre [U.S. qts]  
- **Maximum Sea Water Pressure** | 103 [15] kPa [PSI]  

*Sea Water Pump Specifications* | Refer to MAB 0.08.17-07/16/2001

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**CUMMINS ENGINE COMPANY, INC.**  
**COLUMBUS, INDIANA**

All Data is Subject to Change Without Notice - consult the following Cummins intranet site for most recent data:  
[http://www.cummins.com](http://www.cummins.com)
## Electrical System

<table>
<thead>
<tr>
<th>Minimum Recommended Battery Capacity</th>
<th>12V</th>
<th>24V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold Soak at -18°C (0°F)</td>
<td>1250</td>
<td>625</td>
</tr>
<tr>
<td>Reserve Capacity</td>
<td>640</td>
<td>320</td>
</tr>
<tr>
<td>Cold Soak at 0°C (32°F)</td>
<td>1560</td>
<td>780</td>
</tr>
<tr>
<td>Reserve Capacity</td>
<td>480</td>
<td>240</td>
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<tr>
<td>Voltage Drop</td>
<td>0.075</td>
<td>0.2</td>
</tr>
<tr>
<td>Maximum Allowable Resistance of Start Circuit</td>
<td>0.00075</td>
<td>0.002</td>
</tr>
</tbody>
</table>