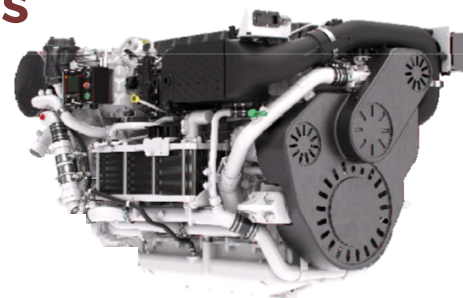
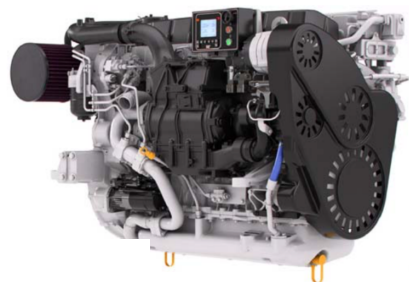




TECHNICAL DATA SHEETS



Directory:

C18 Acert- 1
C8.7- 2
C12.9 1000mhp- 3
C12.9 850mhp- 4
C32 DITA- 5
C18 DITA 747kW- 6
C18 DITA 847kW- 7

FOR MORE INFORMATION, CALL OR EMAIL US DIRECTLY USING THE INFORMATION BELOW:

PHONE- 772-564-7070

EMAIL- INFO@ACEMARINEDIESEL.COM

C18 ACERT™

MARINE PROPULSION ENGINE

1015 mhp (1001 bhp) 2300 rpm
1150 mhp (1136 bhp) 2300 rpm



Image shown
may not reflect
actual engine

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

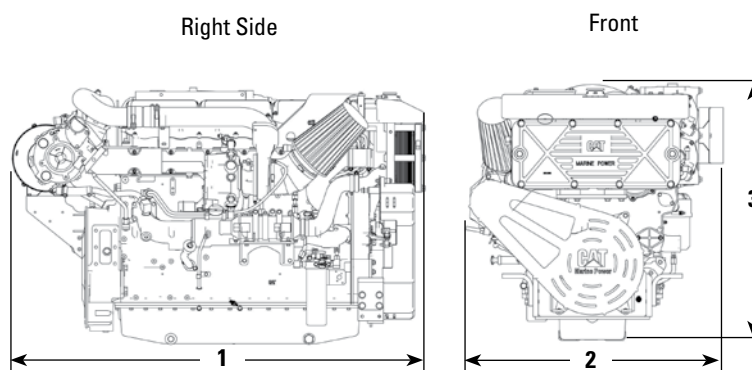
- EPA Tier 3 Recreational/IMO II compliant
- 18.0 L (1098 cu in) displacement
- 2300 rpm rated engine speed
- 145 mm (5.7 in) bore x 183 mm (7.2 in) stroke
- Turbocharged and aftercooled aspiration
- Electronically governed
- Heat exchanger cooled
- Refill capacity
 - Cooling system: 45 L (12 gal)
 - Lube oil system: 49 L (13 gal)
- 250-hour oil change interval
- Caterpillar Diesel Engine Oil 10W30 or 15W40
- SAE No. 1 flywheel housing with SAE No. 14 flywheel (113 teeth)
- Counterclockwise rotation from flywheel end



STANDARD ENGINE EQUIPMENT

- Corrosion-resistant sea water aftercooler
- Air cleaner/fumes disposal (closed system)
- Crankcase breather
- Titanium plate heat exchanger with integral fuel cooler
- Coolant recovery system
- Sea water pump and jacket water pump
- Front- and rear-down aftercooler condensate drains
- Watercooled exhaust manifold and turbochargers
- Round flanged exhaust outlet
- Engine oil cooler and oil filler
- Center sump oil pan
- Oil filter and dipstick, RH or LH service
- MEUI fuel system
- Fuel filter RH or LH service
- Fuel transfer and priming pumps
- Hybrid fuel lines
- Electronic fuel/air ratio control
- Front support adjustable mounting system
- SAE A hydraulic pump drive
- Two-groove crankshaft pulley
- Front damper guard
- Customer wiring and service tool connector

DIMENSIONS



ENGINE DIMENSIONS & WEIGHT

(1) Length	1931 mm	76.0 in
(2) Width	1204 mm	47.4 in
(3) Height	1198 mm	47.2 in
Weight, Net Dry (approx)	1814 kg	4,000 lb

Note: Do not use these dimensions for installation design. See general dimension drawings for detail.

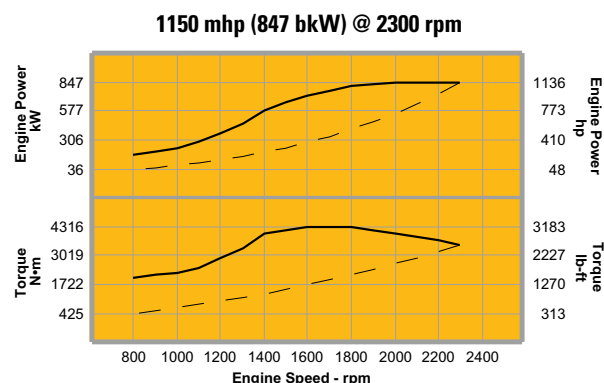
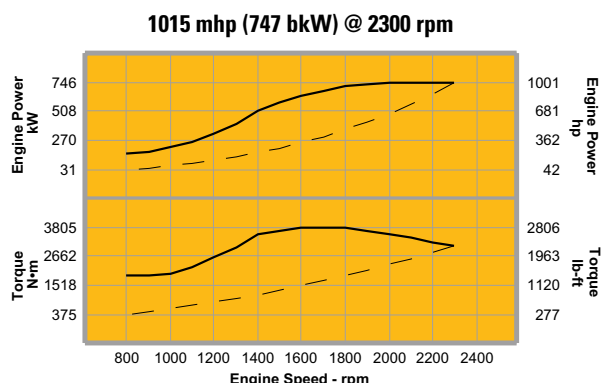
MARINE ENGINE PERFORMANCE

Max Power

E Rating – EM0261					E Rating – EM0260			
rpm	bhp	g/hr	bkW	g/bkW-hr	bhp	g/hr	bkW	g/bkW-hr
2300	1001	53.8	747	228.9	1136	58.6	847	219.8
1900	973	46.6	725	203.8	1115	54.9	831	210.0
1500	775	36.1	578	198.3	874	41.4	651	201.9
1100	341	16.7	255	209.0	385	19.0	287	209.8
800	218	10.9	162	212.5	227	11.6	169	218.0

Prop Demand

E Rating – EM0261					E Rating – EM0260			
rpm	bhp	g/hr	bkW	g/bkW-hr	bhp	g/hr	bkW	g/bkW-hr
2300	1001	53.8	747	228.9	1136	58.6	847	219.8
1900	564	29.1	421	219.8	640	33.1	478	220.2
1500	278	14.5	207	222.9	315	16.2	235	218.4
1100	110	5.8	82	223.5	124	6.4	93	221.0
800	42	2.4	31	242.2	48	2.7	36	241.7



Maximum Power ——— Prop Demand — — —

OPTIONAL EQUIPMENT

- Sea water pump – vertical inlet
- Battery charger 10 amp
- Charging alternator 24V 105 amp
- Primary fuel/water separator
- Primary fuel filter
- Fuel cooler, flexible fuel lines
- Transmission oil cooler
- Electric starting motor – 24V LH service
- Battery sets – 24V 950-1300 CCA
- MECP I control panel
- OEM wiring harness – 30,50,80 foot lengths
- Engine-to-engine wiring harness – 15, 30 foot lengths
- Transmission sensors – pressure, temperature
- Five-groove pulley stack (8-inch diameter)

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C8.7

MARINE PROPULSION ENGINE



478 bkW (641 bhp) @ 2300 rpm E Rating (High Performance)
Heat Exchanger Cooled-Sea Water Aftercooled

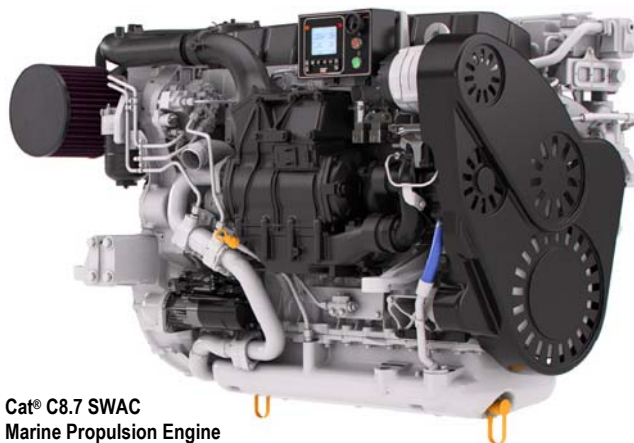
GENERAL ENGINE SPECIFICATIONS

Basic Engine Specifications

I-6, 4-Stroke-Cycle-Diesel	
Displacement.....	8.71 L (531.5 in ³)
Rated engine speed.....	2300 rpm
High idle speed.....	2530 rpm
Low idle speed (programmable).....	600 rpm
Peak torque.....	2332 N•m @ 1700 rpm
Bore.....	117 mm (4.61 in)
Stroke.....	135 mm (5.31 in)
Aspiration.....	Supercharged-Turbocharged-Aftercooled
Governor.....	ECU
Fuel system type.....	Common Rail
Length.....	1200 mm (47.2 in)
Width.....	887 mm (34.9 in)
Height.....	983 mm (38.7 in)
Weight, net dry (approx.).....	1071 kg (2361 lb)
Rotation (from flywheel end).....	Counterclockwise
Flywheel housing/flywheel.....	SAE No. 01M
Flywheel teeth.....	149

Tolerances

Power.....	+/- 3%
Exhaust Stack Temperature.....	+/- 8%
Inlet Air Flow.....	+/- 5%
Intake Manifold Pressure.....	+/- 10%
Exhaust Flow.....	+/- 6%
Specific Fuel Consumption.....	+/- 3%
Heat Rejection.....	+/- 5%
Fuel Rate.....	+/- 5%



Cat® C8.7 SWAC
Marine Propulsion Engine
Image shown may not reflect actual engine

Emission Compliance

Recreational

EPA Tier 3 (E5 Cycle – Recreational Only)
IMO II (EPA, GLSeeBG)
Recreational Craft Directive (EU) RCD

Commercial

EU Stage IIIA
IMO II (GL, SeeBG)
CCNR Stage II through reciprocity with EU Stage IIIA

Power Output Considerations

Power produced at the flywheel will be within standard tolerances up to 45°C (113°F) combustion air temperature measured at the turbocharger air compressor inlet, sea water temperature up to 32°C (89.6°F), and fuel temperature up to 50°C (122°F) measured at the engine inlet. Power rated in accordance with NMMA procedure as crankshaft power.

General Remarks

- For installation instructions refer to Project Guide LEBM0034.
- For general dimensions refer to drawing 468-1067.
- For detailed information about fuel, oil, and cooling water treatment, please refer to "Caterpillar Commercial Diesel Engine Fluids Recommendations" (SEBU6251).

AIR SYSTEM

Combustion Air Inlet System

Intake combustion air flow.....	29.8 m ³ /min (1052.4 cfm)
Intake combustion air temperature up to.....	45°C (113°F)
Max. allowable intake air restriction	5.0 kPa (20 in H ₂ O)

Engine Room Ventilation Air

Heat rejection to atmosphere	20.2 kW (1149 BTU/min) @ 25°C (77°F) ambient temperature
------------------------------------	--

COOLING SYSTEM

Jacket Water Cooling System

Cooling water refill capacity	41 L (10.8 gal)
Coolant medium	Cat® Extended Life Coolant (ELC) or equal
Expansion tank pressure cap.....	100 kPa (14.5 psi)

Raw Water Cooling System (SWAC)

Heat rejection to raw water cooling system	95.9 kW (5,454 BTU/min)
Flow raw water pump 442-7488 – max.	360 L/min @ 1.3 m H ₂ O
min.	294 L/min @ 9.7 m H ₂ O
Raw water pump maximum inlet restriction.	3 m (9.8 ft) H ₂ O
Raw water temperature engine out to gear oil cooler (max.)	51.9°C (125°F)
Raw water temperature from gear oil cooler 448-9439 if equipped (max.)	52.4°C (126°F)
Gear oil cooler 448-9439 heat rejection capability	10.4 kW (591.4 BTU/min)
Raw water connection engine inlet	63 mm (2.50 inch) SAE J1231 Hose Connection
Raw water connection engine outlet	50 mm (1.97 inch) SAE J1231 Hose Connection
Sea water strainer mesh hole diameter (max)	1.6 mm (0.063 in)

EXHAUST SYSTEM

Exhaust Gas Data

Exhaust gas flow (total)	2,048.3 kg/hr (4,515.7 lb/hr)
Exhaust stack temperature	504°C (939°F)
Engine exhaust connection V-band clamp.....	150 mm (5.91 in)
Max. allowable system backpressure	10 kPa (40.1 in H ₂ O)
Max. allowable static weight on turbine outlet.....	0 kg (0 lb)
Max. allowable static bending moment on turbine outlet	0 Nm (0 ft-lbs)

Specified system backpressure shall not be exceeded in any circumstances. Caterpillar advises to limit value of maximum allowable backpressure to 50% for new (clean) installations. Minimum diameter of customer piping should be according to "Customer piping diameter overview for Caterpillar engines."

FUEL SYSTEM

Fuel flow supply line (max).....	220 L/hr (58.1 gal/hr)
Fuel flow return line (max).....	125 L/hr (33.0 gal/hr)
Fuel rate at rated speed	123.8 L/hr (32.7 gal/hr)
Total fuel supply restriction (max.)	30 kPa (8.9 in Hg) (4.4 psi)
Fuel restriction across priming pump and clean filter.....	15 kPa (4.4 in Hg) (2.2 psi)
Allowable fuel restriction of OEM supplied components	15 kPa (4.4 in Hg) (2.2 psi)
Fuel temperature engine inlet (max.)	50°C (122°F)
Fuel return line restriction (max.)	20 kPa (5.9 in Hg) (2.9 psi)
Fuel supply/return connection	3/4-16 SAE J514 (-8), 37° FLARE
Minimum fuel supply line inside diameter	SAE -10 (15.9mm) (5/8 in)
Electric fuel priming pump inlet/outlet connection	7/8-14 SAE J1926-1 (No. 10) STOR
Diesel fuel grade	US Diesel #2 / EN590 / Biodiesel 7% max

LUBE SYSTEM

Sump type	Center Sump
Sump capacity.....	34 L (9.0 gal)
Oil change interval	250 Hr (may be modified by S•O•S SM testing)
Max. installation angle (fore-aft)	10 degrees
Max. operating angle (fore-aft)	20 degrees
Max. operating angle (athwart ship)	22.5 degrees
Quality diesel engine oil (min.)	CI-4 10W30 or 15W40 (compliant with Caterpillar specification ECF-2)

STARTING SYSTEM

Electrical Starting System (24V)

Electrical starting motor	24 VDC
Cold starting	670 CCA [at 0°C (32°F) ambient temperature]
Recommended battery capacity	2 x 88 Ah, series

Electrical Starting System (12V)

Electrical starting motor	12 VDC
Cold starting	670 CCA [at 0°C (32°F) ambient temperature]
Recommended battery capacity	2 x 88 Ah, parallel

SOUND DATA

Exhaust Sound Power Level Overall – Grade 3 environment

..... 128.1 dB(A)

Mechanical Sound Pressure Level Overall – grade 3 environment

At distance 1.0 m (3.28 ft) 101.4 dB(A)

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.

Power produced at the flywheel will be within standard tolerances up to 45°C (113°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 50°C (122°F) measured at the engine inlet. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.

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Performance No : EM0870

LEHM0179-00

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C12.9

MARINE PROPULSION ENGINE



1000 mhp (985 bhp) 735 kW @ 2300 rpm E Rating (High Performance) Heat Exchanger Cooled Separate Circuit Aftercooler (SCAC)

Reference Data Only: Always consult your Caterpillar Marine Dealer for the latest information from TMI prior to determining vessel specific calculations.

GENERAL ENGINE SPECIFICATIONS

Basic Engine Specifications

I-6, 4-Stroke-Cycle-Diesel

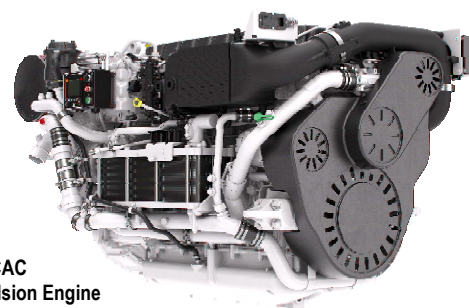
Displacement	12.88 L (in ³)
Rated engine speed	2300 rpm
High idle speed	2530 rpm
Low idle speed (programmable)	550 rpm
Peak torque	3,355 N•m @ 1200 rpm
Bore	135 mm (in)
Stroke	150 mm (in)
Aspiration	Supercharged-Turbocharged-Aftercooled
Governor	ECU
Fuel system type	Common Rail
Length	1960 mm (77.1 in)
Length to flywheel housing	1476 mm (58.1 in)
Width	1195 mm (47.0 in)
Height	1117 mm (43.9 in)
Weight, net dry (approx.)	1672 kg (3686 lb)
Rotation (from flywheel end)	Counterclockwise
Flywheel housing/flywheel	SAE No. 01M
Flywheel teeth	155

Tolerances

Power	+/- 3%
Exhaust Stack Temperature	+/- 8%
Inlet Air Flow	+/- 5%
Intake Manifold Pressure	+/- 10%
Exhaust Flow	+/- 6%
Specific Fuel Consumption	+/- 3%
Heat Rejection	+/- 5%
Fuel Rate	+/- 5%

Power Output Considerations

Power produced at the flywheel will be within standard tolerances up to 45°C (113°F) combustion air temperature measured at the turbocharger air compressor inlet, sea water temperature up to 32°C (89.6°F), and fuel temperature up to 50°C (122°F) measured at the engine inlet. Power rated in accordance with NMMA procedure as crankshaft power.



Cat® C12.9 SCAC
Marine Propulsion Engine
Image shown may not reflect actual engine

Emission Compliance

Recreational

EPA Tier 3 (E5 Cycle – Recreational Only)
IMO II (EPA, GLSeeBG)
Recreational Craft Directive (EU) RCD

Commercial

EU Stage IIIA
IMO II (GL, SeeBG)
CCNR Stage II through reciprocity with EU Stage IIIA

General Remarks

- For installation instructions refer to Project Guide LEBM0049.
- For general dimensions refer to drawing 498-5630.
- For detailed information about fuel, oil, and cooling water treatment, please refer to "Caterpillar Commercial Diesel Engine Fluids Recommendations" (SEBU6251).

AIR SYSTEM

Combustion Air Inlet System

Intake combustion air flow.....	45.7 m ³ /min (1612.6 cfm)
Intake combustion air temperature up to.....	45°C (113°F)
Max. allowable intake air restriction	5.0 kPa (20 in H ₂ O)

Engine Room Ventilation Air

Heat rejection to atmosphere	29.8 kW (1696 BTU/min) @ 25°C (77°F) ambient temperature
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COOLING SYSTEM

SCAC Cooled Engine. One cooling medium, two separate circuits

Cooling water refill capacity	60 L (15.9 gal)
Coolant medium	Cat® Extended Life Coolant (ELC) or equal
Expansion tank pressure cap	100 kPa (14.5 psi)

Raw Water Cooling System

Flow raw water pump 447-3071 at rated 2300 RPM	max.....	560 L/min @ 3.4 m H ₂ O
	min.	411 L/min @ 23.4 m H ₂ O
Raw water pump maximum inlet restriction.		3 m (9.8 ft) H ₂ O
Raw water temperature engine out to gear oil cooler (max.)		51.9°C (125°F)
Raw water temperature from gear oil cooler 474-7150 if equipped (max.)		52.4°C (126°F)
Gear oil cooler 474-7150 heat rejection capability		10.4 kW (591.4 BTU/min)
Raw water connection engine inlet	76 mm (2.99 inch) SAE J1231 Hose Connection	
Raw water connection engine outlet	63 mm (2.48 inch) SAE J1231 Hose Connection	
Gear oil cooler inlet and outlet connections	63 mm (2.48 inch) SAE J1231 Hose Connection	
Sea water strainer mesh hole diameter (max)		1.6 mm (0.063 in)

EXHAUST SYSTEM

Exhaust Gas Data

Exhaust gas flow (total)	3,903.4 kg/hr (8,605.4 lb/hr)
Exhaust stack temperature	491.1°C (916°F)
Engine exhaust connection V-band clamp	131 mm (5.16 in)
Max. allowable system backpressure	10 kPa (40.1 in H ₂ O)
Max. allowable static weight on turbine outlet	0 kg (0 lb)
Max. allowable static bending moment on turbine outlet	0 Nm (0 ft-lbs)

Specified system backpressure shall not be exceeded in any circumstances. Caterpillar advises to limit value of maximum allowable backpressure to 50% for new (clean) installations. Minimum diameter of customer piping should be according to "Customer piping diameter overview for Caterpillar engines."

FUEL SYSTEM

Fuel flow supply line (max).....	870 L/hr (229.8 gal/hr)
Fuel flow return line (max).....	850 L/hr (224.5 gal/hr)
Fuel rate at rated speed	191.8 L/hr (50.7 gal/hr)
Total fuel supply restriction (max.)	60 kPa (17.7 in Hg) (7.3 psi)
Fuel restriction across priming pump and clean filter.....	15 kPa (4.3 in Hg) (2.2 psi)
Allowable fuel restriction of OEM supplied components	45 kPa (13.4 in Hg) (5.1 psi)
Fuel temperature engine inlet (max.)	50°C (122°F)
Fuel return line restriction (max.)	50 kPa (14.8 in Hg) (7.3 psi)
Fuel supply connection	7/8-14 SAE J514 (-10), 37° FLARE
Fuel return connection	3/4-16 SAE J514 (-8), 37° FLARE
Minimum fuel supply line inside diameter	SAE -10 (15.9mm) (5/8 in)
Electric fuel priming pump inlet/outlet connection.....	7/8-14 SAE J1926-1 (No. 10) STOR
Diesel fuel grade	US Diesel #2 / EN590 / Biodiesel 7% max

LUBE SYSTEM

Sump type	Center Sump
Sump capacity.....	47 L (12.4 gal)
Oil change interval	250 Hr
Max. installation angle (fore-aft)	10 degrees
Max. operating angle (fore-aft)	20 degrees
Max. operating angle (athwart ship)	22.5 degrees
Quality diesel engine oil (min.)	CI-4 10W30 or 15W40 (compliant with Caterpillar specification ECF-2)

STARTING SYSTEM

Electrical Starting System (24V)

Electrical starting motor	24 VDC
Cold starting	670 CCA [at 0°C (32°F) ambient temperature]
Recommended battery capacity	2 x 88 Ah, series

Electrical Starting System (12V)

Electrical starting motor	12 VDC
Cold starting	670 CCA [at 0°C (32°F) ambient temperature]
Recommended battery capacity	2 x 88 Ah, parallel

SOUND DATA

Exhaust Sound Power Level Overall – Grade 3 environment

..... 130 dB(A)

Mechanical Sound Pressure Level Overall – grade 3 environment

At distance 1.0 m (3.28 ft) 122 dB(A)

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.

Power produced at the flywheel will be within standard tolerances up to 45°C (113°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 50°C (122°F) measured at the engine inlet. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.

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Performance No : EM0872

LEHM0222-00 (12-15)

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C12.9

MARINE PROPULSION ENGINE



850 mhp (838 bhp) 625 kW @ 2300 rpm E Rating (High Performance) Heat Exchanger Cooled Separate Circuit Aftercooler (SCAC)

Reference Data Only: Always consult your Caterpillar Marine Dealer for the latest information from TMI prior to determining vessel specific calculations.

GENERAL ENGINE SPECIFICATIONS

Basic Engine Specifications

I-6, 4-Stroke-Cycle-Diesel

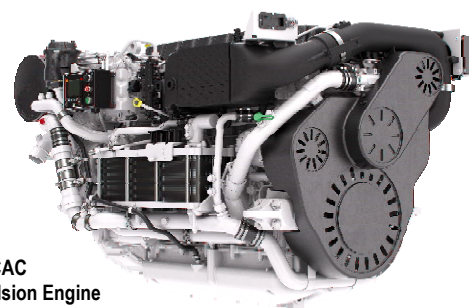
Displacement	12.88 L (in ³)
Rated engine speed	2300 rpm
High idle speed	2530 rpm
Low idle speed (programmable)	550 rpm
Peak torque	2881 N•m @ 1200 rpm
Bore	135 mm (in)
Stroke	150 mm (in)
Aspiration	Series Turbocharged-Aftercooled
Governor	ECU
Fuel system type	Common Rail
Length	1960 mm (77.1 in)
Length to flywheel housing	1476 mm (58.1 in)
Width	1195 mm (47.0 in)
Height	1117 mm (43.9 in)
Weight, net dry (approx.)	1649 kg (3686 lb)
Rotation (from flywheel end)	Counterclockwise
Flywheel housing/flywheel	SAE No. 01M
Flywheel teeth	155

Tolerances

Power	+/- 3%
Exhaust Stack Temperature	+/- 8%
Inlet Air Flow	+/- 5%
Intake Manifold Pressure	+/- 10%
Exhaust Flow	+/- 6%
Specific Fuel Consumption	+/- 3%
Heat Rejection	+/- 5%
Fuel Rate	+/- 5%

Power Output Considerations

Power produced at the flywheel will be within standard tolerances up to 45°C (113°F) combustion air temperature measured at the turbocharger air compressor inlet, sea water temperature up to 32°C (89.6°F), and fuel temperature up to 50°C (122°F) measured at the engine inlet. Power rated in accordance with NMMA procedure as crankshaft power.



Cat® C12.9 SCAC
Marine Propulsion Engine
Image shown may not reflect actual engine

Emission Compliance

Recreational

EPA Tier 3 (E5 Cycle – Recreational Only)
IMO II (EPA, GLSeeBG)
Recreational Craft Directive (EU) RCD

Commercial

EU Stage IIIA
IMO II (GL, SeeBG)
CCNR Stage II through reciprocity with EU Stage IIIA

General Remarks

- For installation instructions refer to Project Guide LEBM0049.
- For general dimensions refer to drawing 498-5630.
- For detailed information about fuel, oil, and cooling water treatment, please refer to "Caterpillar Commercial Diesel Engine Fluids Recommendations" (SEBU6251).

AIR SYSTEM

Combustion Air Inlet System

Intake combustion air flow.....	44.4 m ³ /min (1568 cfm)
Intake combustion air temperature up to.....	45°C (113°F)
Max. allowable intake air restriction	5.0 kPa (20 in H ₂ O)

Engine Room Ventilation Air

Heat rejection to atmosphere	23.8 kW (1355 BTU/min) @ 25°C (77°F) ambient temperature
------------------------------------	--

COOLING SYSTEM

SCAC Cooled Engine. One cooling medium, two separate circuits

Cooling water refill capacity	60 L (15.9 gal)
Coolant medium	Cat® Extended Life Coolant (ELC) or equal
Expansion tank pressure cap.....	100 kPa (14.5 psi)

Raw Water Cooling System

Flow raw water pump 447-3071 at rated 2300 RPM	max.....	560 L/min @ 3.4 m H ₂ O
	min.	411 L/min @ 23.4 m H ₂ O
Raw water pump maximum inlet restriction.		3 m (9.8 ft) H ₂ O
Raw water temperature engine out to gear oil cooler (max.)		51.9°C (125°F)
Raw water temperature from gear oil cooler 483-3074 if equipped (max.)		52.4°C (126°F)
Gear oil cooler 483-3074 heat rejection capability		10.4 kW (591.4 BTU/min)
Raw water connection engine inlet	76 mm (2.99 inch) SAE J1231 Hose Connection	
Raw water connection engine outlet	63 mm (2.48 inch) SAE J1231 Hose Connection	
Gear oil cooler inlet and outlet connections.....	63 mm (2.48 inch) SAE J1231 Hose Connection	
Sea water strainer mesh hole diameter (max)		1.6 mm (0.063 in)

EXHAUST SYSTEM

Exhaust Gas Data

Exhaust gas flow (total)	3,745 kg/hr (8256 lb/hr)
Exhaust stack temperature	439.2°C (823°F)
Engine exhaust connection V-band clamp.....	131 mm (5.16 in)
Max. allowable system backpressure	10 kPa (40.1 in H ₂ O)
Max. allowable static weight on turbine outlet.....	0 kg (0 lb)
Max. allowable static bending moment on turbine outlet	0 Nm (0 ft-lbs)

Specified system backpressure shall not be exceeded in any circumstances. Caterpillar advises to limit value of maximum allowable backpressure to 50% for new (clean) installations. Minimum diameter of customer piping should be according to "Customer piping diameter overview for Caterpillar engines."

FUEL SYSTEM

Fuel flow supply line (max).....	870 L/hr (229.8 gal/hr)
Fuel flow return line (max).....	850 L/hr (224.5 gal/hr)
Fuel rate at rated speed	163.9 L/hr (43.3 gal/hr)
Total fuel supply restriction (max.)	60 kPa (17.7 in Hg) (7.3 psi)
Fuel restriction across priming pump and clean filter.....	15 kPa (4.3 in Hg) (2.2 psi)
Allowable fuel restriction of OEM supplied components	45 kPa (13.4 in Hg) (5.1 psi)
Fuel temperature engine inlet (max.)	50°C (122°F)
Fuel return line restriction (max.)	50 kPa (14.8 in Hg) (7.3 psi)
Fuel supply connection	7/8-14 SAE J514 (-10), 37° FLARE
Fuel return connection	3/4-16 SAE J514 (-8), 37° FLARE
Minimum fuel supply line inside diameter	SAE -10 (15.9mm) (5/8 in)
Electric fuel priming pump inlet/outlet connection	7/8-14 SAE J1926-1 (No. 10) STOR
Diesel fuel grade	US Diesel #2 / EN590 / Biodiesel 7% max

LUBE SYSTEM

Sump type	Center Sump
Sump capacity.....	47 L (12.4 gal)
Oil change interval	250 Hr
Max. installation angle (fore-aft)	10 degrees
Max. operating angle (fore-aft)	20 degrees
Max. operating angle (athwart ship).....	22.5 degrees
Quality diesel engine oil (min.)	CI-4 10W30 or 15W40 (compliant with Caterpillar specification ECF-2)

STARTING SYSTEM

Electrical Starting System (24V)

Electrical starting motor.....	24 VDC
Cold starting	670 CCA [at 0°C (32°F) ambient temperature]
Recommended battery capacity.....	2 x 88 Ah, series

Electrical Starting System (12V)

Electrical starting motor.....	12 VDC
Cold starting	670 CCA [at 0°C (32°F) ambient temperature]
Recommended battery capacity.....	2 x 88 Ah, parallel

SOUND DATA

Exhaust Sound Power Level Overall – Grade 3 environment

..... 127 dB(A)

Mechanical Sound Pressure Level Overall – grade 3 environment

At distance 1.0 m (3.28 ft) 121 dB(A)

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.

Power produced at the flywheel will be within standard tolerances up to 45°C (113°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 50°C (122°F) measured at the engine inlet. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.

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Performance No : EM0871

LEHM0223-00 (12-15)

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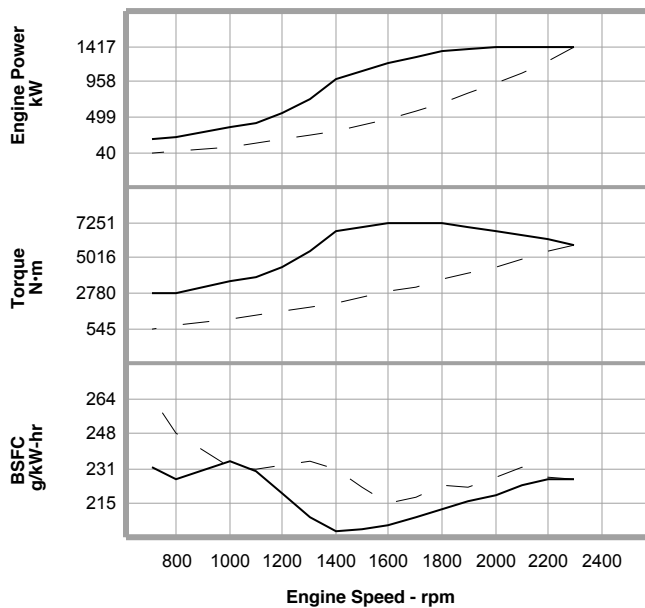
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Materials and specifications are subject to change without notice.
The International System of Units (SI) is used in this publication.

Marine Engine Performance C32 DITA

1417 kW (1900 hp) @ 2300 rpm

E-RATING - DM9451-01



Metric

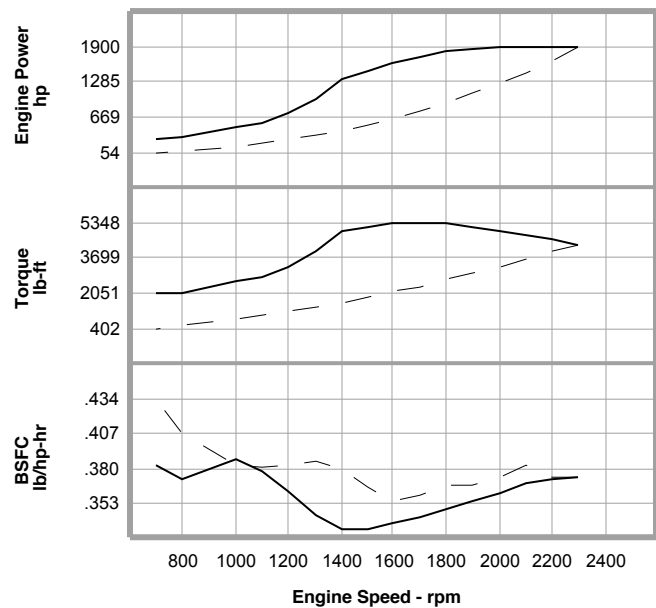
Maximum Power —
Prop Demand - -

1417 kW

Performance Data

	Engine Speed rpm	Engine Power kW	Engine Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
Maximum Power Data	2300	1417.0	5883	227.2	383.8
	2200	1417.0	6151	226.9	383.2
	2100	1417.0	6444	223.4	377.4
	1900	1388.0	6976	215.4	356.4
	1800	1352.0	7173	211.7	341.2
	1600	1215.0	7251	204.7	296.5
	1500	1097.0	6984	202.4	264.6
	1300	736.0	5406	208.4	182.8
	1100	430.0	3733	230.6	118.2
	800	229.0	2733	226.9	61.9
	700	204.0	2783	232.6	56.6
Prop Demand Data	2300	1417.0	5883	227.2	383.8
	2200	1240.1	5383	227.7	336.6
	2100	1078.6	4905	232.6	299.0
	1900	798.8	4015	222.6	211.9
	1800	679.2	3603	223.0	180.5
	1600	477.0	2847	214.9	122.2
	1500	393.1	2502	222.2	104.1
	1300	255.9	1880	234.6	71.5
	1100	155.0	1346	231.8	42.8
	800	59.6	712	248.3	17.6
	700	39.9	545	264.1	12.6

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



English

Maximum Power —
Prop Demand - -

1900 hp

Performance Data

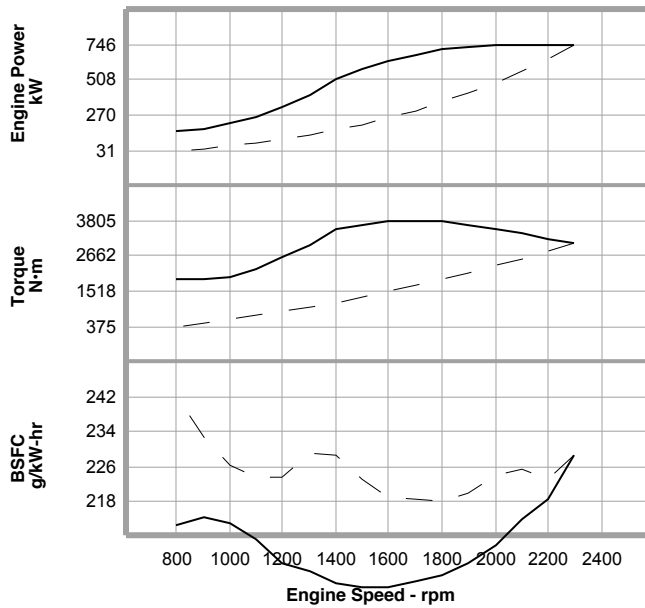
	Engine Speed rpm	Engine Power hp	Engine Torque lb-ft	BSFC lb/hp-hr	Fuel Rate gph
Maximum Power Data	2300	1900.2	4339	.374	101.4
	2200	1900.2	4536	.373	101.2
	2100	1900.2	4753	.367	99.7
	1900	1861.3	5145	.354	94.2
	1800	1813.1	5290	.348	90.1
	1600	1629.3	5348	.337	78.3
	1500	1471.1	5151	.333	69.9
	1300	987.0	3987	.343	48.3
	1100	576.6	2753	.379	31.2
	800	307.1	2016	.373	16.4
	700	273.6	2053	.382	15.0
Prop Demand Data	2300	1900.2	4339	.374	101.4
	2200	1663.0	3970	.374	88.9
	2100	1446.4	3618	.382	79.0
	1900	1071.2	2961	.366	56.0
	1800	910.8	2657	.367	47.7
	1600	639.7	2100	.353	32.3
	1500	527.2	1845	.365	27.5
	1300	343.2	1387	.386	18.9
	1100	207.9	993	.381	11.3
	800	79.9	525	.408	4.6
	700	53.5	402	.434	3.3

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.

Marine Engine Performance C18 DITA

747 kW (1001 hp) @ 2300 rpm

E-RATING - EM0261-00



Metric

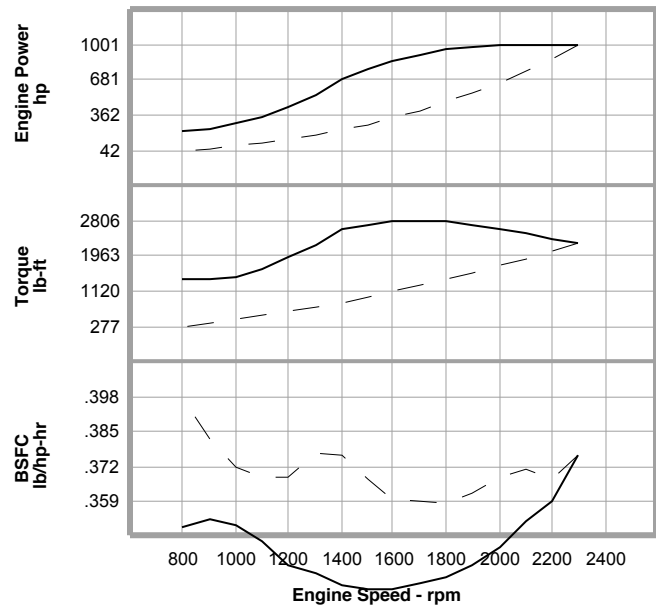
Maximum Power —
Prop Demand - -

747 kW

Performance Data

	Engine Speed rpm	Engine Power kW	Engine Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
Maximum Power Data	2300	746.5	3099	228.9	203.7
	2200	740.7	3215	218.3	192.7
	2100	741.9	3374	213.5	188.8
	1900	725.4	3646	203.8	176.3
	1800	712.1	3778	201.2	170.8
	1600	637.5	3805	198.4	150.8
	1500	577.7	3677	198.3	136.6
	1300	406.9	2989	201.9	98.0
	1100	254.6	2210	209.0	63.4
	900	178.8	1897	214.2	45.6
	800	162.4	1938	212.5	41.1
Prop Demand Data	2300	746.5	3099	228.9	203.7
	2200	653.3	2836	222.9	173.6
	2100	568.2	2584	225.6	152.8
	1900	420.8	2115	219.8	110.3
	1800	357.8	1898	217.6	92.8
	1600	251.3	1500	218.7	65.5
	1500	207.1	1318	222.9	55.0
	1300	134.8	990	229.2	36.8
	1100	81.7	709	223.5	21.8
	900	44.7	475	232.6	12.4
	800	31.4	375	242.2	9.1

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



English

Maximum Power —
Prop Demand - -

1001 hp

Performance Data

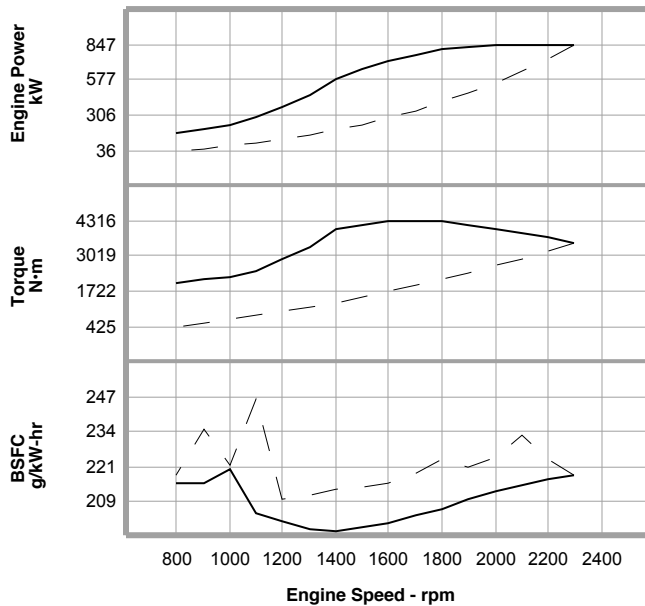
	Engine Speed rpm	Engine Power hp	Engine Torque lb-ft	BSFC lb/hp-hr	Fuel Rate gph
Maximum Power Data	2300	1001.1	2286	.376	53.8
	2200	993.3	2371	.359	50.9
	2100	994.9	2488	.351	49.9
	1900	972.8	2689	.335	46.6
	1800	954.9	2786	.331	45.1
	1600	854.9	2806	.326	39.8
	1500	774.7	2712	.326	36.1
	1300	545.7	2204	.332	25.9
	1100	341.4	1630	.344	16.7
	900	239.8	1399	.352	12.0
	800	217.8	1429	.349	10.9
Prop Demand Data	2300	1001.1	2286	.376	53.8
	2200	876.1	2092	.366	45.9
	2100	762.0	1906	.371	40.4
	1900	564.3	1560	.361	29.1
	1800	479.8	1400	.358	24.5
	1600	337.0	1106	.360	17.3
	1500	277.7	972	.366	14.5
	1300	180.8	730	.377	9.7
	1100	109.6	523	.367	5.8
	900	59.9	350	.382	3.3
	800	42.1	277	.398	2.4

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.

Marine Engine Performance C18 DITA

847 kW (1136 hp) @ 2300 rpm

E-RATING - EM0260-01



Metric

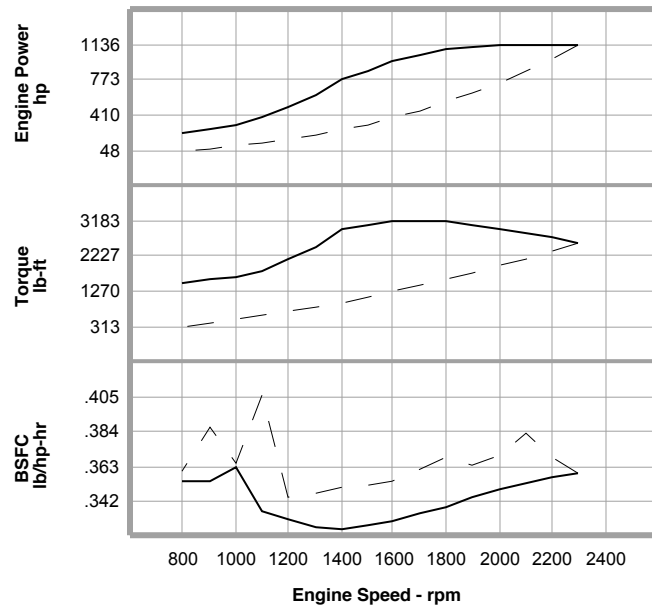
Maximum Power —
Prop Demand - -

847 kW

Performance Data

	Engine Speed rpm	Engine Power kW	Engine Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
Maximum Power Data	2300	847.0	3517	218.6	220.8
	2200	847.0	3676	216.3	218.4
	2100	847.0	3852	214.5	216.5
	1900	831.2	4178	209.3	207.4
	1800	809.0	4292	205.5	198.2
	1600	723.1	4316	200.6	172.9
	1500	651.4	4147	199.0	154.5
	1300	456.8	3355	198.3	108.0
	1100	286.9	2491	204.4	69.9
Prop Demand Data	900	201.0	2133	214.9	51.5
	800	169.3	2021	214.9	43.4
	2300	847.0	3517	218.6	220.8
	2200	741.3	3217	224.6	198.5
	2100	644.7	2932	232.9	179.0
	1900	477.5	2400	221.4	126.0
	1800	406.0	2154	224.2	108.5
	1600	285.1	1702	215.2	73.1
	1500	234.9	1496	213.6	59.8
Prop Demand Data	1300	152.9	1123	210.7	38.4
	1100	92.7	804	246.6	27.2
	900	50.7	538	235.6	14.3
	800	35.6	425	219.0	9.3

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



English

Maximum Power —
Prop Demand - -

1136 hp

Performance Data

	Engine Speed rpm	Engine Power hp	Engine Torque lb-ft	BSFC lb/hp-hr	Fuel Rate gph
Maximum Power Data	2300	1135.8	2594	.359	58.3
	2200	1135.8	2711	.356	57.7
	2100	1135.8	2841	.353	57.2
	1900	1114.7	3081	.344	54.8
	1800	1084.9	3165	.338	52.4
	1600	969.7	3183	.330	45.7
	1500	873.5	3058	.327	40.8
	1300	612.6	2474	.326	28.5
	1100	384.7	1837	.336	18.5
Prop Demand Data	900	269.5	1573	.353	13.6
	800	227.0	1491	.353	11.5
	2300	1135.8	2594	.359	58.3
	2200	994.1	2373	.369	52.4
	2100	864.6	2162	.383	47.3
	1900	640.3	1770	.364	33.3
	1800	544.5	1589	.369	28.7
	1600	382.3	1255	.354	19.3
	1500	315.0	1103	.351	15.8
Prop Demand Data	1300	205.0	828	.346	10.1
	1100	124.3	593	.405	7.2
	900	68.0	397	.387	3.8
	800	47.7	313	.360	2.5

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.