

# PLEASURE CRAFT POWER SOLUTIONS

EDITION 2017 (SEPTEMBER)



Caterpillar follows a policy of continuous product improvement. For this reason, some material and specifications in the Caterpillar Marine Solutions Guide could change without notice.

For more Information about Caterpillar Marine and current products, as well as legacy products, please visit:

**[www.cat.com/marine](http://www.cat.com/marine)**

**For Cat<sup>®</sup> Dealers:** Please reference TMI Web for the most current information.

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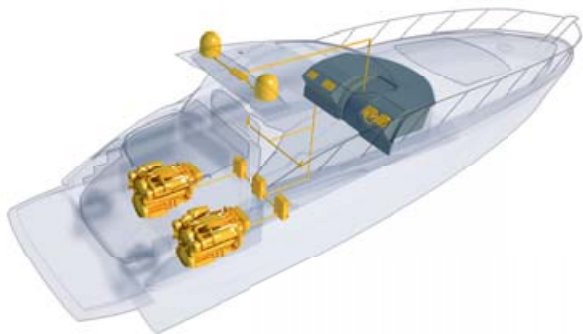
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*Caterpillar follows a policy of continual product improvement. For this reason, some material and specifications could change without notice.*

# BENEATH THE SURFACE

— the perfect combination of efficiency and excitement, dependability and exhilaration.



Cat® marine engines set the standard for quality, performance, and reliability. An extensive power range and decades of experience result in **a single source for total power solutions on board**, providing electronic marine engines, generator sets, and vessel controls.

Throughout the power range, Cat engines have the power not just to accelerate, but to exhilarate. Continual advancements in electronic engine technology mean Cat marine engines **satisfy worldwide emissions regulations and still deliver a surge of adrenaline** whenever and wherever required.

Please refer to the Marine Power Solutions guide (LEDM3457) for additional ratings.



# ENGINES AND GENERATOR SETS



# Cat Propulsion Engines

Whether you are planning for a small, sportive yacht or a large luxury or mega yacht, Caterpillar Marine recommends eight exemplary engine models rated from 298 kW (400 bhp) to 2525 kW (3386 bhp) to meet your high demands for having fun on the water. Cat marine engines supply an unprecedented level of power and performance to give you smooth starts, rapid acceleration, consistent cruise speeds, high power output and strong power reserve underway. Their high power output is matched by tough component design and innovations ensuring high fuel efficiency and low emissions.

Consistent attention to detail is one key to your success, and it is what gives Cat marine engines their world-renowned reputation for reliability.





# C7.1

Electronic Control System

## PROPULSION ENGINE

### RATINGS AND FUEL CONSUMPTION

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>E</b>	406	400	298	2900	21.8	227	T3R	II	RCD II
<b>E</b>	456	450	336	2900	24.4	228	T3R	II	RCD II
<b>E</b>	507	500	373	2900	27.3	232	T3R	II	RCD II

### SPECIFICATIONS

In-line 6, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TA	
<b>Bore x Stroke</b>	4.13 x 5.31 in	105 x 135 mm
<b>Displacement</b>	428 cu in	7.01 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Engine dry weight (approx)</b>	1676 lb	760 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	43.1 in/1095 mm	34.5 in/876 mm	31.4 in/798 mm
<b>max.</b>	43.1 in/1095 mm	34.5 in/876 mm	31.4 in/798 mm

# C8.7

Electronic Control System

## PROPULSION ENGINE

### RATINGS AND FUEL CONSUMPTION

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>E</b>	650	641	478	2300	33.0	217	T3R	II	RCD II

### SPECIFICATIONS

In-line 6, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TSA	
<b>Bore x Stroke</b>	4.6 x 5.3 in	117 x 135 mm
<b>Displacement</b>	531 cu in	8.7 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Engine dry weight (approx)</b>	2400 lb	1089 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	47.9 in/1218 mm	38.7 in/984 mm	34.7 in/881 mm
<b>max.</b>	47.9 in/1218 mm	38.7 in/984 mm	34.7 in/881 mm

## PROPULSION ENGINE

### RATINGS AND FUEL CONSUMPTION

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>B</b>	381	375	280	1800	19.3	219.1	T3C	II	RCD II
<b>C</b>	421	416	310	2100	21.5	220.4	T3C	II	RCD II
<b>D</b>	483	476	355	2300	24.9	222.3	T3C	II	RCD II

### SPECIFICATIONS

In-line 6, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TA	
<b>Bore x Stroke</b>	4.53 x 5.87 in	115 x 149 mm
<b>Displacement</b>	568 cu in	9.3 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Engine dry weight (approx)</b>	2083 - 2474 lb	945 - 1122 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	57.2 in/1452 mm	43.0 in/1093 mm	38.5 in/978 mm
<b>max.</b>	57.2 in/1452 mm	43.0 in/1093 mm	38.5 in/978 mm

## PROPULSION ENGINE

### RATINGS AND FUEL CONSUMPTION

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>E</b>	609	600	448	2300	29.3	208.1	NC	I	NC
<b>E</b>	669	660	492	2300	34.1	220.0	NC	II	RCD I
<b>E</b>	715	705	526	2300	36.5	220.3	NC	II	RCD I

### SPECIFICATIONS

In-line 6, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TA	
<b>Bore x Stroke</b>	5.1 x 5.9 in	130 x 150 mm
<b>Displacement</b>	732 cu in	12 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Engine dry weight (approx)</b>	2588 lb	1174 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	62.0 in/1574 mm	39.5 in/1005 mm	38.1 in/969 mm
<b>max.</b>	62.0 in/1574 mm	39.5 in/1005 mm	38.1 in/969 mm

# C12.9

Electronic Control System

## PROPULSION ENGINE

### RATINGS AND FUEL CONSUMPTION

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>E</b>	850	838	625	2300	43.3	220.1	T3R	II	RCD II
<b>E</b>	1000	985	735	2300	50.7	218.9	T3R	II	RCD II

### SPECIFICATIONS

In-line 6, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TA/TSA	
<b>Bore x Stroke</b>	5.31 x 5.9 in	135 x 150 mm
<b>Displacement</b>	787 cu in	12.9 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Engine dry weight (approx)</b>	3635 - 3686 lb	1649 - 1672 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	57.6 in/1463 mm	42.7 in/1085 mm	43.7 in/1110 mm
<b>max.</b>	57.6 in/1463 mm	42.7 in/1085 mm	43.7 in/1110 mm

## PROPULSION ENGINE (Commercial Applications)

### RATINGS AND FUEL CONSUMPTION

#### IMO Tier II

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>A</b>	460	454	339	1800	22.6	212.1	NC	II	RCD I
<b>A</b>	485	479	357	1800	23.7	211.3	NC	II	RCD I
<b>A</b>	608	600	447	1800	30.0	213.1	NC	II	RCD I
<b>B</b>	560	553	412	2100	28.7	221.3	NC	II	RCD I
<b>B</b>	680	670	500	2100	35.2	223.8	NC	II	RCD I
<b>C</b>	725	715	533	2100	37.6	223.9	NC	II	RCD I
<b>D</b>	885	873	651	2200	45.0	219.3	NC	II	RCD I

#### U.S. EPA Tier 3 and IMO Tier II

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>A</b>	475	469	350	1800	24.5	222.0	T3C	II	RCD II
<b>A</b>	608	600	447	1800	30.7	218.5	T3C	II	RCD II
<b>B<sup>1</sup></b>	680	670	500	1800- 2100	34.7	223.6	T3C	II	RCD II
<b>C<sup>1</sup></b>	725	715	533	1800- 2100	37.2	221.7	T3C	II	RCD II
<b>D</b>	814	803	599	2100	41.8	221.6	T3C	II	RCD II

<sup>1</sup> Wide Operating Speed Range (WOSR)

(continued)

Heat Exchanger (32°C Sea Water Temp), Keel Cooled (52°C SCAC Temp)

## PROPULSION ENGINE (Commercial Applications)

(continued)

### SPECIFICATIONS

In-line 6, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TA, TTA	
<b>Bore x Stroke</b>	5.7 x 7.2 in	145 x 183 mm
<b>Displacement</b>	1106 cu in	18.1 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Engine dry weight (approx)</b>	4000 - 4299 lb	1814 - 1950 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	73.0 in/1854 mm	47.2 in/1198 mm	44.6 in/1134 mm
<b>max.</b>	76.0 in/1931 mm	51.2 in/1300 mm	47.4 in/1204 mm

## PROPULSION ENGINE (High Performance Applications)

### RATINGS AND FUEL CONSUMPTION

U.S. EPA Tier 3 and IMO Tier II

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>E</b>	1015	1001	747	2300	53.8	228.9	T3R	II	RCD II
<b>E</b>	1150	1136	847	2300	58.6	219.8	T3R	II	RCD II

### SPECIFICATIONS

In-line 6, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TA, TTA	
<b>Bore x Stroke</b>	5.7 x 7.2 in	145 x 183 mm
<b>Displacement</b>	1106 cu in	18.1 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Engine dry weight (approx)</b>	4000 - 4299 lb	1814 - 1950 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	73.0 in/1854 mm	47.2 in/1198 mm	44.6 in/1134 mm
<b>max.</b>	76.0 in/1931 mm	51.2 in/1300 mm	47.4 in/1204 mm



## PROPULSION ENGINE (Commercial Applications)

### RATINGS AND FUEL CONSUMPTION

#### IMO Tier II/IMO Tier III

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>A<sup>1</sup></b>	669	660	492	1600-1800	32.3	208.4	NC	II	IW
<b>A<sup>1</sup></b>	760	750	559	1600-1800	36.2	205.8	NC	II	IW
<b>A<sup>1,4</sup></b>	760	750	559	1600-1800	TBD	TBD	NC	II/III	IW
<b>A<sup>1</sup></b>	862	850	634	1600-1800	41.0	205.3	NC	II	IW
<b>A</b>	964	950	709	1600	45.2	202.7	NC	II	IW
<b>A<sup>1</sup></b>	1014	1000	746	1600-1800	48.1	204.9	NC	II	IW
<b>A<sup>1,4</sup></b>	1014	1000	1000	1600-1800	TBD	TBD	NC	II/III	IW
<b>B<sup>1</sup></b>	1217	1200	895	1800-2000	59.3	210.5	NC	II	IW
<b>B<sup>1,4</sup></b>	1217	1200	895	1800-2000	TBD	TBD	NC	II/III	IW
<b>B</b>	1319	1300	970	2100	64.1	211.2	NC	II	IW
<b>B<sup>4</sup></b>	1319	1300	970	2100	TBD	TBD	NC	II/III	IW
<b>C</b>	1319	1300	970	1800	62.5	204.6	NC	II	IW
<b>C<sup>4</sup></b>	1319	1300	970	1800	TBD	TBD	NC	II/III	IW
<b>C<sup>1</sup></b>	1470	1450	1081	2000-2300	77.2	226.8	NC	II	IW
<b>C<sup>1,4</sup></b>	1470	1450	1081	2000-2300	TBD	TBD	NC	II/III	IW
<b>D<sup>1</sup></b>	1622	1600	1193	2000-2300	82.0	218.2	NC	II	RCD II

<sup>1</sup> Wide Operating Speed Range (WOSR)

Heat Exchanger (32°C Sea Water Temp), Keel Cooled (52°C SCAC Temp)

<sup>4</sup> Contact your local dealer for availability on U.S. EPA Tier 4 and IMO III ratings.

(continued)

## PROPULSION ENGINE (Commercial Applications)

(continued)

### RATINGS AND FUEL CONSUMPTION

#### U.S. EPA Tier 3 and IMO Tier II

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>A<sup>1</sup></b>	760	750	559	1600-1800	37.5	213.2	T3C	II	IW
<b>A<sup>1</sup></b>	811	800	597	1600-1800	TBD	TBD	T3C	II	IW
<b>A<sup>1,2</sup></b>	862	850	634	1600-1800	42.8	214.2	T3C	II	IW
<b>A<sup>1,2</sup></b>	862	850	634	1800-2100	45.4	227.9	T3C	II	IW
<b>A<sup>1,2</sup></b>	1014	1000	746	1600-1800	49.8	212.1	T3C	II	IW
<b>B<sup>1,2</sup></b>	1217	1200	895	1800-2100	62.6	222.2	T3C	II	IW
<b>C<sup>1,2</sup></b>	1319	1300	970	1800-2100	67.9	222.7	T3C	II	IW
<b>C<sup>1,3</sup></b>	1470	1450	1081	2100-2300	75.9	223.1	T3C	II	IW

#### U.S. EPA Tier 4 and IMO Tier III

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>A<sup>1,4</sup></b>	1014	1000	746	1600-1800	TBD	TBD	T4	III	IW
<b>B<sup>1,4</sup></b>	1217	1200	895	1800-2100	TBD	TBD	T4	III	IW
<b>C<sup>1,4</sup></b>	1319	1300	970	1800-2100	TBD	TBD	T4	III	IW
<b>C<sup>1,4</sup></b>	1470	1450	1081	2050-2150	TBD	TBD	T4	III	IW

<sup>1</sup> Wide Operating Speed Range (WOSR)

Heat Exchanger (32°C Sea Water Temp), Keel Cooled (52°C SCAC Temp)

<sup>2</sup> 600 kW and greater EPA Tier 3 ratings will not be available after October 1, 2017 except for emergency use. Contact your local dealer for availability.

<sup>3</sup> 1000 kW and greater EPA Tier 3 ratings are only available for emergency use. Contact your local dealer for availability.

(continued)

## PROPULSION ENGINE (Commercial Applications)

(continued)

### SPECIFICATIONS

Vee 12, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TTA	
<b>Bore x Stroke</b>	5.71 x 6.38 in	145 x 162 mm
<b>Displacement</b>	1659 cu in	32.1 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Engine dry weight (approx)</b>	6950 - 7160 lb	3152 - 3248 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	83.5 in/2121 mm	60.9 in/1547 mm	60.17 in/1528 mm
<b>max.</b>	89.9 in/2284 mm	62.5 in/1587 mm	60.17 in/1528 mm

## PROPULSION ENGINE (High Performance Applications)

### RATINGS AND FUEL CONSUMPTION

U.S. EPA Tier 3 and IMO Tier II/III

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>D</b>	1622	1600	1193	2300	82.1	218.2	T3R	II	RCD II
<b>D<sup>2</sup></b>	1622	1600	1193	2300	TBD	TBD	NC	III	RCD II
<b>E<sup>1</sup></b>	1724	1700	1268	2300	91.2	228.4	T3R	II	RCD II
<b>E</b>	1825	1800	1342	2300	97.1	229.7	T3R	II	RCD II
<b>E</b>	1925	1900	1418	2300	101.4	227.2	T3R	II	RCD II

<sup>1</sup> Contact your local dealer for availability.

<sup>2</sup> Contact your local dealer for availability on IMO III ratings.

### SPECIFICATIONS

Vee 12, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TTA	
<b>Bore x Stroke</b>	5.71 x 6.38 in	145 x 162 mm
<b>Displacement</b>	1959 cu in	32.1 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Engine dry weight (approx)</b>	6780 lb	3075 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	82.9 in/2106 mm	56.9 in/1445 mm	58.3 in/1482 mm
<b>max.</b>	82.9 in/2106 mm	56.9 in/1445 mm	58.3 in/1482 mm

## PROPULSION ENGINE

### RATINGS AND FUEL CONSUMPTION

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>A</b>	1298	1280	955	1600	61.3	204.0	NC	II	IW
<b>A</b>	1318	1300	969	1200	64.3	210.6	NC	II	IW
<b>A</b>	1420	1400	1044	1600	66.6	202.5	NC	II	IW
<b>A</b>	1520	1500	1118	1800	70.3	200.1	NC	II	IW
<b>A<sup>1</sup></b>	1521	1500	1118	1200	71.5	203.0	NC	II	IW
<b>A<sup>1</sup></b>	1699	1676	1250	1600	79.7	202.6	NC	II	IW
<b>A<sup>1</sup></b>	1836	1810	1350	1600	84.7	207.1	NC	II	IW
<b>B</b>	1378	1359	1014	1600	64.8	203.0	NC	II	IW
<b>B</b>	1420	1400	1044	1200	69.1	210.1	NC	II	IW
<b>B</b>	1521	1500	1118	1600	71.1	201.9	NC	II	IW
<b>B</b>	1597	1575	1174	1800	73.8	199.9	NC	II	IW
<b>B<sup>1</sup></b>	1622	1600	1194	1200	76.2	202.8	NC	II	IW
<b>B<sup>1</sup></b>	1774	1749	1305	1600	82.5	200.7	NC	II	IW
<b>B<sup>1</sup></b>	1938	1911	1425	1600	89.0	208.5	NC	II	IW
<b>B<sup>1</sup></b>	2282	2250	1678	1800	111.0	209.9	NC	II	IW
<b>C</b>	1429	1409	1051	1600	67.0	202.4	NC	II	IW
<b>C</b>	1521	1500	1118	1200	74.1	210.3	NC	II	IW
<b>C</b>	1622	1600	1194	1600	70.4	201.7	NC	II	IW
<b>C</b>	1673	1650	1230	1800	77.2	199.6	NC	II	NC
<b>C<sup>1</sup></b>	1723	1700	1268	1200	83.4	204.0	NC	II	IW
<b>C<sup>1</sup></b>	1876	1851	1380	1600	86.4	199.0	NC	II	IW
<b>C<sup>1</sup></b>	2040	2012	1500	1600	93.7	208.8	NC	II	IW
<b>C<sup>1</sup></b>	2400	2365	1765	1800	116.5	214.5	NC	II	IW
<b>D<sup>1</sup></b>	2587	2551	1902	1800	124.4	207.7	NC	II	IW

<sup>1</sup> High displacement engine (HD)

(continued)

# 3512C

Electronic Control System

## PROPULSION ENGINE

(continued)

### SPECIFICATIONS

Vee 12, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TTA	
<b>Bore x Stroke</b>	6.69 x 7.48 in	170 x 190 mm
<b>Bore x Stroke<sup>1</sup></b>	6.69 x 8.46 in	170 x 215 mm
<b>Displacement</b>	3161 cu in	51.8 liter
<b>Displacement<sup>1</sup></b>	3574 cu in	58.6 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise or clockwise	
<b>Engine dry weight (approx)</b>	14,400 - 16,340 lb	6532 - 7411 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	102.0 in/2590 mm	75.0 in/1904 mm	80.2 in/2037 mm
<b>max.</b>	105.1 in/2669 mm	88.3 in/2242 mm	87.9 in/2232 mm

# 3512C

Electronic Control System

## PROPULSION ENGINE

### RATINGS AND FUEL CONSUMPTION

#### U.S. EPA Tier 3

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>A</b>		1334	995	1600	TBD	TBD	T3C	II	NC

All ratings are high displacement.

Contact your local dealer for availability. (These ratings will not be available after October 1, 2017).

### SPECIFICATIONS

Vee 12, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TTA	
<b>Bore x Stroke</b>	6.69 x 8.46 in	170 x 215 mm
<b>Displacement</b>	3161 cu in	51.8 liter
<b>Displacement<sup>1</sup></b>	3574 cu in	58.6 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise or clockwise	
<b>Engine dry weight (approx)</b>	14,400 - 16,340 lb	6532 - 7411 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	104.2 in/ 2647 mm	87.6 in/2225 mm	80.2 in/2037 mm
<b>max.</b>	104.2 in/ 2647 mm	87.6 in/2225 mm	80.2 in/2037 mm

# 3512E

Electronic Control System

## PROPULSION ENGINE

### RATINGS AND FUEL CONSUMPTION

#### U.S. EPA Tier 4 Final and IMO Tier III Ratings

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>A</b>	1360	1341	1000	1600	TBD	TBD	T4C	III	IW
<b>A</b>	1523	1502	1120	1600	TBD	TBD	T4C	III	IW
<b>A</b>	1523	1502	1120	1800	TBD	TBD	T4C	III	IW
<b>A</b>	1724	1700	1268	1600	TBD	TBD	T4C	III	IW
<b>A</b>	1835	1810	1350	1600	TBD	TBD	T4C	III	IW
<b>A</b>	2028	2000	1491	1600	TBD	TBD	T4C	III	IW
<b>A</b>	2282	2250	1678	1800	TBD	TBD	T4C	III	IW
<b>B</b>	1598	1576	1175	1800	TBD	TBD	T4C	III	IW
<b>B</b>	2142	2112	1575	1600	TBD	TBD	T4C	III	IW
<b>B</b>	2408	2375	1771	1800	TBD	TBD	T4C	III	IW
<b>C</b>	1673	1650	1230	1800	TBD	TBD	T4C	III	IW
<b>C</b>	2244	2213	1650	1600	TBD	TBD	T4C	III	IW
<b>C</b>	2585	2549	1901	1800	TBD	TBD	T4C	III	IW

All high displacement engines (HD).

Engines require SCR Aftertreatment.

Contact dealer for availability.

(continued)



# 3512E

Electronic Control System

## PROPULSION ENGINE

(continued)

### SPECIFICATIONS

Vee 12, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TTA	
<b>Bore x Stroke</b>	6.69 x 8.46 in	170 x 215 mm
<b>Displacement</b>	3574 cu in	58.6 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Engine dry weight (approx)</b>	16,508 lb	7488 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	104.2 in/2624 mm	87.5 in/2222.6 mm	80.2 in/2037 mm
<b>max.</b>	104.2 in/2624 mm	87.5 in/2222.6 mm	80.2 in/2037 mm

# 3516C

Electronic Control System

## PROPULSION ENGINE

### RATINGS AND FUEL CONSUMPTION

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>A</b>	1673	1650	1230	1200	78.9	206.2	NC	II	IW
<b>A</b>	2028	2000	1492	1600	96.3	202.8	NC	II	IW
<b>A<sup>1</sup></b>	2292	2260	1686	1600	107.5	202.4	NC	II	IW
<b>A<sup>1</sup></b>	2482	2448	1825	1600	113.2	206.9	NC	II	IW
<b>B</b>	1775	1750	1305	1200	84.2	206.2	NC	II	IW
<b>B</b>	2130	2100	1566	1600	100.4	201.8	NC	II	IW
<b>B<sup>1</sup></b>	2407	2375	1771	1600	112.0	200.8	NC	II	IW
<b>B<sup>1</sup></b>	2611	2575	1920	1600	118.6	206.7	NC	II	IW
<b>B<sup>1</sup></b>	3046	3004	2240	1800	148.3	210.3	NC	II	IW
<b>C</b>	1876	1850	1379	1200	90.0	207.0	NC	II	IW
<b>C</b>	2231	2200	1641	1600	104.5	201.9	NC	II	IW
<b>C<sup>1</sup></b>	2534	2500	1864	1600	117.0	199.3	NC	II	IW
<b>C<sup>1</sup></b>	2720	2682	2000	1600	123.4	198.5	NC	II	IW
<b>C<sup>1</sup></b>	3196	3151	2350	1800	148.6	209.2	NC	I	NC
<b>C<sup>1</sup></b>	3196	3151	2350	1800	154.7	200.9	NC	II	IW
<b>D<sup>1</sup></b>	2855	2816	2100	1600	114.9	199.0	NC	II	IW
<b>D<sup>1</sup></b>	3434	3386	2525	1800	165.0	207.6	NC	II	IW

<sup>1</sup> High displacement engine (HD)

(continued)

# 3516C

Electronic Control System

## PROPULSION ENGINE

(continued)

### SPECIFICATIONS

Vee 16, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TTA	
<b>Bore x Stroke</b>	6.69 x 7.48 in	170 x 190 mm
<b>Bore x Stroke<sup>1</sup></b>	6.69 x 8.46 in	170 x 215 mm
<b>Displacement</b>	4211 cu in	69 liter
<b>Displacement<sup>1</sup></b>	4765 cu in	78 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise or clockwise	
<b>Engine dry weight (approx)</b>	17,550 - 19,025 lb	7964 - 8629 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	143.1 in/3637 mm	77.4 in/1967 mm	80.2 in/2037 mm
<b>max.</b>	148.0 in/3761 mm	84.6 in/2150 mm	84.3 in/2142 mm

# 3516E

Electronic Control System

## PROPULSION ENGINE

### RATINGS AND FUEL CONSUMPTION

#### U.S. EPA Tier 4 Final and IMO Tier III Ratings

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>A</b>	2536	2501	1865	1600	TBD	TBD	T4C	III	IW
<b>A</b>	2720	2682	2000	1600	TBD	TBD	T4C	III	IW
<b>A</b>	3046	3004	2240	1800	TBD	TBD	T4C	III	IW
<b>B</b>	2855	2816	2100	1600	TBD	TBD	T4C	III	IW
<b>B</b>	3195	3151	2350	1800	TBD	TBD	T4C	III	IW
<b>C</b>	2991	2950	2200	1600	TBD	TBD	T4C	III	IW
<b>C</b>	3433	3386	2525	1800	TBD	TBD	T4C	III	IW

All ratings are high displacement.

Engines require SCR Aftertreatment.

Contact Caterpillar or your local dealer for availability and technical details (e.g. fuel consumption).

### SPECIFICATIONS

Vee 16, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TTA	
<b>Bore x Stroke</b>	6.69 x 8.46 in	170 x 215 mm
<b>Displacement</b>	4765 cu in	78 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Engine dry weight (approx)</b>	21,164 lb	9600 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	125.7 in/3192 mm	87.6 in/2225 mm	89.9 in/2284 mm
<b>max.</b>	125.7 in/3192 mm	87.6 in/2225 mm	89.9 in/2284 mm

# Cat Generator Sets

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Reliable, shipboard electrical power is critical to trouble-free cruising. Caterpillar Marine has the strongest, longest running, and most economically proven fleet of generator sets available in a broad application range. Cat generator sets have the same qualities of excellent performance, high-quality power, reliability, and long service life that you expect – and get – from Cat Marine propulsion engines.



# C1.5

## GENERATOR SET

### RATINGS AND FUEL CONSUMPTION

Three Phase ekW@.8pf	Single Phase ekW@1.0pf	kVA	Hz	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
13.0		16.5	60	1800	1.2	268.2	T3C	NST	NST
11.0		13.5	50	1500	1.0	264.1	T3C	NST	NST
	12.0	12.0	60	1800	1.2	290.5	T3C	NST	NST
	10.0	10.0	50	1500	1.0	290.5	T3C	NST	NST

### SPECIFICATIONS

In-line 3, 4-Stroke-Cycle Diesel		
Aspiration	NA	
Bore x Stroke	3.31 x 3.5 in	84 x 90 mm
Displacement	91 cu in	1.5 liter
Rotation (from flywheel end)	Counterclockwise	
Generator set weight (approx)	703/908 lb	319/412 kg

### DIMENSIONS

	LE	H	WE
Open	40.8 in/1038 mm	27.1 in/689 mm	21.1 in/535 mm
Enclosed	43.1 in/1095 mm	27.9 in/711 mm	24 in/608 mm

## GENERATOR SET

### RATINGS AND FUEL CONSUMPTION

Three Phase ekW@.8pf	Single Phase ekW@1.0pf	kVA	Hz	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
19.5		24.0	60	1800	1.63	242.9	T3C	NST	IW
27.0		34.0	60	1800	2.24	241.0	T3C	NST	IW
16.0		20.0	50	1500	1.37	248.8	T3C	NST	IW
22.5		28.0	50	1500	1.88	242.8	T3C	NST	IW
	19.0	19.0	60	1800	1.63	242.9	T3C	NST	IW
	27.0	27.0	60	1800	2.24	241.0	T3C	NST	IW
	16.0	16.0	50	1500	1.37	248.8	T3C	NST	IW
	22.5	22.5	50	1500	1.88	242.8	T3C	NST	IW

### SPECIFICATIONS

In-line 4, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	NA, T	
<b>Bore x Stroke</b>	3.31 x 3.94 in	84 x 100 mm
<b>Displacement</b>	135 cu in	2.2 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Generator set weight (approx)</b>	857/1027 lb	389/466 kg

### DIMENSIONS

	LE	H	WE
<b>Open</b>	47.9 in/1219 mm	32.8 in/835 mm	22.3 in/567 mm
<b>Enclosed</b>	50.7 in/1290 mm	31.0 in/775 mm	24.7 in/628 mm

# C4.4

## GENERATOR SET

### RATINGS AND FUEL CONSUMPTION

ekW@.8pf	ekW@1.0pf	kVA	Hz	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
38.0		47.5	50	1500	2.9	221.7	NC	NST	CC2
51.5		64.5	50	1500	3.9	220.0	NC	NST	CC2
69.0		86.0	50	1500	4.9	206.3	NC	NST	CC2
86.0		107.0	50	1500	6.5	219.6	NC	NST	NC
44.0		55.0	60	1800	3.4	224.5	NC	NST	NC
58.5		73.0	60	1800	4.2	208.6	NC	NST	NC
76.0		95.0	60	1800	5.8	221.7	NC	NST	NC
99.0		123.0	60	1800	7.3	214.2	NC	NST	NC
36.0R		45.0	50	1500	2.9	234.0	NC	NST	CC2
49.0R		61.0	50	1500	3.9	231.2	NC	NST	CC2
65.0R		81.0	50	1500	4.9	219.0	NC	NST	CC2
82.0R		103.0	50	1500	6.5	230.3	NC	NST	NC
42.0R		53.0	60	1800	3.4	235.2	NC	NST	NC
56.0R		70.0	60	1800	4.5	233.5	NC	NST	NC
72.0R		90.0	60	1800	5.8	234.0	NC	NST	NC
95.0R		119.0	60	1800	7.3	223.3	NC	NST	NC

R - Radiator cooled only.

ABS, BV, DNV, GL, LR, RINA, CCS approved generator set packages available for ratings.

(continued)



## GENERATOR SET

### RATINGS AND FUEL CONSUMPTION

#### U.S. EPA Tier 3 & IMO Tier II

ekW@.8pf	ekW@1.0pf	kVA	Hz	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
65		81	50	1500	5.2	236.8	T3C	NST	CC2
80		100	50	1500	6.2	227.5	T3C	NST	CC2
99		124	50	1500	7.4	217.9	T3C	NST	CC2
60		75	60	1800	5.0	241.9	T3C	NST	CC2
75		94	60	1800	5.9	231.3	T3C	NST	CC2
99		124	60	1800	7.5	220.3	T3C	NST	CC2
118		148	60	1800	8.3	204.5	T3C	NST	CC2
58R		73	50	1500	5.1	225.2	T3C	NST	CC2
73R		91	50	1500	6.1	219.4	T3C	NST	CC2
88R		110	50	1500	7.0	205.9	T3C	NST	CC2
51R		64	60	1800	4.9	235.2	T3C	NST	CC2
66R		83	60	1800	5.8	224.0	T3C	NST	CC2
90R		113	60	1800	7.3	215.2	T3C	NST	CC2
105R		131	60	1800	8.5	210.8	T3C	NST	CC2

Engine type approval available from ABS, BV, DNV, GL, NKK, RINA, CRS.

(continued)

# C4.4

Electronic Control System

## GENERATOR SET

(continued)

### SPECIFICATIONS

In-line 4, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TA	
<b>Bore x Stroke</b>	4.13 x 5.0 in	105 x 127 mm
<b>Displacement</b>	269 cu in	4.4 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Generator set weight (approx)</b>	2736 - 3389 lb	1241 - 1537 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	66.4 in/1687 mm	49 in/1245 mm	38.3 in/974 mm
<b>max.</b>	80.2 in/2037 mm	78.7 in/1999 mm	38.8 in/986 mm

## GENERATOR SET

### RATINGS AND FUEL CONSUMPTION

#### U.S. EPA Tier 3 & IMO Tier II

ekW@.8pf	ekW@1.0pf	kVA	Hz	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
100		125	50	1500	7.9	229.6	T3C	NST	CC2
118		148	50	1500	9.2	227.5	T3C	NST	CC2
150		188	50	1500	11.2	216.5	T3C	II	CC2
118		148	60	1800	9.5	233.6	T3C	NST	CC2
150		188	60	1800	11.3	219.4	T3C	II	CC2
175		219	60	1800	13.2	219.5	T3C	II	CC2
200		250	60	1800	14.9	216.4	T3C	II	CC2
92R		115	50	1500	7.8	263.6	T3C	NST	CC2
111R		139	50	1500	9.3	251.3	T3C	NST	CC2
143R		179	50	1500	11.3	239.8	T3C	II	CC2
106R		133	60	1800	9.1	254.2	T3C	NST	CC2
138R		173	60	1800	11.1	243.5	T3C	II	CC2
163R		204	60	1800	12.7	231.5	T3C	II	CC2

Engine type approval available from ABS, BV, DNV, GL, LR, NKK, RINA, CRS, CCS.

### SPECIFICATIONS

In-line 6, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TA	
<b>Bore x Stroke</b>	4.13 x 5.3 in	105 x 135 mm
<b>Displacement</b>	433.3 cu in	7.01 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Generator set weight (approx)</b>	3355 - 4718 lb	1522 - 2140 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	76.3 in/1940 mm	49.7 in/1263 mm	37.6 in/956 mm
<b>max.</b>	102 in/2582 mm	62.3 in/1583 mm	39.0 in/993 mm

## GENERATOR SET

## RATINGS AND FUEL CONSUMPTION

ekW@.8pf	kVA	Hz	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
200	250	50	1500	13.6	203.0	NC	II	CC2
250	313	50	1500	17.0	202.3	NC	II	CC2
250	313	60	1800	18.2	216.4	T3C	II	CC2
300	375	60	1800	21.5	213.0	T3C	II	CC2
185R	231	50	1500	13.6	203.0	NC	II	CC2
235R	294	50	1500	17.0	202.3	NC	II	CC2
224R	280	60	1800	18.2	216.4	T3C	II	CC2
274R	343	60	1800	21.5	213.0	T3C	II	CC2

## SPECIFICATIONS

## In-line 6, 4-Stroke-Cycle Diesel

<b>Aspiration</b>	TA	
<b>Bore x Stroke</b>	4.13 x 5.31 in	105 x 135 mm
<b>Displacement</b>	568 cu in	9.3 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Generator set weight (approx)</b>	5219 lb	2367 kg

## DIMENSIONS

	LE	H	WE
<b>min.</b>	85.8 in/2179 mm	56.5 in/1436 mm	50.4 in/1260 mm
<b>max.</b>	85.8 in/2179 mm	56.5 in/1436 mm	50.4 in/1260 mm

## GENERATOR SET

### RATINGS AND FUEL CONSUMPTION

#### IMO Tier II

ekW@.8pf	kVA	Hz	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
280	350	50	1500	19.9	209.5	NC	II	IW
360	450	50	1500	25.2	209.0	NC	II	IW
410	513	50	1500	28.7	208.0	NC	II	IW
465	581	50	1500	32.3	209.0	NC	II	IW
345	431	60	1800	25.4	217.0	NC	II	IW
430	538	60	1800	31.5	215.0	NC	II	IW
565	706	60	1800	40.4	214.0	NC	II	IW
260R	325	50	1500	19.2	209.5	NC	II	IW
335R	419	50	1500	25.2	209.0	NC	II	IW
390R	486	50	1500	28.7	208.0	NC	II	IW
445R	556	50	1500	32.3	208.7	NC	II	IW
310R	388	60	1800	25.4	217.0	NC	II	IW
395R	494	60	1800	31.5	215.0	NC	II	IW
530R	663	60	1800	40.4	214.0	NC	II	IW

#### U.S. EPA Tier 3 & IMO Tier II

ekW@.8pf	kVA	Hz	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
430	538	60	1800	32.3	220.0	T3C	II	IW
395R	594	60	1800	32.2	220.0	T3C	II	IW

Generator set package includes SRMP generator.

(continued)

# C18

Electronic Control System

## GENERATOR SET

(continued)

### SPECIFICATIONS

In-line 6, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TA, TTA	
<b>Bore x Stroke</b>	5.7 x 7.2 in	145 x 183 mm
<b>Displacement</b>	1106 cu in	
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Generator set weight (approx)</b>	8733 - 9974 lb	3961 - 4524 kg

### DIMENSIONS

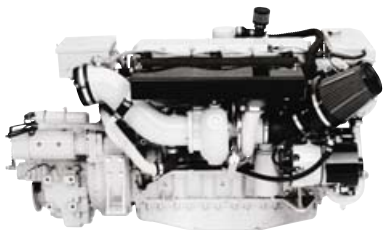
	LE	H	WE
<b>min.</b>	119.7 in/3040 mm	66.3 in/1684 mm	60.9 in/1547 mm
<b>max.</b>	119.7 in/3040 mm	66.3 in/1684 mm	60.9 in/1547 mm

# Remanufactured Propulsion Engines

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Cat Marine engines work on the toughest jobs and in the most extreme conditions. We offer extensive Reman options – both Reman Engines and engine components – that provide same-as-new performance and reliability at fraction-of-new costs – while reducing the impact on the environment.

The results are maximum engine productivity and lower life cycle costs.



# 3116

Electronic Control System

## PROPULSION ENGINE

### RATINGS AND FUEL CONSUMPTION

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
<b>E</b>	304	300	224.0	2800	15.8	224.0		I	
<b>E</b>	355	350	261.0	2800	19.2	233.0		I	

### SPECIFICATIONS

In-line 6, 4-Stroke-Cycle Diesel		
<b>Aspiration</b>	TA	
<b>Bore x Stroke</b>	4.13 x 5.0 in	105 x 127 mm
<b>Displacement</b>	402 cu in	6.6 liter
<b>Rotation (from flywheel end)</b>	Counterclockwise	
<b>Engine dry weight (approx)</b>	1500 lb	681 kg

### DIMENSIONS

	LE	H	WE
<b>min.</b>	65.5 in/1663 mm	33.8 in/860 mm	32.1 in/816 mm



# 3126

Electronic Control System

## PROPULSION ENGINE

### RATINGS AND FUEL CONSUMPTION

	mhp	bhp	bkW	rpm	U.S. g/h	g/bkW-hr	EPA	IMO	EU
E	355	350	261.0	2800	17.9	218.4		I	
E	426	420	313.0	2800	22.8	231.7		I	

### SPECIFICATIONS

In-line 6, 4-Stroke-Cycle Diesel		
Aspiration	TA	
Bore x Stroke	4.33 x 5.0 in	110 x 127 mm
Displacement	442 cu in	7.2 liter
Rotation (from flywheel end)	Counterclockwise	
Engine dry weight (approx)	1592 lb	722 kg

### DIMENSIONS

	LE	H	WE
min.	46.7 in/1183.9 mm	35.7 in/905.6 mm	36.9 in/937 mm

# Selective Catalytic Reduction (SCR) System

A simple technical solution can help you meet today's stringent Maritime emission standards.

The easy-to-install Cat SCR System is an exhaust gas aftertreatment solution compliant with U.S. Environmental Protection Agency (EPA) Tier 4 and International Maritime Organization (IMO) Tier III emission standards. It is a sustainable solution to reduce NO<sub>x</sub> emissions without sacrificing Caterpillar's marine engine efficiency, durability and reliability that our customers are used to.

Regional initiatives from environmentally friendly governments are already in effect with incentives benefitting ship owners who invest in NO<sub>x</sub> emissions reduction technology.

Caterpillar chose to take part in this environmentally friendly strategy.

## Features and Benefits

- Designed for NO<sub>x</sub> emissions reduction in line with U.S. EPA Tier 4 and IMO III requirements
- Compact package from one single source
- Available for newbuilds and retrofits
- Easy to install with minimum impact to vessel design
- Common control and monitoring system for reliable and safe operation
- Global dealer network for installation and service in any location

## Clean Emission Module (CEM)

Caterpillar designed the SCR System for Cat marine applications with a compact and easy to install Clean Emission Module (CEM). You will benefit from an optimally matched system with minimum impact to vessel design. Thus, we offer different CEM configurations to suit all markets and vessel types.

### U-Flow and Z-Flow

Designed for Cat 3500 and C32 series:



*Example:  
3500 Clean Emission Module  
(U-Flow configuration)*



*Example:  
C32 Clean Emission Module  
(Z-Flow configuration)*



*Example:  
Dosing Cabinet*



# ENGINE MONITORING



# Cat Marine Displays

## CMD7 and CMD13

The Cat Marine Display (CMD) provides the operator with easy-to-read, high resolution graphics to monitor all vessel operations. The configurable screen allows for full user customization and visual simplicity.



All electronics are environmentally sealed for increased durability and safety and are built to reliably perform in extreme conditions. The CMD is available with a 7" or 13" screen size.

## CMD5

The new CMD5 is built on the same software platform as the CMD7 and 13. The new display comes with the common feel and functionality as the rest of the CMD product line including the built in configurable tool. With more compact size and front and rear IP 66 rating, the CMD5 gives the customer options on installation locations. Customers will come to appreciate the tactile feel of the display's button navigation during rough seas.



*Coming soon. See your dealer for availability.*

## gplink

**gplink** is a satellite/cellular-based tracking, monitoring, and notification system that protects Cat powered vessels by monitoring engine operating parameters and engine diagnostic codes as well as on-board critical systems such as bilge levels, fire alarms, low batteries, and power interruption.

**gplink** provides immediate notification via e-mail, text and/or phone of any critical alarm or event. Trained Caterpillar technical experts can remotely access fault codes and operating conditions, review a vessel's alarm status, troubleshoot engine conditions, and potentially eliminate a service technician's preliminary visit to the vessel. The vessel owner can also view the status of the engines remotely on a phone, tablet, or computer.







# VESSEL CONTROL SYSTEMS



# Vessel Control Systems

## Multi-Station Control System (MSCS)

MSCS provides engine and transmission control for single or dual engine applications with up to eight control stations. Control can be easily transferred from one station to another, and the fully redundant backup system ensures propulsion system operation if the primary control system fails. Transmission shift logic prevents stalling the engine during quick shifting maneuvers.



## Cat Three60 Precision Control For Conventional Drive Systems

The Cat Three60 Precision Control revolutionizes docking and slow speed maneuvering for diesel powered, conventional driveline vessels.

The system simultaneously actuates and controls engines, transmissions, and thrusters. With intuitive, easy fingertip movements, the vessel operator can instantaneously control all aspects of vessel direction and speed.



Three60 PC gives instant access to full or incremental power in any direction, immediate yet smooth shifting from forward to reverse, and propeller control down to 50 rpm.

### Benefits

- Remarkably easy to learn
- “Push, twist, and go” directional maneuvering
- Superior slow-speed maneuvering
- Access to full or incremental power in any direction
- Smooth shifting from forward to reverse
- Available with Cat Extended Service Coverage for worry-free operation

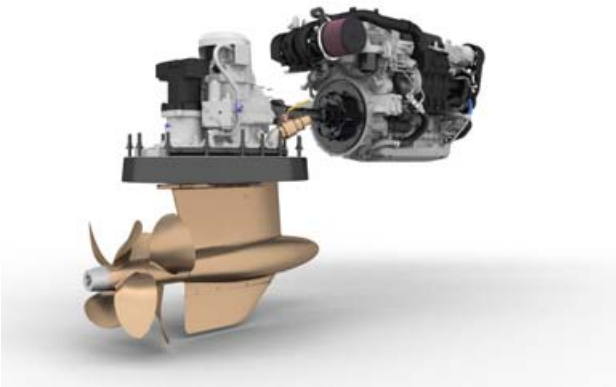
Along with Cat electronically-controlled marine propulsion engines, this system requires Twin Disc QuickShift transmission, throttle control, electrical harnesses and sensors, bow thruster, stern thruster (optional), and hydraulic system components.

## Cat Three60 Pod 650

This electronic control system and mechanical pod drive are specifically designed to take advantage of the powerful torque of the C8.7, providing unmatched response and performance for smooth maneuvering.

### Benefits

- Instantaneously controls vessel direction and speed
- Full or incremental power available in any direction
- Three60 Hold station keeping
- Remarkably easy to learn
- Intuitive directional maneuvering and smooth shifting
- Revolutionizes docking and slow-speed maneuvering
- Provides superior slow-speed vessel control



# CUSTOMER SUPPORT SOLUTIONS



# Behind the Scenes

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## Unmatched Worldwide Support Network

No matter where your spirit of adventure takes you, rest assured that there's a Cat dealer or one of our authorized marine dealers close at hand.

- Expert advice and assistance
- State-of-the-art diagnostic tools
- Cat parts availability (normally 24 hours) through our renowned worldwide parts distribution network

In short, with Caterpillar, your pleasure craft remains precisely that — a pleasure.

# World-class Customer Support

## Cat Concierge

Caterpillar Marine has a special relationship with selected yacht builders. As an owner of one of these yachts powered by Cat engines, you are eligible for exclusive Global Concierge Service. Trusted marine professionals are available to you at any time and in any location for inquiries, administration, maintenance, or repairs. With only one call you can receive technical assistance for any issue, large or small. The Concierge can also assist you with other available services and opportunities.

Your Concierge manages all your engine concerns with prompt, convenient service scheduling, repair supervision, and status updates. Trained technicians from the Cat dealer network perform all service and the Concierge will follow up with you to ensure you're satisfied.

All owners of Cat powered yachts are entitled to a Free First Owner Sea Trial, conducted by a Cat dealer technician. Your Concierge can arrange this free sea trial and engine orientation service with the local Cat dealer.

### **Cat Concierge service is available for these yachts with Cat power:**

- Azimut
- Cabo
- Cheoy Lee
- Christiansen
- Ferretti
- Grand Banks
- Hargrave
- Hatteras
- Horizon
- Maritimo
- Princess
- Riviera
- Sanlorenzo
- Sea Ray
- Sunseeker
- Viking

## First Owner Sea Trial

As a first owner of a new Cat powered yacht you are entitled to a **free orientation and performance sea trial** from your local Cat dealer. This 2.5-hour per engine sea trial and orientation is completely FREE to you as the first owner of a new yacht with Cat propulsion engines.

### **A Caterpillar trained and certified service technician will provide information and instruction on**

- Major engine components and systems
- Sensors and electrical components
- Customer programmable engine parameters
- Safe engine start-up and operation practices
- Control system start-up and operation
- Trolling mode strategy
- Slow vessel mode
- Engine diagnostics
- Fuel conservation practices
- Post-start engine room check



# World-class Service

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## Preventive Maintenance Agreement

Preventive Maintenance Agreements (PMA) allow you more time to enjoy your vessel without concern for your engines.

The maintenance provided through the PMA keeps your engines running at maximum performance and prevents unbudgeted repair costs. Service work can be completed by any Cat Dealer or Cat Authorized Marine Dealer worldwide.

Preventive Maintenance Agreements are fully transferable and provide a documented maintenance history to assure your engines maintain maximum resale value.

### **Maintenance made simple:**

- Genuine parts
- Caterpillar certified technicians
- Cat S•O•S<sup>SM</sup> fluid sampling

**The right maintenance, right on schedule.**

# Worldwide Coverage

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## Extended Service Coverage

**Platinum level Extended Service Coverage (ESC)** provides coverage for the entire as-shipped engine consists from the factory (less consumables). This coverage, available for new, used, and overhauled engines, includes additional Cat parts as well as controls and displays. Components and coverage vary by application.

Two types of coverage policies are available: 300 hours or unlimited hours per year, both of these for 36, 48, or 60 months.

### **Up to 15 years of product protection**

- 24 months of Standard Warranty
- 36 months of Extended Standard Warranty (major components)
- Concurrent Platinum New Extended Service Coverage
- 60 months of Platinum Advantage Extended Service Coverage for used engines once five years old
- 60 months of Platinum OPC Extended Service Coverage after overhaul

# GLOSSARY



# Marine Rating Definition

## Propulsion Engines

Rating definitions provide guidelines to help determine the appropriate rating for specific applications based on vessel operation. Cat marine propulsion engine rating applications for C7.1 through 3516E are based on load factor, time at full throttle, and operational hours per year.

Contact your local Cat dealer for assistance in determining the appropriate rating for your specific application.

### **A Rating (Unrestricted Continuous)**

**Typical applications:** For vessels operating at rated load and rated speed up to 100% of the time without interruption or load cycling (80% to 100% load factor).

Typical operation ranges from 5000 to 8000 hours per year.

### **B Rating (Heavy Duty)**

**Typical applications:** For vessels operating at rated load and rated speed up to 80% of the time with some load cycling (40% to 80% load factor).

Typical operation ranges from 3000 to 5000 hours per year.

### **C Rating (Maximum Continuous)**

**Typical applications:** For vessels operating at rated load and rated speed up to 50% of the time with cyclical load and speed (20% to 80% load factor).

Typical operation ranges from 2000 to 4000 hours per year.

### **D Rating (Intermittent Duty)**

**Typical applications:** For vessels operating at rated load and rated speed up to 16% of the time (up to 50% load factor).

Typical operating ranges from 1000 to 3000 hours per year.

## **E Rating (High Performance)**

**Typical applications:** For vessels operating at rated load and rated speed up to 8% of the time (up to 30% load factor).

Typical operation ranges from 250 to 1000 hours per year.

## **DEP Ratings (Diesel Electric Propulsion, Electric Drive)**

**Typical applications:** For vessels operating with generator sets that provide power to the propulsion systems. All ratings are Prime Ratings according to ISO 8528-1 for unlimited usage per year at a load factor of  $\leq 70\%$ . 10% overload capability is required for a maximum of 1 hour out of every 12 and a maximum of 25 hours total per year.

**Typical applications could include but are not limited to supply vessels, cruise vessels, research vessels, or any other ship using diesel electric drive systems.**

## Rating Conditions for C175 and Smaller Engines

Ratings are based on SAE J1228 standard conditions of 29.61 in Hg (100 kPa) and 77°F (25°C). These ratings also apply at ISO3046-1:2002E, ISO8665, DIN6271-3, and BS5514 conditions of 29.61 in Hg (100 kPa), 81°F (27°C) and 60% relative humidity.

Caterpillar maintains ISO9001:2000 certified quality management systems for engine test facilities to assure accurate calibration of test equipment. Electronically controlled engines are set at the factory at the advertised power corrected to standard ambient conditions. The published fuel consumption rates are in accordance with ISO3046-1:2002E.

**Fuel consumption** is based on SAE J1995 with +/- 3% tolerance at rated power for fuel having an LHV of 18,390 Btu/lb (42,780 kJ/kg) when used at 84.2°F (29°C) and weighing 7.001 lbs/U.S. gal (838.9 g/liter). Additional ratings may be available for specific customer requirements.

Consult your Cat representative for details.

## Performance Data

Performance along a typical fixed pitch propeller curve with a 3.0 exponent.

Power rated in accordance with NMMA procedure as crankshaft power. For units equipped with Caterpillar supplied marine gears, reduce crankshaft power by 3% for propeller shaft power.

# Marine Rating Definition

## Generator Sets

Caterpillar has offered packaged power systems for over 70 years. We assure power and performance ratings, as advertised, through extensive factory testing.

Cat Generator Sets typically exceed NEMA and IEEE standards for load acceptance. All rotor designs have been type tested at 150% overspeed for two hours at 338°F (170°C) ambient temperature.

### Rating Definition

All Cat Marine Auxiliary engines and generator sets are rated for prime power for continuous electric service according to ISO 8528-1.

Hours per Year	Unlimited
Load Factor	< 70%
Overload Capacity	+ 10%
	maximum of 1 hour in 12
	maximum of 25 hours per year

### Rating Conditions

Ratings are based on SAE J3046 and J1349 standard conditions of 29.61 in. Hg (100 kPa) and 77°F (25°C). These ratings also apply at ISO8665, ISO3046-1:2002E, DIN6271-3, and BS5514 standard conditions of 29.61 in. Hg (100 kPa), 81°F (27°C), and 60% relative humidity.

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

Marine Auxiliary Engines are mainly used as generator set engines; however, they can be used for electrically driven pumps, winches, conveyors, thrusters, when it is specified. Engines can be radiator cooled or heat exchanger/keel cooled.

# Caterpillar Marine

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### **Caterpillar Marine**

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### **Caterpillar Marine**

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### **Caterpillar Marine Asia Pacific Pte Ltd**

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Republic of Singapore



# Abbreviations

<b>bhp</b>	Brake Horsepower	<b>LG</b>	Length of Engine with Gear/Generator
<b>bkW</b>	Brake Kilowatts	<b>MCS</b>	Marine Control System
<b>CEM</b>	Clean Emission Module	<b>mhp</b>	Metric Horsepower
<b>DIN</b>	German Standards Organization	<b>NA</b>	Naturally Aspirated
<b>DF</b>	Dual Fuel	<b>R</b>	Radiator Cooled
<b>ekW</b>	Electrical Kilowatts	<b>SAE</b>	Society of Automotive Engineers
<b>EPA</b>	Environmental Protection Agency	<b>SCAC</b>	Separate Circuit Aftercooled
<b>EU</b>	European Union	<b>SCR</b>	Selective Catalytic Reduction
<b>EUI</b>	Electronic Unit Injection	<b>T</b>	Turbocharged
<b>g/bkW-hr</b>	Grams per Brake Kilowatt Hour	<b>TA</b>	Turbocharged, Aftercooled
<b>H</b>	Height of Engine	<b>TSA</b>	Turbocharged, Supercharged, Aftercooled
<b>HE</b>	Heat Exchanger Cooled	<b>TTA</b>	Twin Turbo Aftercooled
<b>IMO</b>	International Maritime Organization	<b>U.S. g/h</b>	U.S. Gallons per Hour
<b>ISO</b>	International Standards Organization	<b>W</b>	Overall Width
<b>kVA</b>	Kilovolt-Ampere	<b>WE</b>	Width of Engine
<b>L</b>	Overall Engine Length		
<b>LE</b>	Length of Engine from Front of Engine to Rear Face of Flywheel Housing		





For more information  
please visit:  
[www.cat.com/marine](http://www.cat.com/marine)

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