

# PERFORMANCE DATA [C15DECF]

NOVEMBER 10, 2021

For Help Desk Phone Numbers [Click here](#)

Perf No: DM8155

Change Level: 05

[General](#)  
 [Heat Rejection](#)  
 [Emissions](#)  
 [Regulatory](#)  
 [Altitude Derate](#)  
 [Cross Reference](#)  
 [Perf Param Ref](#)

[View PDF](#)

<b>SALES MODEL:</b>	C15	<b>COMBUSTION:</b>	DIRECT INJECTION
<b>BRAND:</b>	CAT	<b>ENGINE SPEED (RPM):</b>	1,800
<b>ENGINE POWER (BHP):</b>	762	<b>HERTZ:</b>	60
<b>GEN POWER WITH FAN (EKW):</b>	500.0	<b>FAN POWER (HP):</b>	19.4
<b>COMPRESSION RATIO:</b>	16.1	<b>ADDITIONAL PARASITICS (HP):</b>	14.2
<b>RATING LEVEL:</b>	STANDBY	<b>ASPIRATION:</b>	TA
<b>PUMP QUANTITY:</b>	1	<b>AFTERCOOLER TYPE:</b>	ATAAC
<b>FUEL TYPE:</b>	DIESEL	<b>AFTERCOOLER CIRCUIT TYPE:</b>	JW+OC, ATAAC
<b>MANIFOLD TYPE:</b>	DRY	<b>INLET MANIFOLD AIR TEMP (F):</b>	120
<b>GOVERNOR TYPE:</b>	ELEC	<b>JACKET WATER TEMP (F):</b>	192.2
<b>CAMSHAFT TYPE:</b>	STANDARD	<b>TURBO CONFIGURATION:</b>	SINGLE
<b>IGNITION TYPE:</b>	CI	<b>TURBO QUANTITY:</b>	1
<b>INJECTOR TYPE:</b>	EUI	<b>TURBOCHARGER MODEL:</b>	GTA5518BS-56T-1.58
<b>REF EXH STACK DIAMETER (IN):</b>	6	<b>CERTIFICATION YEAR:</b>	2006
<b>MAX OPERATING ALTITUDE (FT):</b>	3,281	<b>PISTON SPD @ RATED ENG SPD (FT/MIN):</b>	2,025.0

INDUSTRY	SUB INDUSTRY	APPLICATION
ELECTRIC POWER	STANDARD	PACKAGED GENSET
OIL AND GAS	LAND PRODUCTION	PACKAGED GENSET

## General Performance Data [Top](#)

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	ISO BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	ISO VOL FUEL CONSUMPTN (VFC)	ELEC SPEC FUEL CONSUMPTN (ESFC)	ISO ELEC SPEC FUEL CONSUMPTN (ESFC)
EKW	%	BHP	PSI	LB/BHP-HR	LB/BHP-HR	GAL/HR	GAL/HR	LB/EKW-HR	LB/EKW-HR
500.0	100	762	361	0.333	0.326	35.7	35.0	0.507	0.497
450.0	90	683	324	0.348	0.341	33.5	32.9	0.528	0.518
400.0	80	607	288	0.358	0.351	30.6	30.1	0.543	0.533
375.0	75	570	271	0.358	0.352	28.8	28.3	0.545	0.535
350.0	70	534	253	0.356	0.349	26.8	26.3	0.543	0.533
300.0	60	462	219	0.347	0.341	22.6	22.2	0.535	0.525
250.0	50	392	186	0.336	0.330	18.6	18.2	0.527	0.517
200.0	40	323	153	0.339	0.332	15.4	15.1	0.547	0.536
150.0	30	253	120	0.347	0.341	12.4	12.2	0.586	0.575
125.0	25	218	103	0.355	0.349	10.9	10.7	0.619	0.607
100.0	20	182	86	0.368	0.361	9.4	9.3	0.670	0.657
50.0	10	109	52	0.420	0.412	6.5	6.3	0.917	0.900

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
EKW	%	BHP	IN-HG	DEG F	DEG F	IN-HG	DEG F	IN-HG	DEG F
500.0	100	762	68.2	120.4	1,296.3	46.8	988.0	73	405.8
450.0	90	683	67.0	119.4	1,280.7	45.9	973.8	72	402.2
400.0	80	607	61.6	115.2	1,250.1	42.3	956.6	66	381.3
375.0	75	570	56.4	111.0	1,229.5	38.8	947.8	61	361.0
350.0	70	534	50.1	106.0	1,205.6	34.6	938.3	54	336.1
300.0	60	462	36.6	95.5	1,148.6	25.6	915.7	40	282.1

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
250.0	50	392	24.0	86.2	1,080.0	17.4	887.9	27	229.6
200.0	40	323	16.9	83.6	1,003.8	13.3	838.1	19	195.0
150.0	30	253	11.3	81.0	910.6	10.2	768.4	13	165.5
125.0	25	218	9.1	79.8	857.1	9.0	725.6	11	152.7
100.0	20	182	7.0	78.6	795.3	8.0	674.7	9	140.6
50.0	10	109	3.3	76.2	639.0	6.1	542.9	5	118.5

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)
EKW	%	BHP	CFM	CFM	LB/HR	LB/HR	FT3/MIN	FT3/MIN
500.0	100	762	1,347.7	3,605.5	6,001.8	6,255.3	1,224.6	1,109.4
450.0	90	683	1,345.2	3,558.0	5,981.4	6,219.2	1,220.4	1,110.6
400.0	80	607	1,283.7	3,364.8	5,686.7	5,904.2	1,168.1	1,066.0
375.0	75	570	1,219.4	3,187.1	5,381.2	5,585.8	1,113.3	1,016.3
350.0	70	534	1,139.2	2,970.6	5,001.5	5,191.7	1,044.7	953.4
300.0	60	462	965.5	2,500.8	4,183.5	4,344.1	894.0	815.5
250.0	50	392	799.0	2,040.7	3,407.8	3,539.6	744.6	679.6
200.0	40	323	697.8	1,729.1	2,959.9	3,069.2	655.1	600.0
150.0	30	253	615.8	1,447.5	2,601.3	2,689.1	579.6	534.1
125.0	25	218	581.8	1,317.2	2,454.7	2,532.1	546.4	505.6
100.0	20	182	551.1	1,190.0	2,322.2	2,389.2	515.8	479.7
50.0	10	109	497.4	940.2	2,088.6	2,134.4	461.1	434.6

## Heat Rejection Data [Top](#)

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXHAUST RECOVERY TO 350F	FROM OIL COOLER	FROM AFTERCOOLER	WORK ENERGY	LOW HEAT VALUE ENERGY	HIGH HEAT VALUE ENERGY
EKW	%	BHP	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN
500.0	100	762	10,375	5,182	28,039	17,119	4,138	6,860	32,301	77,688	82,757
450.0	90	683	9,686	4,904	27,298	16,583	3,881	6,775	28,958	72,867	77,622
400.0	80	607	8,796	4,826	25,540	15,270	3,549	6,061	25,750	66,626	70,974
375.0	75	570	8,322	4,716	24,127	14,230	3,337	5,388	24,187	62,652	66,740
350.0	70	534	7,911	4,524	22,387	13,011	3,104	4,610	22,642	58,272	62,074
300.0	60	462	7,240	4,038	18,412	10,458	2,621	3,127	19,611	49,217	52,428
250.0	50	392	6,630	3,455	14,380	8,084	2,153	1,957	16,633	40,417	43,054
200.0	40	323	5,924	2,968	11,812	6,328	1,786	1,321	13,687	33,524	35,712
150.0	30	253	5,187	2,459	9,434	4,713	1,435	880	10,732	26,935	28,692
125.0	25	218	4,807	2,196	8,319	3,963	1,264	716	9,239	23,729	25,277
100.0	20	182	4,414	1,924	7,227	3,212	1,093	577	7,727	20,530	21,869
50.0	10	109	3,615	1,370	5,008	1,677	749	353	4,629	14,057	14,974

## Emissions Data [Top](#)

Units Filter

### DIESEL

#### RATED SPEED NOMINAL DATA: 1800 RPM

GENSET POWER WITH FAN	EKW	500.0	375.0	250.0	125.0	50.0
ENGINE POWER	BHP	762	570	392	218	109
PERCENT LOAD	%	100	75	50	25	10
TOTAL NOX (AS NO2)	G/HR	3,432	1,558	1,793	1,266	743
TOTAL CO	G/HR	469	528	298	170	202
TOTAL HC	G/HR	16	24	17	17	20
TOTAL CO2	KG/HR	357	287	186	110	65
PART MATTER	G/HR	19.6	30.6	40.7	25.0	16.1

<b>GENSET POWER WITH FAN ENGINE POWER</b>		<b>EKW BHP</b>	<b>500.0 762</b>	<b>375.0 570</b>	<b>250.0 392</b>	<b>125.0 218</b>	<b>50.0 109</b>
<b>PERCENT LOAD</b>		<b>%</b>	<b>100</b>	<b>75</b>	<b>50</b>	<b>25</b>	<b>10</b>
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,129.1	1,257.7	2,193.7	2,567.9	2,459.9
TOTAL CO	(CORR 5% O2)	MG/NM3	301.5	410.5	362.1	354.0	751.9
TOTAL HC	(CORR 5% O2)	MG/NM3	8.8	15.9	18.0	29.7	64.2
PART MATTER	(CORR 5% O2)	MG/NM3	9.5	21.1	41.1	43.4	48.7
TOTAL NOX (AS NO2)	(CORR 15% O2)	MG/NM3	790.1	466.7	814.0	952.9	912.8
TOTAL CO	(CORR 15% O2)	MG/NM3	111.9	152.3	134.4	131.3	279.0
TOTAL HC	(CORR 15% O2)	MG/NM3	3.3	5.9	6.7	11.0	23.8
PART MATTER	(CORR 15% O2)	MG/NM3	3.5	7.8	15.3	16.1	18.1
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,037	613	1,068	1,251	1,198
TOTAL CO	(CORR 5% O2)	PPM	241	328	290	283	602
TOTAL HC	(CORR 5% O2)	PPM	16	30	34	55	120
TOTAL NOX (AS NO2)	(CORR 15% O2)	PPM	385	227	396	464	445
TOTAL CO	(CORR 15% O2)	PPM	89	122	107	105	223
TOTAL HC	(CORR 15% O2)	PPM	6	11	12	21	44
TOTAL NOX (AS NO2)		G/HP-HR	4.58	2.76	4.60	5.83	6.82
TOTAL CO		G/HP-HR	0.63	0.93	0.76	0.78	1.85
TOTAL HC		G/HP-HR	0.02	0.04	0.04	0.08	0.19
PART MATTER		G/HP-HR	0.03	0.05	0.10	0.12	0.15
TOTAL NOX (AS NO2)		G/KW-HR	6.22	3.75	6.25	7.92	9.28
TOTAL CO		G/KW-HR	0.85	1.27	1.04	1.06	2.52
TOTAL HC		G/KW-HR	0.03	0.06	0.06	0.10	0.25
PART MATTER		G/KW-HR	0.04	0.07	0.14	0.16	0.20
TOTAL NOX (AS NO2)		LB/HR	7.57	3.43	3.95	2.79	1.64
TOTAL CO		LB/HR	1.03	1.16	0.66	0.37	0.44
TOTAL HC		LB/HR	0.04	0.05	0.04	0.04	0.05
TOTAL CO2		LB/HR	786	633	410	243	144
PART MATTER		LB/HR	0.04	0.07	0.09	0.06	0.04
OXYGEN IN EXH		%	8.3	9.6	9.4	11.4	14.3

**RATED SPEED POTENTIAL SITE VARIATION: 1800 RPM**

<b>GENSET POWER WITH FAN ENGINE POWER</b>		<b>EKW BHP</b>	<b>500.0 762</b>	<b>375.0 570</b>	<b>250.0 392</b>	<b>125.0 218</b>	<b>50.0 109</b>
<b>PERCENT LOAD</b>		<b>%</b>	<b>100</b>	<b>75</b>	<b>50</b>	<b>25</b>	<b>10</b>
TOTAL NOX (AS NO2)		G/HR	4,153	1,885	2,170	1,532	899
TOTAL CO		G/HR	877	987	558	317	377
TOTAL HC		G/HR	30	45	33	31	39
PART MATTER		G/HR	38.1	59.8	79.3	48.8	31.4
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,576.3	1,521.8	2,654.4	3,107.2	2,976.4
TOTAL CO	(CORR 5% O2)	MG/NM3	563.8	767.7	677.2	661.9	1,406.0
TOTAL HC	(CORR 5% O2)	MG/NM3	16.6	30.0	34.1	56.2	121.3
PART MATTER	(CORR 5% O2)	MG/NM3	18.5	41.0	80.1	84.7	94.9
TOTAL NOX (AS NO2)	(CORR 15% O2)	MG/NM3	956.0	564.7	984.9	1,153.0	1,104.5
TOTAL CO	(CORR 15% O2)	MG/NM3	209.2	284.9	251.3	245.6	521.7
TOTAL HC	(CORR 15% O2)	MG/NM3	6.2	11.1	12.6	20.8	45.0
PART MATTER	(CORR 15% O2)	MG/NM3	6.9	15.2	29.7	31.4	35.2
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,255	741	1,293	1,513	1,450
TOTAL CO	(CORR 5% O2)	PPM	451	614	542	530	1,125
TOTAL HC	(CORR 5% O2)	PPM	31	56	64	105	226
TOTAL NOX (AS NO2)	(CORR 15% O2)	PPM	466	275	480	562	538
TOTAL CO	(CORR 15% O2)	PPM	167	228	201	196	417
TOTAL HC	(CORR 15% O2)	PPM	12	21	24	39	84
TOTAL NOX (AS NO2)		G/HP-HR	5.54	3.33	5.56	7.05	8.25
TOTAL CO		G/HP-HR	1.17	1.75	1.43	1.46	3.46
TOTAL HC		G/HP-HR	0.04	0.08	0.08	0.14	0.35
PART MATTER		G/HP-HR	0.05	0.11	0.20	0.22	0.29
TOTAL NOX (AS NO2)		G/KW-HR	7.53	4.53	7.57	9.59	11.22
TOTAL CO		G/KW-HR	1.59	2.37	1.94	1.98	4.71
TOTAL HC		G/KW-HR	0.05	0.11	0.11	0.20	0.48
PART MATTER		G/KW-HR	0.07	0.14	0.28	0.31	0.39
TOTAL NOX (AS NO2)		LB/HR	9.15	4.16	4.78	3.38	1.98
TOTAL CO		LB/HR	1.93	2.18	1.23	0.70	0.83
TOTAL HC		LB/HR	0.07	0.10	0.07	0.07	0.09
PART MATTER		LB/HR	0.08	0.13	0.17	0.11	0.07

**Regulatory Information [Top](#)**

<b>EPA TIER 2</b>		<b>2006 - 2010</b>	
GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 89 SUBPART D AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE NON-ROAD REGULATIONS.			
<b>Locality</b> U.S. (INCL CALIF)	<b>Agency</b> EPA	<b>Regulation</b> NON-ROAD	<b>Tier/Stage</b> TIER 2
<b>Max Limits - G/BKW - HR</b> CO: 3.5 NOx + HC: 6.4 PM: 0.20			

GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 60 SUBPART IIII AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE EMERGENCY STATIONARY REGULATIONS.

<b>Locality</b> U.S. (INCL CALIF)	<b>Agency</b> EPA	<b>Regulation</b> STATIONARY	<b>Tier/Stage</b> EMERGENCY STATIONARY	<b>Max Limits - G/BKW - HR</b> CO: 3.5 NOx + HC: 6.4 PM: 0.20
--------------------------------------	----------------------	---------------------------------	---	--

## Altitude Derate Data [Top](#)

### STANDARD

#### ALTITUDE CORRECTED POWER CAPABILITY (BHP)

AMBIENT OPERATING TEMP (F)	30	40	50	60	70	80	90	100	110	120	130	140	NORMAL
ALTITUDE (FT)													
0	762	762	762	762	762	762	762	762	762	762	762	762	762
1,000	762	762	762	762	762	762	762	762	762	762	757	744	762
2,000	762	762	762	762	762	762	762	762	754	741	728	716	762
3,000	762	762	762	762	762	762	752	739	726	713	701	689	762
4,000	762	762	762	762	751	737	724	711	698	686	674	663	759
5,000	762	762	750	736	722	709	696	683	671	660	649	638	735
6,000	751	736	722	708	694	681	669	657	646	634	624	613	712
7,000	722	707	694	680	667	655	643	632	620	610	599	589	689
8,000	693	680	666	653	641	629	618	607	596	586	576	566	666
9,000	666	653	640	628	616	604	593	583	572	563	553	544	644
10,000	639	626	614	602	591	580	570	559	550	540	531	522	623
11,000	614	601	589	578	567	557	546	537	527	518	510	501	602
12,000	588	577	565	554	544	534	524	515	506	497	489	480	582
13,000	564	553	542	532	522	512	503	494	485	477	469	461	562
14,000	541	530	520	510	500	491	482	473	465	457	449	442	542
15,000	518	508	498	488	479	470	462	453	445	438	430	423	523

## Cross Reference [Top](#)

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
0K6281	PP5612	2864923	GS282	-	FTE02794	
0K6281	PP5612	2864924	GS282	-	FTE02794	

## Performance Parameter Reference [Top](#)

Parameters Reference: DM9600 - 14

### PERFORMANCE DEFINITIONS

### PERFORMANCE DEFINITIONS DM9600

**APPLICATION:** Engine performance tolerance values below are representative of a typical production engine tested in a calibrated dynamometer test cell at SAE J1995 standard reference conditions. Caterpillar maintains ISO9001:2000 certified quality management systems for engine test Facilities to assure accurate calibration of test equipment. Engine test data is corrected in accordance with SAE J1995. Additional reference material SAE J1228, J1349, ISO 8665, 3046-1:2002E, 3046-3:1989, 1585, 2534, 2288, and 9249 may apply in part or are similar to SAE J1995. Special engine rating request (SERR) test data shall be noted.

**PERFORMANCE PARAMETER TOLERANCE FACTORS:** Power +/- 3% Torque +/- 3% Exhaust stack temperature +/- 8% Inlet airflow +/- 5% Intake manifold pressure-gage +/- 10% Exhaust flow +/- 6% Specific fuel consumption +/- 3% Fuel rate +/- 5% Specific DEF consumption +/- 3% DEF rate +/- 5% Heat rejection +/- 5% Heat rejection exhaust only +/- 10%

Heat rejection CEM only +/- 10%

Heat Rejection values based on using treated water.

Torque is included for truck and industrial applications, do not use for Gen Set or steady state applications.

On C7 - C18 engines, at speeds of 1100 RPM and under these values are provided for reference only, and may not meet the tolerance listed.

On 3500 and C175 engines, at speeds below Peak Torque these values are provided for reference only, and may not meet the tolerance listed.

These values do not apply to C280/3600. For these models, see the tolerances listed below.

**C280/3600 HEAT REJECTION TOLERANCE FACTORS:** Heat rejection +/- 10% Heat rejection to Atmosphere +/- 50% Heat rejection to Lube Oil +/- 20% Heat rejection to Aftercooler +/- 5%

**TEST CELL TRANSDUCER TOLERANCE FACTORS:** Torque +/- 0.5% Speed +/- 0.2% Fuel flow +/- 1.0% Temperature +/- 2.0 C degrees Intake manifold pressure +/- 0.1 kPa  
OBSERVED ENGINE PERFORMANCE IS CORRECTED TO SAE J1995 REFERENCE AIR AND FUEL CONDITIONS.

**REFERENCE ATMOSPHERIC INLET AIR FOR 3500 ENGINES AND SMALLER** SAE J1228 AUG2002 for marine engines, and J1995 JAN2014 for other engines, reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity at the stated aftercooler water temp, or inlet manifold temp.  
**FOR 3600 ENGINES** Engine rating obtained and presented in accordance with ISO 3046/1 and SAE J1995 JANJAN2014 reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity and 150M altitude at the stated aftercooler water temperature.

**MEASUREMENT LOCATION FOR INLET AIR TEMPERATURE** Location for air temperature measurement air cleaner inlet at stabilized operating conditions.

**REFERENCE EXHAUST STACK DIAMETER** The Reference Exhaust Stack Diameter published with this dataset is only used for the calculation of Smoke Opacity values displayed in this dataset. This value does not necessarily represent the actual stack diameter of the engine due to the variety of exhaust stack adapter options available. Consult the price list, engine order or general dimension drawings for the actual stack diameter size ordered or options available.

**REFERENCE FUEL DIESEL** Reference fuel is #2 distillate diesel with a 35API gravity; A lower heating value is 42,780 KJ/KG (18,390 BTU/LB) when used at 15 deg C (59 deg F), where the density is 850 G/Liter (7.0936 Lbs/Gal).

**GAS** Reference natural gas fuel has a lower heating value of 33.74 KJ/L (905 BTU/CU Ft). Low BTU ratings are based on 18.64 KJ/L (500 BTU/CU FT) lower heating value gas. Propane ratings are based on 87.56 KJ/L (2350 BTU/CU Ft) lower heating value gas.

**ENGINE POWER (NET) IS THE CORRECTED FLYWHEEL POWER (GROSS) LESS EXTERNAL AUXILIARY LOAD** Engine corrected gross output includes the power required to drive standard equipment; lube oil, scavenge lube oil, fuel transfer, common rail fuel, separate circuit aftercooler and jacket water pumps. Engine net power available for the external (flywheel) load is calculated by subtracting the sum of auxiliary load from the corrected gross flywheel out put power. Typical auxiliary loads are radiator cooling fans, hydraulic pumps, air compressors and battery charging alternators. For Tier 4 ratings additional Parasitic losses would also include Intake, and Exhaust Restrictions.

**ALTITUDE CAPABILITY** Altitude capability is the maximum altitude above sea level at standard temperature and standard pressure at which the engine could develop full rated output power on the current performance data set.

Standard temperature values versus altitude could be seen on TM2001.

When viewing the altitude capability chart the ambient temperature is the inlet air temp at the compressor inlet.

Engines with ADEM MEUI and HEUI fuel systems operating at conditions above the defined altitude capability derate for atmospheric pressure and temperature conditions outside the values defined, see TM2001.

Mechanical governor controlled unit injector engines require a setting change for operation at conditions above the altitude defined on the engine performance sheet. See your Caterpillar technical representative for non standard ratings.

**REGULATIONS AND PRODUCT COMPLIANCE** TMI Emissions information is presented at 'nominal' and 'Potential Site Variation' values for standard ratings. No tolerances are applied to the emissions data. These values are subject to change at any time. The controlling federal and local emission requirements need to be verified by your Caterpillar technical representative.

Customer's may have special emission site requirements that need to be verified by the Caterpillar Product Group engineer.

**EMISSION CYCLE LIMITS:** Cycle emissions Max Limits apply to cycle-weighted averages only. Emissions at individual load points may exceed the cycle-weighted limit.

**WET & DRY EXHAUST/EMISSIONS DESCRIPTION:** Wet - Total exhaust flow or concentration of total exhaust flow Dry - Total exhaust flow minus water vapor or concentration of exhaust flow with water vapor excluded

**EMISSIONS DEFINITIONS:** Emissions : DM1176

#### **EMISSION CYCLE DEFINITIONS**

1. For constant-speed marine engines for ship main propulsion, including,diesel-electric drive, test cycle E2 shall be applied, for controllable-pitch propeller sets test cycle E2 shall be applied.
2. For propeller-law-operated main and propeller-law-operated auxiliary engines the test cycle E3 shall be applied.
3. For constant-speed auxiliary engines test cycle D2 shall be applied.
4. For variable-speed, variable-load auxiliary engines, not included above, test cycle C1 shall be applied.

**HEAT REJECTION DEFINITIONS:** Diesel Circuit Type and HHV Balance : DM9500

**HIGH DISPLACEMENT (HD) DEFINITIONS:** 3500: EM1500

**RATING DEFINITIONS:** Agriculture : TM6008

Fire Pump : TM6009

Generator Set : TM6035

Generator (Gas) : TM6041

Industrial Diesel : TM6010

Industrial (Gas) : TM6040

Irrigation : TM5749

Locomotive : TM6037

Marine Auxiliary : TM6036

Marine Prop (Except 3600) : TM5747

Marine Prop (3600 only) : TM5748

MSHA : TM6042

Oil Field (Petroleum) : TM6011

Off-Highway Truck : TM6039

On-Highway Truck : TM6038

**SOUND DEFINITIONS:** Sound Power : DM8702  
Sound Pressure : TM7080

**Date Released : 10/27/21**