

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	mm [in.] 114 [4.49] x 135 [5.32]
Displacement	litre [in. ³] 8.3 [504.5]

Engine Mounting

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

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

Exhaust System

Maximum Allowable Back Pressure	mm Hg [in. Hg]	75 [3]
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Air Induction System

Maximum Allowable Intake Restriction Clean/Dirty Element	mm H ₂ O [in. H ₂ O]	380 / 635 [15 / 25]
Maximum Allowable Engine Intake ΔT Engine Intake Air-Ambient Air At Rated Condition	°C [°F]	17 [30]

Lubrication System

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

Cooling System

Coolant Capacity - Engine Only	litre [U.S. qts]	12.3 [13]
Coolant Capacity - Engine with Heat Exchanger	litre [U.S. qts]	28.9 [30.5]
Maximum External Pressure Loss in Cooling System	kPa [PSI]	35 [5]
Maximum Static Pressure of Coolant (exclusive of Pressure Cap)	kPa [PSI]	103 [15]
Standard Thermostat (modulating) Range	°C [°F]	71 - 83 [160 - 182]
Maximum Coolant Temperature	°C [°F]	96 [205]
Minimum Allowable Coolant Expansion Space	% of System Capacity	5
Minimum Coolant Makeup Capacity	litre [U.S. qts]	2.5 [2.6]
Maximum Sea Water Pressure	kPa [PSI]	103 [15]
Sea Water Pump Specifications	Refer to MAB 0.08.17-07/16/2001	

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Electrical System

	<u>12V</u>	<u>24V</u>
Minimum Recommended Battery Capacity		
Cold Soak at -18°C (0°F) Cold Cranking Amperes (CCA)	1250	625
Reserve Capacity minutes	640	320
Cold Soak at 0°C (32°F) Marine Cranking Amperes (MCA)	1560	780
Reserve Capacity minutes	480	240
Voltage Drop Volts	0.075	0.2
Maximum Allowable Resistance of Starting Circuit Ohms	0.00075	0.002

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All Data is Subject to Change Without Notice - consult the following Cummins intranet site for most recent data:
<http://www.cummins.com>